

Unlocking the Potential for  
East and North-East Asian  
Regional Economic  
Cooperation  
and Integration

ESCAP is the regional development arm of the United Nations and serves as the main economic and social development centre for the United Nations in Asia and the Pacific. Its mandate is to foster cooperation between its 53 members and 9 associate members. ESCAP provides the strategic link between global and country-level programmes and issues. It supports Governments of countries in the region in consolidating regional positions and advocates regional approaches to meeting the region's unique socio-economic challenges in a globalizing world. The ESCAP office is located in Bangkok, Thailand. Please visit the ESCAP website at [www.unescap.org](http://www.unescap.org) for further information.



*The shaded areas of the map indicate ESCAP members and associate members.*

# UNLOCKING THE POTENTIAL FOR EAST AND NORTH-EAST ASIAN REGIONAL ECONOMIC COOPERATION AND INTEGRATION



United Nations publication  
Sales No. E.16.II.F.3  
Copyright © United Nations 2017  
All rights reserved  
Printed in Incheon, Republic of Korea  
ISBN: 978-92-1-120705-7  
e-ISBN: 978-92-1-057735-9  
ST/ESCAP/2770

This publication may be reproduced in whole or in part for educational or non-profit purposes without special permission from the copyright holder, provided that the source is acknowledged. The ESCAP Publications Office would appreciate receiving a copy of any publication that uses this publication as a source.

No use may be made of this publication for resale or any other commercial purpose whatsoever without prior permission. Applications for such permission, with a statement of the purpose and extent of reproduction, should be addressed to the Secretary of the Publications Board, United Nations, New York.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The opinions and estimates set forth in this publication are the responsibility of the authors and should not necessarily be considered as reflecting the views or carrying the endorsement of the United Nations.

Mention of firm names and commercial products does not imply the endorsement of the United Nations.

Please cite this publication as:

United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP) (2017). Unlocking the potential for East and North-East Asian regional economic cooperation and integration.

For further information on this publication, please contact:

East and North-East Asia Office  
Economic and Social Commission for Asia and the Pacific  
7th floor, G-Tower  
175 Art center-daero, Songdo-dong,  
Yeonsu-gu, Incheon 22004, Republic of Korea  
[escap-sroenea-registry@un.org](mailto:escap-sroenea-registry@un.org)



## FOREWORD



The economies in the East and North-East Asian subregion have made remarkable economic progress during the past few decades. The subregion has become the powerhouse of the Asia-Pacific region and one of the most dynamic growth poles in the world, benefiting from outward looking policies that have resulted in rapid export growth, especially to the United States of America and Europe. However, in this era of growing uncertainty, with decelerating global trade, widening social disparities and increasing adverse impacts as a result of environmental mismanagement and ecological imbalances, there is an urgent need to rethink national development strategies.

Strengthening regional cooperation and integration offers great potential for the subregion to address these multiple challenges. At the regional level, ESCAP member States, through resolution 68/10 “Enhancing regional economic integration in Asia and the Pacific”, recognized the crucial importance of harnessing the potential of regional economic cooperation and integration in order to eliminate poverty and achieve inclusive and sustainable development. The Ministerial Conference on Regional Economic Cooperation and Integration in Asia and the Pacific, subsequently held in December 2013, resulted in the issuing of the Bangkok Declaration on Regional Economic Cooperation and Integration in Asia and the Pacific, which was later endorsed through ESCAP resolution 70/1. The Bangkok Declaration is a key outcome demonstrating the firm commitment of Asia-Pacific countries to work together on promoting regional cooperation and integration and further elaborating the four functional areas of work: (a) moving towards the formation of an integrated market; (b) developing seamless connectivity across the region in the areas of transport, energy and information and communications technology, among others; (c) enhancing financial cooperation for closing infrastructure gaps across countries in the region and exploring the possibility of providing liquidity support; and (d) increasing economic and technical cooperation to address shared vulnerabilities and risks.

In line with the four areas of work outlined in the Bangkok Declaration, the present report contains an examination of the current state of subregional cooperation and integration in East and North-East Asia, identification of potential areas for further strengthening subregional linkages and provision of recommendations on required policy actions. Ultimately, these policy actions will provide the groundwork for building bridges between East and North-East Asia and other subregions towards region-wide cooperation and integration.

Cementing subregional cooperation is an important strategy as progress on regional cooperation and integration has been uneven in the Asia-Pacific region. While South-East Asian economies have institutionalized their integration efforts through the Association of Southeast Asian Nations (ASEAN) and set forth a blueprint for realizing an “Economic Community”, East and North-East Asia has been lagging behind in terms of formal regional integration due to ongoing tension arising from historical, territorial and ideological disputes. In fact, as long as there is a military standoff between the Democratic People’s Republic of Korea and the Republic of Korea, the prospect of integration in the subregion is far from becoming a reality. Instead, the subregion should explore concrete ways of strengthening cooperation in key priority areas which are closely aligned with national development policies and where potential benefits of cooperation could be maximized so that eventually cooperation could lead to functional integration in these areas.

The Asian financial crisis of 1997/98 provided the first opportunity for deepening regional cooperation and integration in the region by dramatically demonstrating the impact of financial and economic crises and highlighting the need for a regional financial mechanism that could act as a lender of last resort for Asian economies. At that time, Japan, as the largest economy in the region, took the lead in proposing the establishment of an Asian monetary fund to serve the region in times of crisis. While the proposal failed in its original form, it created a strong momentum that became the basis for subsequent initiatives created under the ASEAN Plus Three process.

In the aftermath of the recent global financial crisis, the economic landscape has shifted to the East, and it is now imperative for the Asia-Pacific region, with East and North-East Asia taking the lead, to take bold action towards restoring dynamism in the region and beyond and to embrace a more sustainable growth path for all through strengthened regional cooperation and integration.

A handwritten signature in black ink, appearing to read 'Shamshad Akhtar', with a horizontal line underneath.

Shamshad Akhtar  
Under-Secretary-General of the United Nations and  
Executive Secretary, United Nations Economic and  
Social Commission for Asia and the Pacific



## EXECUTIVE SUMMARY

Regional cooperation and integration is a priority for countries in East and North-East Asia (ENEA) as they face increasingly complex cross-border challenges that cannot be solved by one country alone. The growing importance of trade integration, the enormous potential for energy and transport connectivity to usher in a new era of sustainable development, underscores the need for the subregion to work closely together on developing integrated markets and seamless connectivity. At the same time, cooperation on finance and the environment must also be strengthened to protect hard-earned development gains from shared vulnerabilities.

The present report contains an exploration of the issues of market integration (trade, foreign direct investment and movement of people); seamless connectivity (transport and energy); financial cooperation; and shared vulnerabilities (environment and disaster risk) under the framework of the Bangkok Declaration on Regional Economic Cooperation and Integration in Asia and the Pacific, with the aim of proposing a set of recommendations for East and North-East Asia that would help the subregion reap greater benefits from cooperation and become a building block for cooperation and integration at the regional level.

In the ESCAP region, the subregion of ENEA covers China (including Hong Kong, China; and Macao, China), the Democratic People's Republic of Korea, Japan, Mongolia, the Republic of Korea and the Russian Federation. At the outset, the countries and areas concerned are more dissimilar than similar in terms of stages of development, economic structure and size, political systems and culture. The ENEA subregion is home to the most advanced and globally linked economies together with less developed and isolated economies. Owing to these differences and long-standing historical and geopolitical tensions, institutionalized regionalization has not made much progress, and regional economic cooperation and integration is a challenging concept to apply for all ENEA countries. Yet, there are increasing interactions, both officially and at the grass-roots level, reflecting the growing importance and interdependence within this group of countries. Also, despite the various limitations in fully engaging the Democratic People's Republic of Korea, there have been positive developments in recent years, including a growing number of both small and large-scale projects to enhance trade, transport and tourism infrastructure in that country.

From an economic standpoint, regional integration is more likely to be successful when countries have complementarities in factor endowments that can be shared for mutual benefit. East and North-East Asia is such a subregion. With the capital- and technology-rich economies of Japan and the Republic of Korea, China's labour-rich economy and Mongolia and the Russian Federation's abundance of natural resources, the economic diversity in the subregion offers a particularly strong platform for mutually beneficial cooperation and integration. The fact that regionalism has been underdeveloped in the ENEA subregion compared with other parts of the world means that the subregion still has many opportunities to take advantage of the multiple complementarities among its diverse economies (ESCAP, 2012).

Furthermore, greater cooperation and integration could offer solutions to not only the old problems of poverty and political instability facing the subregion but also new challenges, such as environmental degradation, urbanization and congestion.

### **Drivers of economic cooperation and integration in East and North-East Asia: harnessing economic complementarities and exploiting new opportunities**

Strengthening regional cooperation and integration within the ENEA subregion could produce enormous benefits. For instance, the potential for energy trade in the subregion has long been recognized in view of the coexistence of some of the largest consumers and producers of energy. Even more promising is the potential for renewable energy connections using solar energy generated in the Gobi Desert. There are ongoing discussions to develop

a super grid in the ENEA subregion, which would furnish clean energy to China, Japan, Mongolia, the Republic of Korea and the Russian Federation. There are also different but complementary motivations for each country. China requires cooperation from subregional countries to operationalize its Belt and Road Initiative. The Democratic People's Republic of Korea is seeking to bring in more investment for infrastructure development. For Japan and the Republic of Korea, the achievement of enhanced stability through regular interactions and dialogue with the Democratic People's Republic of Korea and improving connectivity to new growth poles in the region are important priorities. For Mongolia, enhancing connectivity with its subregional neighbours is essential for increasing trade and investment. Finally, for the Russian Federation developing the underdeveloped far eastern districts requires greater engagement with other ENEA economies.

## Challenges and prospects of subregional cooperation and integration

Among ENEA economies, the Democratic People's Republic of Korea has very few economic linkages to the outside world. Also, the transitioning of China, Mongolia and the Russian Federation to an open market system at a comparatively later stage than Japan and the Republic of Korea has made regionalization in the ENEA subregion a greater challenge than in other parts of the world. Despite these challenges, economic pragmatism has led to various forms of technical cooperation to support market-driven regionalization in the ENEA subregion. For each of the functional areas of cooperation and integration discussed in the following sections, a pattern of regionalization without regional institutions emerges. While this form of bottom-up regionalization has served the purposes of the ENEA subregion in the past, there are clear areas where stronger government-led action would catalyse greater flows of goods and people.

## Moving towards market integration

### Trade

With most ENEA economies adopting export-led development strategies, the subregion's share in global trade and intrasubregional trade has increased significantly in the past two decades, making the ENEA subregion the second largest trading bloc after the European Union. Despite recent slowdown in trade growth, the potential for ENEA subregional trade remains great, particularly with the continuing push for bilateral and multilateral free trade agreements. While the subregion has achieved significant progress in lowering trade costs through tariff reduction and trade facilitation, there is still substantial room for improvement, particularly in enhancing connectivity through cross-border paperless trading.

### Foreign direct investment

The ENEA subregion is fast emerging as one of the most dynamic growth engines of the global economy. Foreign direct investment (FDI) and multinational enterprises have been the drivers of these phenomena, and they are contributing to subregional integration in various forms. However, intrasubregional FDI remains relatively low with the gap between intra- and interregional inflows of FDI growing in recent years. Greater economic integration is likely to stimulate FDI flows within the subregion by enabling multinational enterprises to operate more efficiently across borders and participate in existing and new global value chains.

### Movement of people

The continuing demographic change in the subregion, such as the ageing population and shrinking labour force, underpins the significance of the movement of people. Although people-to-people connectivity cannot be easily created through a regional platform or institution, government policies can promote more interaction between citizens of the subregion, which could generate long-term returns that reinforce other forms of regional integration.



## Developing seamless connectivity

### Energy

Energy cooperation is one area that offers the ENEA subregion great potential benefits. There are many favourable factors for energy cooperation and integration in the ENEA subregion, such as geographic contiguity, complementarities across the subregion in terms of energy supply and demand, and energy mix. Although a number of initiatives and projects for energy connectivity have been proposed, few substantial projects have been implemented so far due to a lack of political leadership and to long-standing rivalries, as well as to a high degree of variability between national energy sectors. The challenge of energy security and achieving more sustainable use of energy resources therefore requires renewed and more effective intraregional cooperation, including a multilateral mechanism that would facilitate dialogue and cooperation on various proposals on power grid interconnection.

### Transport

Cross-border transport connectivity has increased rapidly alongside the changing structure and dynamics of intraregional commodities and capital flows. The growth of maritime transport has been formidable, with four of the world's top five container ports being located in the subregion. However, the large variance in levels of economic development and transport-related infrastructure coupled with the slow development of complementary regulatory and legal frameworks for cross-border transport hinders the movement of goods and people. A cohesive and well-integrated transport network is required. Cross-border infrastructure development and improvement of intraregional logistics networks could help spur economic growth in the subregion and beyond. Also, a subregional strategy for linking the national initiatives on cross-border transport connectivity would greatly contribute to creating a platform for harmonizing "soft" connectivity issues, including different legal and regulatory frameworks on transport.

## Enhancing financial cooperation

### Financial cooperation for market integration

ENEA countries' financial markets are at very different stages of development and globalization, resulting in a low level of financial cooperation as compared with the level of trade integration. The subregion's financial markets are even more integrated with the United States and advanced European countries than with each other. Financial integration would potentially yield many benefits for ENEA countries, including improving the quality and availability of financial services in domestic markets and expanding investor opportunities. The main barrier to financial market integration has been the strong regulatory environment imposed by governments, which have taken a precautionary path in dealing with the opening of capital markets. Increasing national capacities for financial market supervision and surveillance is therefore a priority.

### Financial cooperation for reducing financial market risks

Financial market integration does increase the risks of a higher degree of volatility arising from capital movements. Balancing the risks of financial integration with the benefits therefore requires cross-border cooperation on multiple fronts. There are existing initiatives to strengthen resilience through financial cooperation and integration, including the Chiang Mai Initiative Multilateralization Agreement, the Economic Surveillance System and currency swap arrangements. For regional initiatives such as that Agreement to succeed, the ENEA countries have to take on a greater leadership role.

### Financial cooperation for narrowing infrastructure gaps

A clear solution for raising the formidable investment funds required to meet the infrastructure needs of the subregion comes from financial cooperation. Given the large amounts of savings in the ENEA subregion, much more could be done by the ENEA countries in the area of financial cooperation to promote sustainable infrastructure development and resilient growth. Already, China has set up the \$40 billion Silk Road Fund, and the Asian Infrastructure Investment Bank is expected to play a key role in promoting cross-border infrastructure development. Regional mechanisms also exist, such as the Asian Bond Markets Initiative and the Asian Bond Funds, which have been set up to help match the subregion's supply of and demand for capital. However, for these new and existing funds to operate effectively, the subregion requires greater transparency and harmonization of financial market regulations.

## Addressing shared vulnerabilities

### Environment

Various environmental challenges are transnational or cross-border issues as there is no correlation between the limits of environment that belong to one country and the geopolitical borders dividing neighbouring countries. For the management of adverse environmental and socioeconomic impacts beyond borders, the North-East Asian Subregional Programme for Environmental Cooperation and other existing subregional mechanisms are key building blocks for contributing to an enabling environment for dialogue and cooperation, and helping form concerted rules and actions for regional integration. However, the levels of institutionalization, financial stability and policy impact are still low.

### Disaster risk reduction

In recent years, the ENEA subregion has been adversely affected by a number of mega-disasters. Between 2005 and 2015, disasters in the subregion resulted in 182,137 deaths, more than a billion people being affected and economic losses exceeding \$541 billion in value. The likely increases in the intensity and frequency of disasters caused by climate change calls for increased cooperation among neighbouring countries, especially on developing and sharing disaster data, technical expertise and best practices.

## East and North-East Asia as a building block for Asia-Pacific regional cooperation and integration: key lessons and challenges

Within the ENEA subregion, there are a number of existing subregional mechanisms with broad-based mandates to promote economic cooperation and integration. These include the cooperation between China, Japan and the Republic of Korea through the Trilateral Cooperation Secretariat, the Greater Tumen Initiative (China, Mongolia, the Republic of Korea and the Russian Federation), and the Shanghai Cooperation Organisation, comprising Central Asian countries plus China and the Russian Federation. These subregional mechanisms on one hand allow for pursuit of multiple objectives at different levels of engagement towards a common goal of enhancing subregional cooperation and integration. On the other hand, however, they complicate efforts towards integration at both the subregional level and at the regional level as many of the activities are running in parallel without coordination or harmonization.

In order to create synergies, rather than competition or duplication among the parallel efforts of existing subregional organizations, it is important to have a platform for coordination to align gradually the various actions taken towards formulating a common regional agenda to promote shared prosperity and sustainable development.

Given the geopolitical situation in the ENEA subregion, the most feasible way forward is through the continuation of technical cooperation in areas where national interests are closely aligned with shared subregional interests. For example, it was found in the research for the present report that there are unexploited opportunities, particularly on strengthening transport and energy connectivity, which can be tapped by creating focused intergovernmental working groups or platforms dealing with these issues.

At the same time, there is a need for the ENEA subregion to play a part in the wider Asia-Pacific regional cooperation and integration framework, particularly in the areas of formation of seamless trade, transport and energy connectivity, financial cooperation and shared vulnerabilities. On the trade front, the proposed "Regional Comprehensive Economic Partnership" has the greatest potential to become the main mechanism for creating an integrated market in the Asia-Pacific region. With regard to transport, energy and other infrastructure connectivity issues, China's Belt and Road Initiative, together with the Asian Infrastructure Investment Bank, will play a key role in shaping the way forward. In respect of financial cooperation, greater leadership is required from the subregional "Plus Three" members (China, Japan and the Republic of Korea) in strengthening and expanding the mechanisms of ASEAN Plus Three for addressing regional financial risks and financial architecture for supporting efficient brokering between the intraregional demand for and the supply of finance.



## ACKNOWLEDGEMENTS

Under the overall direction and guidance of Shamshad Akhtar, Under-Secretary-General of the United Nations and Executive Secretary of ESCAP, Kilaparti Ramakrishna, Director of the ESCAP Subregional Office for East and North-East Asia (SRO-ENEAA), led the preparation of this report. The core report team comprised the following staff members: Gabrielle Chan, Yejin Ha, Yuko Kitada, Dorothea Lazaro, Sangmin Nam, Mi-Jin Lee, Ka-fa Wong and Li Zhou (SRO-ENEAA).

Background papers for the report were prepared by: Utpal Vyas, Associate Professor, International Relations and Political Economy, College of Asia Pacific Studies, Ritsumeikan Asia Pacific University, Japan (Part I); Tsunehiro Otsuki, Professor, Osaka School of International Public Policy, Osaka University, Japan (Trade); Seung-Cheol Jeon, Director, Monetary Policy Committee Secretariat, Bank of Korea, Republic of Korea (Finance); Taotao Chen, Professor, Department of Finance, School of Economics and Management, Tsinghua University, China (Investment); Andrea Goldstein, Senior Economist, Investment Division, Organisation for Economic Co-operation and Development (OECD) (Investment); Shuang Song, PhD candidate, Department of Finance, School of Economics and Management, Tsinghua University, China (Investment); Jae-Seung Lee, Professor, Division of International Studies, Korea University, Republic of Korea (Energy); Jang Min Chu, Senior Research Fellow, Environmental Policy Research Group, Korea Environment Institute, Republic of Korea (Environment); and Aysun Uyar Makibayashi, Associate Professor, Department of Global and Regional Studies, Faculty of Global and Regional Studies, Doshisha University, Japan (Environment).

The report draws from detailed inputs, comments and discussions provided at the expert group meeting on Regional Indicators for Monitoring Regional Cooperation and Integration in East and North-East Asia, 18-19 July 2013, by: Kazutomo Abe, Professor, Department of Humanities and Social Sciences, School of Science and Technology for Future Life, Tokyo Denki University, Japan; Yasushi Iguchi, Professor, School of Economics, Kwansei Gakuin University, Japan; Satoshi Inoue, Adjunct Professor, National Graduate Institute for Policy Studies/Emeritus Secretary General, International Association of Ports and Harbors, Japan; Tagir Khuziyatov, Professor, Department of International Economics, Far Eastern Federal University, Russian Federation; Heungchong Kim, Senior Research Fellow, Korea Institute for International Economic Policy, Republic of Korea; Yeonsoo Kim, Economic Affairs Officer, Trilateral Cooperation Secretariat, Republic of Korea; Jeong Eun Lim, PhD candidate, University of Wisconsin-Madison, United States; Artem Lukin, Associate Professor, Deputy Director for Research, School of Regional and International Studies, Far Eastern Federal University, Russian Federation; Tatsuya Maisawa, Researcher, Trilateral Cooperation Secretariat, Republic of Korea; Shunji Matsuoka, Professor, Graduate School of Asia-Pacific Studies, Waseda University, Japan; Jung-Eun Oh, Researcher, International Organization for Migration's Migration Research and Training Centre, Republic of Korea; Donghyun Park, Principal Economist, Asian Development Bank, Philippines; Yong An Park, Research Fellow, Korea Maritime Institute, Republic of Korea; So Umezaki, Director, Economic Integration Studies Group, Inter-Disciplinary Studies Center, IDE-JETRO, Japan; James Pagao Villafuerte, Economist, Economic Research and Regional Cooperation Department, Asian Development Bank; Cheng Jen (Mariner) Wang, Professor, College of International Management, Ritsumeikan Asia Pacific University, Japan; Katsuhiro Yamaguchi, Visiting Professor, University of Tokyo/Executive Officer, New Kansai International Airport Company Ltd., Japan; Young-ok Yum, Associate Professor, Department of Communication Studies, Kansas State University, United States; and Haiying Zhang, Chief Economic Official, Trilateral Cooperation Secretariat, Republic of Korea.

The staff members of ESCAP who provided inputs and comments include: Joong-Wan Cho, Marc Proksch and Susan F. Stone (Trade and Investment Division); Shamika N. Sirimanne and Sanjay Kumar Srivastava (Information and Communications Technology and Disaster Risk Reduction Division); Alberto Isgut and Hamza Malik (Macroeconomic Policy and Financing for Development Division); Stefanos Fotiou (Environment and Development Division). The graphic design and layout were provided by Clung Wicha Press Co., Ltd.



# CONTENTS

<b>Foreword</b> .....	iii
<b>Executive Summary</b> .....	v
<b>Acknowledgements</b> .....	ix
<b>Explanatory Notes</b> .....	xv
<b>Abbreviations</b> .....	xvii
<b>Chapter 1. East and North-East Asia: Why Regional Cooperation and Integration Matter</b> .....	1
1. East and North-East Asia at a glance .....	1
2. The need for greater subregional cooperation and integration in East and North-East Asia .....	4
3. Barriers to subregional cooperation and integration .....	5
4. Current state of cooperation and integration in East and North-East Asia .....	6
<b>Chapter 2. Moving towards Market Integration</b> .....	11
1. Trade .....	11
1.1. Trade trends in East and North-East Asian economies .....	11
1.2. Trends in intrasubregional trade .....	13
1.3. Addressing costs of trade in East and North-East Asia .....	14
1.4. Policy recommendations for East and North-East Asia .....	17
2. Foreign direct investment .....	18
2.1. East and North-East Asia in the global investment landscape .....	18
2.2. Trends in intrasubregional foreign direct investment .....	20
2.3. Trends in extrasubregional foreign direct investment .....	24
2.4. Policy recommendations for East and North-East Asia .....	24
3. Movement of people .....	25
3.1. Recent migration-related policies .....	26
3.2. Trends in intrasubregional migration .....	27
3.3. Trends in intrasubregional tourism .....	28
3.4. Regional action on the movement of people .....	29
3.5. Policy recommendations for East and North-East Asia .....	29
<b>Chapter 3. Developing Seamless Connectivity</b> .....	31
1. Energy .....	31
1.1. Energy situation in East and North-East Asia .....	31
1.2. Intrasubregional energy trade .....	34
1.3. Energy connectivity: oil pipeline, gas pipeline and power grid .....	35
1.4. Policy recommendations for East and North-East Asia .....	38
2. Transport .....	39
2.1. Transport by air .....	40
2.2. Transport by sea .....	41
2.3. Transport by road and rail .....	43

## CONTENTS *(continued)*

2.4. International conventions, bilateral and multilateral agreements in East and North-East Asia .....	44
2.5. Recent cross-border transport initiatives in East and North-East Asia .....	45
2.6. Policy recommendations for East and North-East Asia .....	46
<b>Chapter 4. Enhancing Financial Cooperation</b> .....	47
1. Financial cooperation for market integration .....	47
1.1. Current state of financial development in East and North-East Asia .....	48
1.2. Current state of financial integration in East and North-East Asia .....	50
1.3. Policy recommendations for East and North-East Asia .....	54
2. Financial cooperation for reducing risks .....	55
2.1. Assessing financial market risk in East and North-East Asia .....	55
2.2. Subregional actions for reducing financial market risks .....	56
2.3. Policy recommendations for East and North-East Asia .....	57
3. Financial cooperation for bridging infrastructure gaps.....	57
3.1. Infrastructure requirements in the Asia-Pacific region and sources of financing .....	58
3.2. Regional actions on financial cooperation .....	58
3.3. Policy recommendations for East and North-East Asia .....	59
<b>Chapter 5. Addressing Shared Vulnerabilities</b> .....	61
1. Environment .....	61
1.1. Ecological interconnections and shared vulnerabilities .....	61
1.2. Managing shared vulnerabilities and environmental cooperation .....	65
1.3. Policy recommendations for East and North-East Asia .....	67
2. Disaster risk .....	67
2.1. Hazard and risk profile in East and North-East Asia .....	67
2.2. Engagement of East and North-East Asia in regional actions on disaster risk reduction .....	70
3. Policy recommendations for East and North-East Asia .....	70
<b>Chapter 6. Summary and Future Agenda</b> .....	71
1. Summary of key recommendations .....	71
2. Future agenda: from subregional cooperation in East and North-East Asia to regional integration in Asia and the Pacific .....	72
<b>References</b> .....	75

## BOXES

Box 1. Enterprise cooperation in China, Japan and the Republic of Korea .....	24
Box 2. Economic impact of the movement of people .....	26

# CONTENTS *(continued)*

## FIGURES

Figure 1. GDP of East and North-East Asian economies, 1980-2015 .....	1
Figure 2. Total carbon dioxide emissions in 2014 .....	3
Figure 3. Materials intensities, 1990 and 2010 .....	4
Figure 4. Regional cooperation as a combination of regionalism and regionalization .....	8
Figure 5. Conceptual framework of a fully integrated transborder regionalization .....	9
Figure 6. Share of global and intrasubregional trade in East and North-East Asia, 1995-2012 .....	12
Figure 7. Export (percentage of GDP), 2000-2014 .....	12
Figure 8. Trade facilitation implementation in various subregions in Asia and the Pacific .....	16
Figure 9. Status of bilateral/regional free trade agreements, 2015 .....	17
Figure 10. East and North-East Asia inflows of foreign direct investment, value and global share, 1991-2015 .....	19
Figure 11. East and North-East Asia outflows of foreign direct investment, value and global share, 1991-2015 .....	19
Figure 12. East and North-East Asian inflows and outflows of foreign direct investment from within and outside the subregion .....	21
Figure 13. Percentage share of partner countries in intraregional inflows of foreign direct investment in selected countries in East and North-East Asia, 2014 .....	21
Figure 14. Japan's investment in Asia, 1997-2014 .....	22
Figure 15. Republic of Korea's investment in Asia, 1997-2014 .....	23
Figure 16. Conventional energy reserves and production of fossil fuels, 2014 .....	32
Figure 17. Primary energy consumption in East and North-East Asia, 2004-2014 .....	32
Figure 18. Energy imports in East and North-East Asia, 2013 .....	33
Figure 19. Intraregional energy trade volumes in East and North-East Asia, 2000-2013 .....	34
Figure 20. Intraregional energy exports in East and North-East Asia, 2000-2013 .....	34
Figure 21. European gas pipeline and power grid .....	35
Figure 22. Map of Asian super grid proposal .....	37
Figure 23. Potential benefits of Gobitec project .....	37
Figure 24. Gas pipelines in East and North-East Asia .....	38
Figure 25. Trend in air traffic, by country, 2000-2014 .....	40
Figure 26. Container port throughput, 2008-2014 .....	41
Figure 27. Container port traffic, 2000-2013 .....	42
Figure 28. External vulnerability in East and North-East Asia, 2014 .....	56
Figure 29. Source-receptor relationship of fine particulate matter (2.5 microns or less), 2013 .....	62
Figure 30. Impact of dust and sandstorms from Mongolia and China on the Republic of Korea, 2005-2014 .....	63
Figure 31. Protected areas along the border of China and the Russian Federation .....	64
Figure 32. Occurrence of disasters in East and North-East Asia by type of hazard (2005-2015) .....	68
Figure 33. Occurrence of disasters in East and North-East Asia by country (2005-2015) .....	68

## CONTENTS *(continued)*

### TABLES

Table 1. Statistics of selected countries in East and North-East Asia, 2015 .....	2
Table 2. Comparison between regional economic blocs, 2014 .....	3
Table 3. Subregional organizations .....	7
Table 4. Percentage of intraregional trade shares of East and North-East Asian economies, 2005 and 2014 .....	13
Table 5. Intra and extraregional comprehensive trade costs in the Asia-Pacific region, 2000-2005 vs. 2006-2011 .....	15
Table 6. Intra and extraregional comprehensive trade costs in the Asia-Pacific region (excluding tariff costs), 2000-2005 vs. 2006-2011 .....	15
Table 7. Most and least implemented measures in East and North-East Asia .....	16
Table 8. Intrasubregional migrants in the East and North-East Asia, mid-2015 .....	27
Table 9. Inbound and outward tourism expenditure in East and North-East Asia .....	28
Table 10. Energy intensity in East and North-East Asia, 2014 .....	39
Table 11. Number of flight arrivals and departures per day, 2014 .....	41
Table 12. Top 10 container ports in the world, 2013 .....	42
Table 13. Trends in railway freight tonnage, 1995 vs. 2014 .....	44
Table 14. Ratification status of conventions contained in ESCAP resolution 48/11, 2016 .....	45
Table 15. Domestic credit provided by banking sector (percentage of GDP), 2005-2014 .....	47
Table 16. Number of domestic firms listed in stock markets, 1995-2015 .....	48
Table 17. Market capitalization of listed companies (percentage of GDP), 1995-2015 .....	48
Table 18. Stocks traded, total value (percentage of GDP), 1995-2015 .....	49
Table 19. Outstanding amount of government bonds (percentage of GDP), 2005-2014 .....	49
Table 20. Outstanding amount of corporate bonds (percentage of GDP), 2005-2014 .....	50
Table 21. Foreign bank participation in domestic market, 2015 .....	51
Table 22. Number of foreign firms listed in domestic stock markets, at end of 2015 .....	52
Table 23. Portfolio investment assets, at end of 2014 .....	52
Table 24. Differences in long-term government bond yields, 2005-2014 .....	53
Table 25. Correlation coefficients of stock price indices within East and North-East Asia .....	54
Table 26. Foreign currency reserves held by East and North-East Asian economies .....	57
Table 27. Intergovernmental environmental mechanisms in East and North-East Asia .....	65
Table 28. Institutionalized regional integration and environmental mechanism .....	66
Table 29. Disasters in East and North-East Asia, by country, 2005-2015 .....	69



## EXPLANATORY NOTES

Analyses in the report are based on data and information available up to the end of November 2015.

Groupings of countries and territories/areas referred to in the report are defined as follows:

- China: People's Republic of China (excluding Hong Kong, China and Macao, China)
- Pacific island developing economies: Pacific excluding Australia and New Zealand

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of firm names and commercial products does not imply the endorsement of the United Nations.

Many figures used in the report are on a fiscal year basis and are assigned to the calendar year which covers the major part or second half of the fiscal year.

Growth rates are on an annual basis, except where indicated otherwise.

Reference to "tons" indicates metric tons.

References to dollars (\$) are to United States dollars, unless otherwise stated.

The term "billion" signifies a thousand million. The term "trillion" signifies a million million.

In the tables, two dots (..) indicate that data are not available or are not separately reported; a dash (-) indicates that the amount is nil or negligible; and a blank indicates that the item is not applicable.

In dates, a hyphen (-) is used to signify the full period involved, including the beginning and end years, and a stroke (/) indicates a crop year, fiscal year or plan year.



## ABBREVIATIONS

APTA	Asia-Pacific Trade Agreement
ABMI	Asian Bond Markets Initiative
ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
ASEAN	Association of Southeast Asian Nations
CAGR	compound annual growth rate
CMIM	Chiang Mai Initiative Multilateralisation
CO <sub>2</sub>	carbon dioxide
CPI	consumer price index
DAC	OECD Development Assistance Committee
DLD	desertification and land degradation
DSS	dust and sandstorms
EABRN	East Asian Biosphere Reserve Network
EANET	Acid Deposition Monitoring Network in East Asia
EEZ	exclusive economic zones
ESCAP	Economic and Social Commission for Asia and the Pacific
FDI	foreign direct investment
FTA	free trade agreement
GDP	gross domestic product
GHG	greenhouse gas
ICT	information and communications technology
IEA	International Energy Agency
IMF	International Monetary Fund
LTP	Long-range Transboundary Air Pollutants
MNE	multinational enterprise
MW	megawatt
NEAMPAN	North-East Asian Marine Protected Areas Network
NEASPEC	North-East Asian Subregional Programme for Environmental Cooperation
NOWPAP	Northwest Pacific Action Plan

OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
RCEP	Regional Comprehensive Economic Partnership
SAARC	South Asian Association for Regional Cooperation
SACEP	South Asia Cooperative Environment Programme
SPREP	South Pacific Regional Environment Programme
SDGs	Sustainable Development Goals
TEU	twenty foot equivalent units
TOE	tons of oil equivalent
TPES	total primary energy supply
TPP	Trans-Pacific partnership
TCS	Trilateral Cooperation Secretariat
TEMM	Tripartite Environmental Ministers` Meeting
UNECE	United Nations Economic Commission for Europe
WTO	World Trade Organization

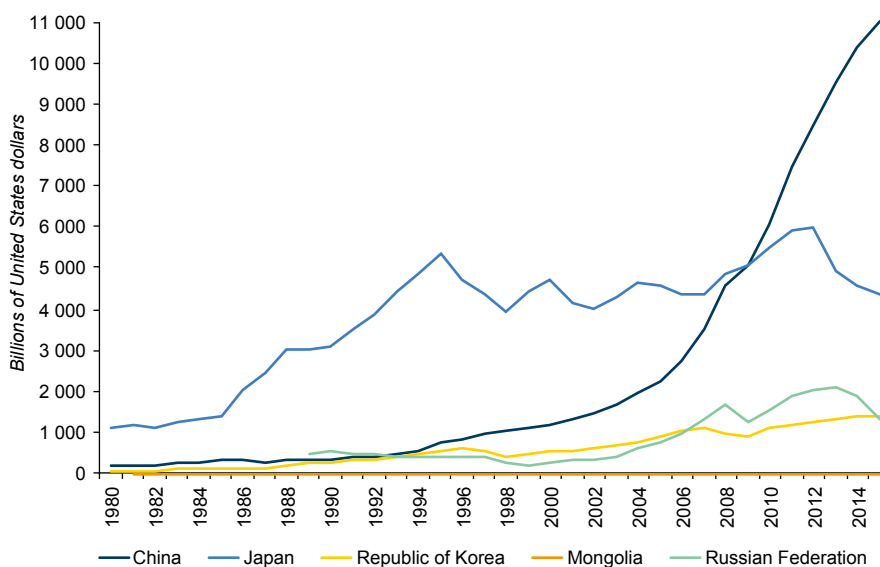
# EAST AND NORTH-EAST ASIA

## Why Regional Cooperation and Integration Matter

### 1. EAST AND NORTH-EAST ASIA AT A GLANCE

In the ESCAP region, the East and North-East Asian subregion covers China (including Hong Kong, China; and Macao, China), the Democratic People's Republic of Korea, Japan, Mongolia, the Republic of Korea and the Russian Federation. The ENEA subregion is one of the most dynamic parts of the world, with countries and areas that have achieved noteworthy economic growth since the 1980s (see figure 1 and table 1).

**Figure 1. GDP of East and North-East Asian economies, 1980-2015**



Source: World Bank, *World Development Indicators*. Available from <http://data.worldbank.org/indicator> (accessed 13 October 2016).

**Table 1. Statistics of selected countries in East and North-East Asia, 2015**

	China	Democratic People's Republic of Korea	Japan	Mongolia	Republic of Korea	Russian Federation	
Population	1 371 220 000	25 155 320	126 958 470	2 959 130	50 617 040	144 096 810	
GDP (millions of current United States dollars)	10 866 444		4 123 258	11 758	1 377 873	1 326 015	
GDP per capita, PPP (international dollars)	14 238.7		37 321.6	12 188.6	34 549.2	24 451.4	
Foreign reserves (millions of United States dollars)	3 606 788		1 289 634		368 023	390 565	
Trade volume (millions of current United States dollars)	Merchandise exports	2 274 949	3 810	624 939	526 755	4 670	340 349
	Merchandise imports	1 681 951	4 790	648 494	436 499	3 797	194 087
	Total	3 956 900	8 600	1 273 433	963 254	8 467	534 436
Outward official development assistance (ODA) (2014) (millions of United States dollars)	4 900 <sup>a</sup>		9 320		1 911	1 161	

Source: World Bank, *World Development Indicators*. Available from <http://data.worldbank.org/indicator>; IMF, International Financial Statistics databases. Available from <http://elibrary-data.imf.org>; and OECD Stats. Available from <http://stats.oecd.org/> (accessed 13 October 2016).

<sup>a</sup> Data on China's official development assistance are based on Naohiro Kitano, "Estimating China's foreign aid II: 2014 update", JICA-RI Working Paper, No. 131 (Tokyo, JICA Research Institute, 2016).

As a result of the subregion's dynamic economic development, the countries have become global players in many aspects. Together, ENEA countries account for: 26 per cent of global GDP (purchasing power parity (PPP), thus forming the largest economic bloc in terms of combined PPP-adjusted GDP); 23.6 per cent of the world's population; and approximately 20.3 per cent of global trade (see table 2). The subregion also holds excess amounts of foreign reserves worth more than \$5 trillion. However, among the major economic blocs the ENEA subregion has the lowest level of intrasubregional trade at 21.3 per cent. In particular, the European Union, which is the world's largest trading bloc, benefited from advanced regional integration and integrated production networks.

The subregion's contribution to development cooperation has also increased significantly in recent years with Japan's ongoing contributions as a member of the OECD Development Assistance Committee (DAC) and the Republic of Korea becoming a member of DAC in 2009. In addition, China is emerging as a key player in South-South cooperation, with its development assistance estimated to have been worth more than \$7 billion in 2013 (although it decreased to \$4.9 billion in 2014).<sup>1</sup> (Kitano and Harada, 2014; Kitano, 2016). China's development assistance is likely to increase in the coming years, especially as it takes on a leadership role in the Asian Infrastructure Investment Bank (AIIB), which is expected to help fill the large infrastructure gap in the Asia-Pacific region. China, Mongolia, the Republic of Korea and the Russian Federation are among the 57 founding members of AIIB.

Meanwhile, economic development in the subregion has been accompanied by intensive use of natural resources, in particular fossil fuels. ENEA countries, while accounting for 23.4 per cent of global GDP, account for 38 per cent of the world's carbon dioxide emissions (see figure 2).

In the subregion, some countries, particularly China, the Democratic People's Republic of Korea and Mongolia, also still require more resources to produce one dollar of GDP compared with the global average, although for the subregion as a whole, resource-intensity has decreased over time due to technological advancements in production and consumption (see figure 3).

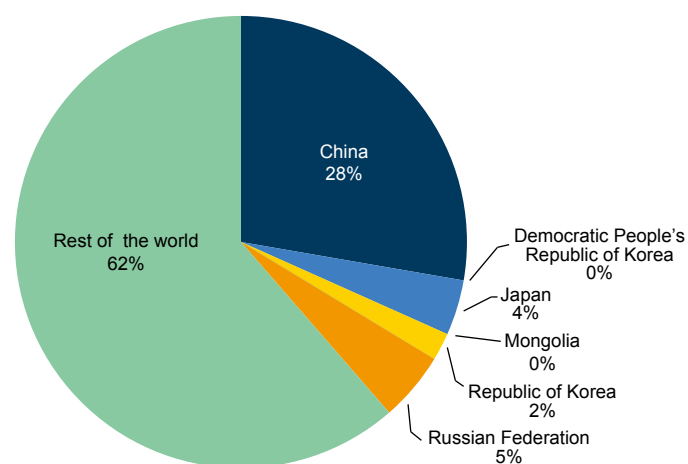
<sup>1</sup> Due to the unavailability of the annual breakdown of China's outward ODA, reference has been made to an estimation made by Kitano and Harada (2014). According to the White Paper on Foreign Aid (available from [www.china.org.cn/government/whitepaper/node\\_7209074.htm](http://www.china.org.cn/government/whitepaper/node_7209074.htm)), China appropriated \$14.41 billion for foreign assistance from 2010 to 2012.

**Table 2. Comparison between regional economic blocs, 2014**

	East and North-East Asia	Association of Southeast Asian Nations	European Union	North American Free Trade Agreement	World	
Population	1 713 581 967	623 293 133	508 314 883	479 783 308	7 260 652 256	
Percentage share of global population	23.6	8.6	7.0	6.6	100.0	
GDP (millions of current United States dollars)	18 244 563	2 478 002	18 460 646	20 488 375	77 868 768	
Percentage share of global GDP	23.4	3.2	23.7	26.3	100.0	
GDP (PPP, millions of international dollars)	28 174 142	6 180 944	18 423 382	21 111 182	108 463 388	
Percentage share of global GDP (PPP)	26.0	5.7	17.0	19.5	100.0	
GDP per capita (PPP, international dollars)	16 442	9 917	36 244	44 001	14 939	
Trade volume (millions of current United States dollars)	Exports	4 104 893	1 299 009	6 161 137	2 494 988	19 063 547
	Percentage share globally	21.5	6.8	32.3	13.1	100.0
	Imports	3 625 644	1 235 546	6 012 097	3 295 866	19 005 507
	Percentage share globally	19.1	6.5	31.6	17.3	100.0
	Total	7 730 537	2 534 555	12 173 234	5 790 854	38 069 054
	Percentage share globally	20.3	6.7	32.0	15.2	100.0
Intrasubregional trade volume (percentage of total subregional trade volume)	21.3	24.3	62.8	41.9		
Outward official development assistance (ODA) (millions of United States dollars)	18 845	69	16 106	36 925	160 688	
Percentage share of global ODA	11.7	0.0	10.0	23.0	100.0	

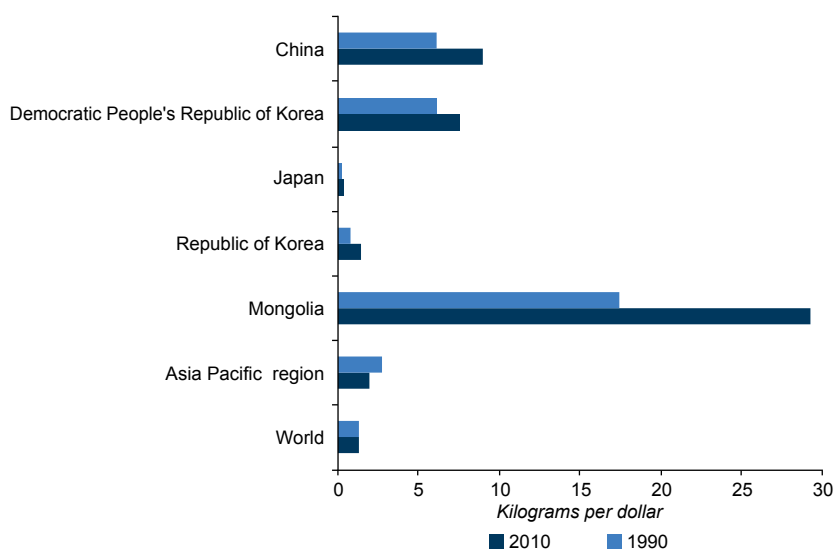
Source: World Bank, *World Development Indicators*. Available from <http://data.worldbank.org/indicator>; IMF, International Financial Statistics databases. Available from <http://elibrary-data.imf.org>; and Naohiro Kitano and Yukinori Harada, "Estimating China's foreign aid 2001-2013", JICA-RI Working Paper, No. 78 (Tokyo, JICA Research Institute, 2014). Available from [http://jica-ri.jica.go.jp/publication/workingpaper/estimating\\_chinas\\_foreign\\_aid\\_2001-2013.html](http://jica-ri.jica.go.jp/publication/workingpaper/estimating_chinas_foreign_aid_2001-2013.html) (accessed 18 November 2015).

Note: GDP (millions of United States dollars) – data for the Democratic People's Republic of Korea are not available; GDP (PPP, millions of international dollars); and GDP per capita (PPP, international dollars) – data for the Democratic People's Republic of Korea and Myanmar are not available; Trade volume – 2013 data used for Brunei Darussalam; data for the Democratic People's Republic of Korea and Myanmar are not available; outward ODA – based on data available for Australia, Austria, Bulgaria, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Republic of Korea, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Thailand and United Kingdom of Great Britain and Northern Ireland; outward ODA data for China are for 2013.

**Figure 2. Total carbon dioxide emissions in 2014**

Source: World Resources Institute, Country greenhouse gas emissions data. Available from [www.wri.org/resources/data-sets/cait-country-greenhouse-gas-emissions-data](http://www.wri.org/resources/data-sets/cait-country-greenhouse-gas-emissions-data) (accessed 18 November 2015).

**Figure 3. Material intensities, 1990 and 2010**



Source: UNEP, UNEP Live. Available from <http://uneplive.unep.org> (accessed 18 November 2015).

Note: Data for the Russian Federation are not available.

Given the subregion's high material intensity and large ecological footprint, it is highly vulnerable to the depletion of natural resources and other pressures on the ecological system. At the same time, the subregion has the opportunity to contribute greatly to correcting ecological imbalances to achieve a more sustainable development path at the global level.

## 2. THE NEED FOR GREATER SUBREGIONAL COOPERATION AND INTEGRATION IN EAST AND NORTH-EAST ASIA

With many of the ENEA subregional member countries being large economies on the global scale, economic cooperation and integration at the subregional level was not previously a priority, especially during periods of rapid economic expansion driven by exports to developed economies. However, in the aftermath of the global financial crisis that started in 2008, the subregional economies are facing an increasingly challenging environment where the "business as usual" model of economic growth and development is no longer a sustainable option. In particular, the rebalancing that is required away from exports to developed markets towards domestic and regional demand and service sector growth is an important reason for shifting focus to intraregional cooperation and integration.

In addition to opportunities for greater subregional trade in both goods and services, there are notable strategic gains for each country in the ENEA subregion for wanting to drive regional cooperation forward. In the case of China, the Government has laid out an ambitious plan, namely the Belt and Road Initiative (BRI), which is aimed at creating new growth poles by increasing connectivity to Eurasia and accelerating development along land and sea routes. It is estimated that the project will have an impact on 4.4 billion people in the Asia-Pacific region.<sup>2</sup> The China Development Bank recently announced that it would invest \$890 billion in more than 900 BRI projects across 60 countries (Shepard, 2016). For this strategy to be successful, it is crucial for China to step up its leadership role in the Asia-Pacific region and strengthen cooperation with neighbouring countries.

<sup>2</sup> For further information, see <https://globalconnections.hsbc.com/singapore/en/articles/china-widen-its-economic-influence-one-belt-one-road>.



The Democratic People's Republic of Korea has very limited ties to the global market. Although official statistics are not available, the country trades almost exclusively with China, mostly exporting mining products and light industry manufactured goods to earn foreign exchange. While the relationship with other subregional countries remains far more precarious, recent developments, in particular the designation of special economic zones and transport projects with the Russian Federation, seem to indicate a growing desire to bring in more investment to promote industrialization in the country.

Japan, as the most advanced economy in the subregion, is a global leader in technology and one of the largest suppliers of capital. However, the economy has been struggling with slow growth and deflationary pressures for more than two decades despite various efforts by the Government to revitalize the economy. The economic situation in Japan is being exacerbated by a rapidly ageing population, with the population already in contraction, and high levels of government debt. Although the economic conditions in Japan are not adequately explained by the usual indicators (for example, gross government debt is close to 245 per cent of GDP, but the majority of debt is held domestically and therefore does not present as high a risk as the debt level would seem to indicate), Japan's economy would greatly benefit from stronger linkages to rapidly growing economies in the ENEA subregion, which would enable it to anchor onto larger and more dynamic external markets.

Mongolia, as the only landlocked country in the subregion, has to rely on ports in neighbouring China and the Russian Federation for trading with the outside world. Of 190 countries globally, Mongolia ranks in 103rd place in terms of "trading across borders (World Bank, 2017b) and 108th of 160 countries in the Logistics Performance Index (World Bank, 2016b). Close cooperation with neighbouring countries could significantly improve the trade efficiency and competitiveness of Mongolia and facilitate transforming Mongolia from being "landlocked" to "landlinked". Although the current volume of transit trade is insignificant, the potential of Mongolia to become a transit country is also quite high, especially in the context of China's BRI.

The Republic of Korea similarly has high stakes in increasing subregional cooperation and integration and is increasingly seeking to strengthen partnership with neighbouring countries. For example, two of the flagship proposals of the current Government are the "Eurasia Initiative", which calls for linking energy and logistics infrastructure across the continent, and the "Northeast Asia Peace and Cooperation Initiative", which is aimed at developing multilateral cooperation mechanisms among ENEA countries. The two initiatives are seen as critical to support growth through increased trade and investment, and to enhance the energy security and political stability of the subregion.

For the Russian Federation, the incentive is to bring in much needed investment to the country's far eastern region. Currently, the far eastern region of the Russian Federation, while accounting for more than a third of the country's territory, accounts for only 4.5 per cent of national GDP and 4.5 per cent of the national population. As such, the Government established the Ministry for Development of the Far East, which is mandated to play a pivotal role in promoting relations with the Asia-Pacific region, and put into place a multi-year plan, which envisages government investments of \$127 billion between 2014 and 2025 (Lee, 2013).

### 3. BARRIERS TO SUBREGIONAL COOPERATION AND INTEGRATION

#### Geo-political constraints

National politics and lack of trust on cooperation in substantial areas have been difficult barriers to overcome in the subregion. There are still many historical grievances remaining from the colonial era and post-Second World War settlements between ENEA countries (Timmermann, 2008; Yahuda, 2011). In particular, unresolved territorial demarcations are proving to be insurmountable barriers to progress of government-led regionalism. Meanwhile, the Democratic People's Republic of Korea and the Republic of Korea are technically only in a state of ceasefire since the Korean War armistice agreement was signed on 27 July 1953.

In addition to these issues, in the process of economic development, ENEA countries have cultivated a strong national identity. As such, leaders may face some difficulty in any initiative to pool national sovereignty with neighbouring

countries (Higgott and Timmermann, 2008; Ball, 2000; Friedman and Kim, 2006). The varying methods of national identity construction, alongside the ongoing territorial disputes, the nuclear crisis on the Korean Peninsula and the recent developments in disputes with ASEAN countries over the South China Sea, are perhaps one of the major stumbling blocks to regional cooperation in the ENEA subregion.

### Economic constraints

Concurrent with regional politics and sentiments, there are also economic impediments to regional integration. One of these is the development gap among the member countries. For this reason, China, Japan and the Republic of Korea have made more progress in terms of pursuing trade liberalization through negotiations on free trade agreements (FTAs) compared with the Democratic People's Republic of Korea, Mongolia and the Russian Federation.

It is useful to note that other regional groupings, such as ASEAN and the European Union, faced similar challenges.<sup>3</sup> The ENEA subregion could explore a multitrack approach in which the countries ready for deeper integration would negotiate reciprocal trade agreements (Masahiro, 2004), while supporting the economic convergence of other countries, as has been explored in other groupings.

## 4. CURRENT STATE OF COOPERATION AND INTEGRATION IN EAST AND NORTH-EAST ASIA

### Regional cooperation mechanisms and governance

The Asian financial crisis of 1997/98 provided the first opportunity for deepening regional cooperation and integration in the subregion. At the height of that crisis, Japan proposed the establishment of an Asian monetary fund. Although the proposal failed in its original form, it resulted in fostering greater cooperation among East Asian countries, comprising the ASEAN countries along with China, Japan and the Republic of Korea. Since the institutionalization of the ASEAN Plus Three Summit in 1999, cooperation has broadened to include almost all areas, such as trade, investment, finance, tourism, food, minerals, information and communications technology, energy, environment and sustainable development. On the economic and financial front, the cooperation most tangibly led to the creation in 2000 of the Chiang Mai Initiative, a safety net for the members from which they could draw funds in case of balance-of-payment crises (Lipsy, 2003).

In recognizing the role of the "Plus Three" economies that account for more than 90 per cent of regional GDP, the three countries started holding independent trilateral summit meetings, which included consultative mechanisms and ministerial meetings. To further strengthen and institutionalize cooperation among the three countries, the Trilateral Cooperation Secretariat (TCS) was set up in Seoul in 2011. In its current form, TCS is a representational mechanism that supports mainly trilateral governmental meetings. Projects are pursued when there is unanimous consensus among the three countries; the projects are often subjected to approval by the highest levels of Government; to some extent this situation could limit the ability of TCS to function effectively as the face of trilateral cooperation.

Political disagreements aside, economic cooperation benefited from the many shared characteristics among China, Japan and the Republic of Korea. The three economies followed a similar path of export orientation and open market policies. Most notably, the government-driven support for capital-intensive industries has been a central strategy for all three countries, and this has allowed for closer economic partnership and business-led integration through the proliferation of horizontal and vertical supply chains.

---

<sup>3</sup> Within ASEAN, large development gaps exist between Cambodia, the Lao People's Democratic Republic, Myanmar, Viet Nam and the other six member countries. The "Initiative for ASEAN Integration" was launched in an effort to address this challenge and narrow the development gap through structural, institutional strengthening and capacity-building so that the four previously mentioned countries would be ready for full integration into the ASEAN Economic Community. Similarly, during the inception of the European Union and its expansion phase during the 1990s, the European Union set up European Structural and Investment Funds as a means to narrow the development gap among countries (Alavi and Ramadan, 2008).

While the trilateral linkage is most apparent and thus receives most of the attention in the subregion, there are other subregional mechanisms that are more prominent when it comes to issues of regional transport and energy connectivity, environmental linkages and security.

The Greater Tumen Initiative, formerly known as Tumen River Area Development Programme, with its four member countries, namely China, Mongolia, the Republic of Korea and the Russian Federation, is a key mechanism for facilitating transport and energy connectivity in the subregion; it has the potential to enable full exploitation of economic complementarities and to serve as an important bridge for greater cooperation within the Korean peninsula and with neighbouring countries.

The Shanghai Cooperation Organisation (SCO) is another long-standing intergovernmental platform that includes key members from the ENEA subregion, namely China and the Russian Federation, with Mongolia maintaining observer status in the organization. SCO is focused primarily on security issues, but it has also played an important role in promoting transport connectivity and economic cooperation among its members which are all, with the exception of China, part of the Eurasian Economic Community led by the Russian Federation.

In addition to these multilateral and multifunctional subregional organizations, many more channels exist in specific areas of cooperation (see table 3). For instance, there are environmental cooperation networks and entities, including the Northwest Pacific Action Plan, the North-East Asian Subregional Programme for Environmental Cooperation, the East Asian Biosphere Reserve Network and the Tripartite Environment Ministers' Meeting. However, most have taken the form of technical and low-level agreements.

**Table 3. Subregional organizations**

Organization	Institution	Established	Mission	Member countries
Intergovernmental	Trilateral Cooperation Secretariat	2011	To promote peace and common prosperity among China, Japan, and Republic of Korea.	China, Japan, Republic of Korea
	Greater Tumen Initiative	1995	To strengthen economic and technical cooperation in the Greater Tumen region.	China, Republic of Korea, Mongolia, Russian Federation
	Shanghai Cooperation Organisation	2001	To strengthen mutual confidence and good-neighbourly relations among the member countries.	China, Kazakhstan, Kyrgyzstan, Russian Federation, Tajikistan, Uzbekistan
Subnational	Organization for the East Asia Economic Development	2004	To promote economic cooperation among East Asian cities.	China, Japan, Republic of Korea
	Association of North East Asia Regional Governments	1996	To enhance mutual exchange and cooperation for the co-development of the region.	China, Japan, Democratic People's Republic of Korea, Republic of Korea, Mongolia, Russian Federation
United Nations	ESCAP East and North-East Asia Office	2010	To strengthen multilateral partnerships and intergovernmental cooperation for inclusive and sustainable development and integration in the ENEA subregion.	China, Japan, Democratic People's Republic of Korea, Republic of Korea, Mongolia, Russian Federation
Civil society	Economic Research Institute for Northeast Asia	1993	To pursue research into the trends in economic development and exchange in the ENEA subregion.	
	Northeast Asia Economic Forum	1991	To facilitate research, networking and dialogue relevant to the economic and social development of the ENEA subregion.	

Source: ESCAP, based on data from respective organization's websites.

## Regionalism and regionalization in East and North-East Asia

Regional cooperation and integration can occur in various forms (see figure 4), such as a top-down (i.e. primarily government-led form – regionalism) form, or bottom-up or civil society, business and subnational organization-led form (regionalization) (Dent, 2008; Pempel, 2005; Yamamoto, 2008; Jo, 2012). Most regional initiatives may have elements of each configuration; in order for an initiative to be successful, it will eventually be necessary for both forms to develop significantly (Bhattacharyay, 2010; Hix, 2010). The European Union (Higgott and Timmermann 2008) is an example where both regionalism and regionalization are highly developed.

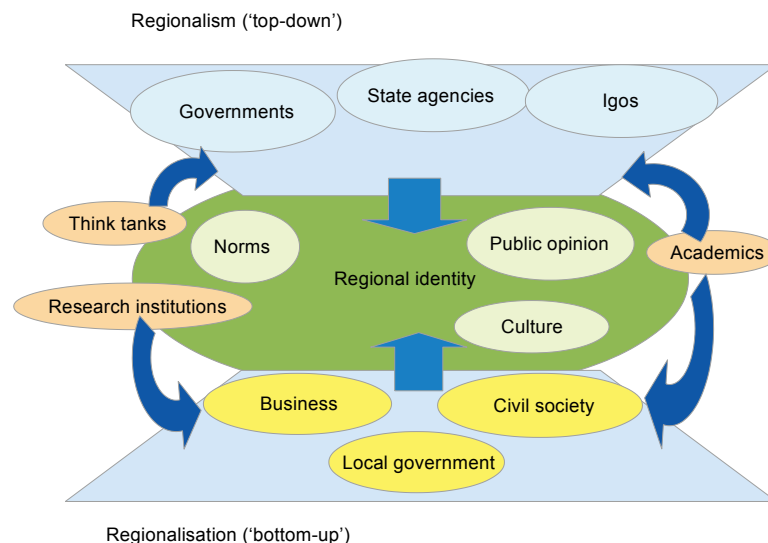
In the case of the ENEA subregion, regionalization progressed through the opening of borders to trade and investment supported by the development of regional infrastructure and transport links. In order to enable these links, various forms of technical agreements have been established, such as the cooperation and coordination between various international ports, agreements on adherence to global technical and safety standards and the development of norms on the operation of transport and data links. However, from the point of view of more top-down regionalism, there has been great difficulty in making progress on realizing multilateral governance.

### Approach for regional cooperation and integration in East and North-East Asia

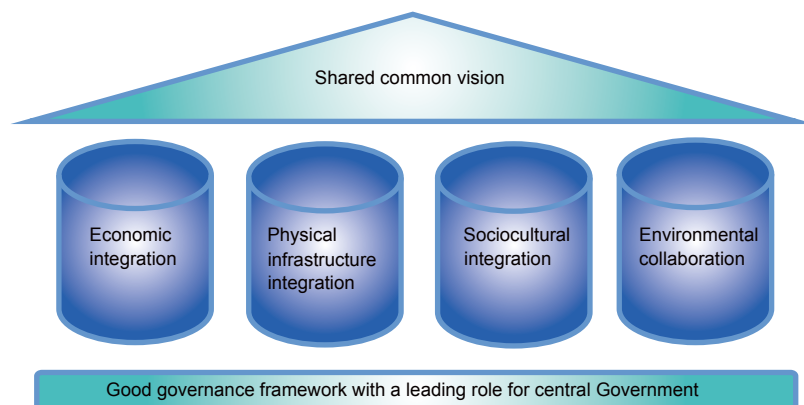
A more realistic goal for regional integration in the ENEA subregion is following the “informal” and “consensus” methods of careful integration favoured by ASEAN (Solingen, 2005; Rüländ, 2011). So far, the ENEA subregion has adopted a model of regionalism which tends to be a more heterogeneous and multidimensional phenomenon based on market and society actors as well as nation-States and covers economic, cultural, political, security and environmental aspects (see figure 5). Also, a mostly bilateral/trilateral approach to cooperation has been taken, resulting in a kind of de facto regional coordination of economies allowing for regionalization but not multilateralism.

Some of the formal government-led initiatives to promote regional integration in the form of regional institutions or agreements, substantive and overarching cooperation has often been stymied by outbreaks of popular media-led protests against cooperation, with historical issues being the focal point. In this regard, to enable top-down regional

**Figure 4. Regional cooperation as a combination of regionalism and regionalization**



Source: Christopher M. Dent, *East Asian Regionalism* (London, Routledge, 2008); T.J. Pempel, "Introduction: emerging webs of regional connectedness", in *Remapping East Asia: The Construction of a Region*, T.J. Pempel, ed. (Ithaca, New York, Cornell University Press, 2005, pp. 1-30; Yoshinobu Yamamoto, "Institutionalization in Northeast Asia: is outside-in regionalization enough?" in *Institutionalizing Northeast Asia: Regional Steps towards Global Governance*, Martina Timmermann and Jitsuo Tsuchiyama, eds. (Tokyo, United Nations University Press, 2008), pp. 21-42; and Sam-Sang Jo, "Region-building and critical juncture: Europe and Northeast Asia in comparative perspective", *Asia Europe Journal*, vol. 10, No. 1, pp. 1-20 (May 2012).

**Figure 5. Conceptual framework of a fully integrated transborder regionalization**

Source: Organisation for Economic Co-operation and Development (OECD) (2009). *OECD Territorial Reviews: Trans-border Urban Co-operation in the Pan Yellow Sea Region* (Paris, OECD Publishing, 2009).

initiatives to move ahead, it is necessary to have strong political commitment, as well as opinion-forming groups and influential individuals championing regional cooperation and integration (Jo, 2012; Higgott and Timmermann, 2008). Concurrently, deepening and expanding functional integration in different sectors will help the subregion to unlock the potential benefits of enhanced economic cooperation. In the following chapters, there is an exploration of the state of cooperation and integration in the areas of market integration, seamless connectivity, financial cooperation and addressing shared vulnerabilities, with a view to identifying (a) areas where subregional cooperation could be strengthened, and (b) the policy actions required.



# MOVING TOWARDS MARKET INTEGRATION

---

---

## 1. TRADE

Trade is the most fundamental linkage among countries. It is an area where spontaneous and formal cooperation and integration take place most frequently. For many of the ENEA economies that have followed an export-led development strategy, interdependence and integration have been most pronounced in trade. In 2015, ENEA economies made up 20.2 per cent of global trade, with exports and imports accounting for 21.4 and 19.0 per cent of the total, respectively.

However, while East and North-East Asia's share of global trade has been rising, the share of intraregional trade in total ENEA trade has plateaued (see figure 6), mainly due to the slowdown in trade between China and Japan, the two largest economies in the subregion.

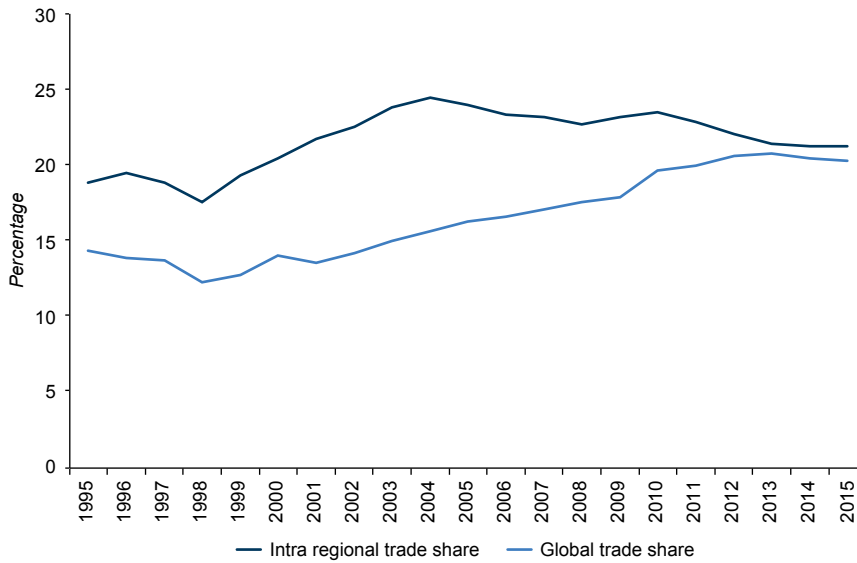
### 1.1. Trade trends in East and North-East Asian economies

The trade volume of the ENEA subregion has grown steadily during the last three decades, although there is a wide variation between countries. This difference also exists in terms of their share of respective exports share to GDP (see figure 7).

After China joined the World Trade Organization (WTO) in 2001, its compounded annual growth rate of exports was 18.2 per cent until 2014, double the global annual growth rate of 9 per cent for the same period. China's share of exports as a percentage of GDP peaked in 2006 at 37.5 per cent. Thereafter, and following the start of the global financial and economic crisis, the ratio continued to drop off, as a direct result of the falling external demand and the conscious government effort to rebalance the economy towards greater domestic consumption. This trend was also supported by the appreciation of the Renminbi and rising production costs.

The Democratic People's Republic of Korea has very few ties to the global market and relies mostly on trade with China. The economy's main exports include minerals and light industrial goods. In recent years, the Government has been stepping up efforts to increase trade and attract foreign investment by establishing free economic zones and enhancing transport connectivity to the Russian Federation and countries in Central Asia.

**Figure 6. Share of global and intrasubregional trade in East and North-East Asia, 1995-2015**

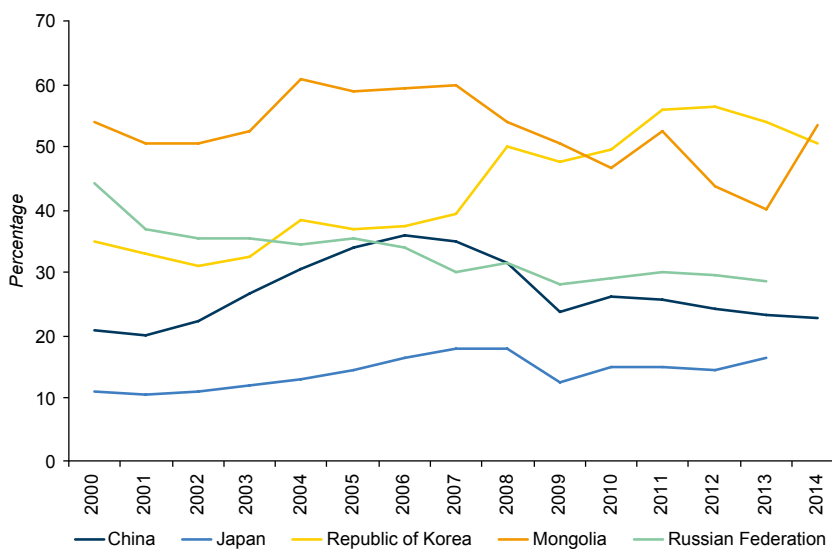


Source: International Monetary Fund, Direction of Trade Statistics (DOTS). Available from [www.imf.org/en/data](http://www.imf.org/en/data) (accessed 18 November 2016).

While Japan has historically been an export-based economy, the pattern of trade has shifted more recently. The movement of production bases to East Asia has boosted its trade share in capital equipment and machinery parts. Also, by increasing foreign direct investment in East Asia, Japan has become the largest capital supplier in the world.

Mongolia relies heavily on exports of natural resources, including coal, copper and gold, for its foreign exchange earnings. As the subregion’s only landlocked country, Mongolia has a disadvantage in terms of trade costs and logistics networks. A boom in primary commodities and the development of major mining deposits fuelled the

**Figure 7. Export (percentage of GDP), 2000-2014**



Source: World Bank, *World Development Indicators*. Available from <http://data.worldbank.org/indicator> (accessed 18 November 2015).

Note: Data for Democratic People’s Republic of Korea are not available; data for Japan and the Russian Federation for 2014 are not available.



rapid economic growth seen in the last decade. At the same time, however, the economy has been highly exposed to the “boom-bust” cycle of commodity prices. An export production base and market diversification are therefore urgent priorities for Mongolia.

The Republic of Korea is one of the most trade dependent economies in the ENEA subregion. However, in recent years, export growth has decreased from double-digit rates prior to the global financial crisis to 2.8 per cent in 2013 and 2 per cent in 2014. Competition in many of the economy’s key export products, such as mobile communication devices, display panels and automobiles, has been intensifying, with new production centres in emerging markets rapidly narrowing the technology gap. In 2014, the very tepid domestic demand overtook net exports as the main contributor to GDP growth.

For the Russian Federation, the European Union has been its main trading partner, with more than 70 per cent of its petroleum oil and natural gas exports being sold to the European Union. Increasingly, however, the Russian Federation has been pivoting to East Asia, particularly to China, as a way to diversify its export market. The turn to the East has also been seen as a key strategy for developing the far east region of the Russian Federation, which in turn would increase its trade prospects with economies in the ENEA subregion.

## 1.2. Trends in intrasubregional trade

China’s intraregional trade with other ENEA economies accounted for only 16.5 per cent of its total trade in 2014. In contrast, Mongolia’s intraregional trade was 88.4 per cent of its total trade in the same year (see table 4). Moreover, the ratio of intraregional trade volume to GDP is also high in Mongolia, implying that the country is highly dependent on trade with ENEA countries.

By trade volume and relative importance, China, Japan and the Republic of Korea have the strongest trade ties among the six countries in the ENEA subregion. The three countries are consistently among the top three export partners to each other, with the exception of the exports of China, in which case Japan and the Republic of Korea in 2014 came in as third and fourth export destinations, respectively. On the import side, crude oil and petroleum

**Table 4. Percentage of intraregional trade shares of East and North-East Asian economies, 2005 and 2014**

From \ To	China	Democratic People's Republic of Korea	Japan	Mongolia	Republic of Korea	Russian Federation	ENEA total
China	2005	0.1	13.0	0.1	7.9	2.0	23.1
	2014	0.1	7.2	0.2	6.8	2.2	16.5
Democratic People's Republic of Korea	2005	36.7	4.2	0.0	0.0	5.7	46.7
	2014	79.0	0.0	0.0	0.0	1.2	80.2
Japan	2005	17.0	0.0	0.0	6.4	1.0	24.4
	2014	20.4	0.0	0.0	5.7	2.3	28.4
Mongolia	2005	36.5	0.0	3.6	5.8	19.9	65.7
	2014	65.8	0.0	3.5	3.8	15.3	88.4
Republic of Korea	2005	18.4	0.0	13.3	0.0	1.4	33.2
	2014	21.4	0.0	7.8	0.0	2.3	31.6
Russian Federation	2005	6.0	0.1	2.9	0.1	1.9	11.0
	2014	11.3	0.0	3.9	0.2	3.5	18.9

Source: ESCAP, based on data from International Monetary Fund, Direction of Trade. Available from <http://data.worldbank.org/indicator> (accessed 18 November 2015).

Note: Data from the Ministry of Unification reported total trade between the Democratic People’s Republic of Korea and the Republic of Korea amounting to \$1.1 billion and \$2.3 billion in 2005 and 2014, respectively, indicating possibly higher intraregional trade shares between the two economies. Available from <http://eng.unikorea.go.kr/content.do?cmsid=3103>.

(HS code 2709) are at the top of the list for all three countries. The presence of intra-industry trade (a two-way trade of the product in the same classification) also suggests that the three countries have strong vertical and/or horizontal production networks (UN Comtrade, 2015).

In terms of product mix, Japan and the Republic of Korea share a similar basket of export goods, such as motor cars and other motor vehicles principally designed for transport (HS code 8703), electronic integrated circuits (HS code 8542), and petroleum oil other than crude (HS code 2710). While similarity in export products can help ease the integration process by allowing for improved resource allocation with minimal industry reallocation, it could, however, also result in increased competition for the same export markets and thereby lessen the benefits of enhanced integration.

The export similarity index<sup>4</sup> remained consistent at about 0.37 between China and the Republic of Korea between 2006 and 2013, while the index between Japan and the Republic of Korea increased from 0.45 in 2007 to more than 0.50 in 2013. In particular, the index more than doubled for precision apparatus and continued to rise for electronics, including communication devices and semiconductors (Jang and others, 2013), indicating rising export competition between Japan and the Republic of Korea.

For Mongolia and the Russian Federation, natural resources make up for a large part of intrasubregional exports. In Mongolia, coal, copper and gold exports account for more than 70 per cent of total exports. Other major exports outside of the mining sector include cashmere and wool. On the import side, machinery and transport equipment and petroleum were the largest import commodities, reflecting the high demand for mining and construction-related heavy machinery and equipment.

Similarly in the Russian Federation, minerals, fuels and lubricants comprised the largest commodity group for exports in 2015, representing 62.8 per cent of exports (UN Comtrade, 2015). As oil and gas are exported chiefly to industrialized Europe, the Russian Federation's trade is still highly concentrated in Europe and the Commonwealth of Independent States (CIS). However, in recent years, trade with East Asia, in particular with China, Japan and the Republic of Korea, has grown significantly, overtaking both exports and imports to CIS.

### 1.3. Addressing costs of trade in East and North-East Asia

While the ENEA subregion is made up of strong trading economies and accounts for the largest share of trade in the Asia-Pacific region, it is worth noting that the subregion has a comparatively higher intrasubregional trade costs than the ASEAN-4 (Indonesia, Malaysia, Philippines and Thailand). Thus, the ENEA subregion has the potential to increase trade by lowering non-tariff trade costs. Tables 5 and 6 show that tariff costs are only a small fraction of the total cost, indicating that the bulk of the trade cost arises from non-tariff factors. In fact, non-tariff costs have increased in recent years (comparing average costs of the periods 2000-2005 and 2006-2011), from 93 to 97, while tariff costs have decreased from 17 to 12.

---

<sup>4</sup>  $XS(j, k) = \text{sum}[\min(X_{ij}, X_{ik})]$ , where  $X_{ij}$  and  $X_{ik}$  are industry  $i$ 's export shares in country  $j$ 's and country  $k$ 's exports. The index varies between zero and 1, with zero indicating complete dissimilarity and 1 representing identical export composition.

**Table 5. Intra- and extraregional comprehensive trade costs in the Asia-Pacific region, 2000-2005 vs. 2006-2011**

From \ To	ASEAN-4	ENE A subregion	North and Central Asia	SAARC-4	AUS-NZL	EU-3	NAFTA
ASEAN-4	85(78)	189(165)	489(459)	156(160)	111(111)	120(115)	139(132)
ENE A subregion	189(165)	109(110)	234(258)	227(190)	170(174)	117(122)	158(164)
North and Central Asia	489(459)	234(258)	162(185)	370(394)	388(418)	191(203)	352(333)
SAARC-4	156(160)	227(190)	370(394)	137(144)	167(171)	132(131)	171(177)
AUS-NZL	111(111)	170(174)	388(418)	167(171)	54(54)	118(120)	136(138)
EU-3	120(115)	117(122)	191(203)	132(131)	118(120)	45(46)	99(102)
NAFTA	139(132)	158(164)	352(333)	171(177)	136(138)	99(102)	53(54)

Source: ESCAP-World Bank Trade Cost Database. Available from <http://databank.worldbank.org/data/reports.aspx?source=ESCAP-World-Bank-International-Trade-Costs> (accessed 18 November 2015).

Note: Average trade costs for the period 2000-2005 are in parentheses; ASEAN-4 comprises Indonesia, Malaysia, Philippines and Thailand; AUS-NZL comprises Australia and New Zealand; East Asia-4 comprises China, Japan, Republic of Korea, and Russian Federation; EU-3 comprises France, Germany and United Kingdom; NAFTA comprises Canada, Mexico and United States; North and Central Asia comprises Armenia, Azerbaijan, Georgia, Kazakhstan and Kyrgyzstan; and SAARC-4 comprises Bangladesh, India, Pakistan and Sri Lanka.

**Table 6. Intra- and extraregional comprehensive trade costs in the Asia-Pacific region (excluding tariff costs), 2000-2005 vs. 2006-2011**

From \ To	ASEAN-4	ENE A subregion	North and Central Asia	SAARC-4	AUS-NZL	EU-3	NAFTA
ASEAN-4	79(68)	183(151)	437(393)	125(123)	100(98)	108(106)	124(117)
ENE A subregion	183(151)	97(93)	210(206)	200(159)	154(145)	107(106)	138(140)
North and Central Asia	437(393)	210(206)	162(186)	329(302)	380(384)	180(190)	332(260)
SAARC-4	125(123)	200(159)	329(302)	110(101)	144(147)	117(110)	144(144)
AUS-NZL	100(98)	154(145)	380(384)	144(147)	54(55)	108(110)	126(126)
EU-3	108(106)	107(106)	180(190)	117(110)	108(110)	45(45)	92(95)
NAFTA	124(117)	138(140)	332(260)	144(144)	126(126)	92(95)	52(55)

Source: ESCAP-World Bank Trade Cost Database. Available from <http://databank.worldbank.org/data/reports.aspx?source=ESCAP-World-Bank-International-Trade-Costs> (accessed 18 November 2015).

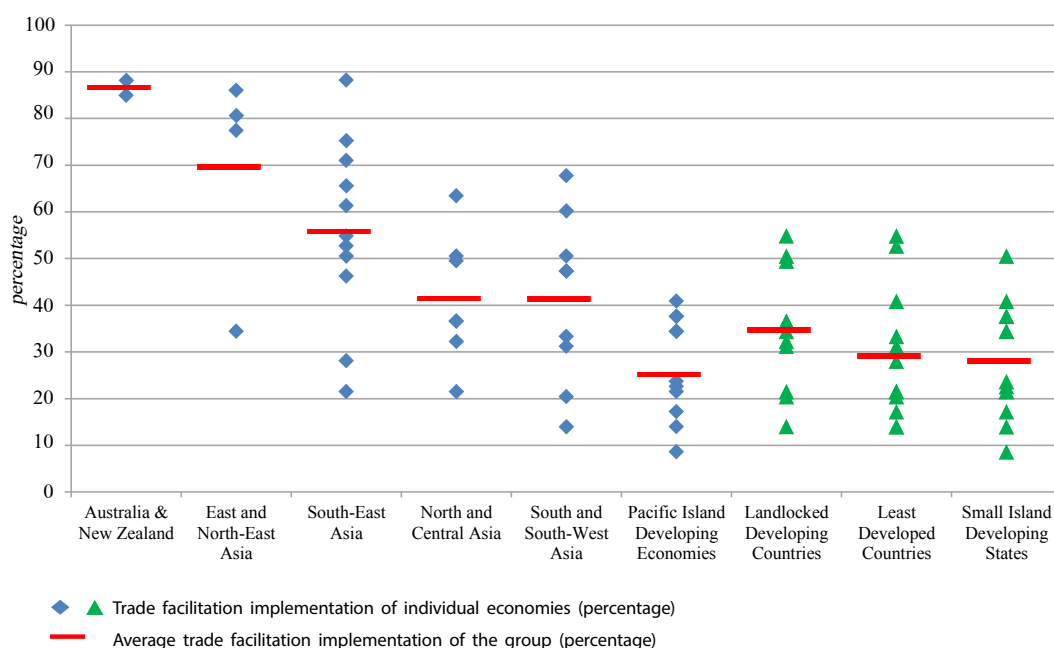
Note: Average trade costs for the period 2000-2005 are in parentheses; ASEAN-4 comprises Indonesia, Malaysia, Philippines and Thailand; AUS-NZL comprises Australia and New Zealand; East Asia-4 comprises China, Japan, Republic of Korea and Russian Federation; EU-3 comprises France, Germany and United Kingdom; NAFTA comprises Canada, Mexico and United States; North and Central Asia comprises Armenia, Azerbaijan, Georgia, Kazakhstan and Kyrgyzstan; SAARC-4 comprises Bangladesh, India, Pakistan and Sri Lanka.

## Trade facilitation

Trade facilitation in the subregion is at comparatively higher levels than in other Asia-Pacific subregions, particularly in terms of levels of implementing trade facilitation measures (see figure 8 and table 7). Nonetheless, some challenges have also been found, including the lack of coordination between government agencies and the lack of common standards for the format of electronic documents.

There are ongoing efforts by ESCAP to facilitate trade in the region through promoting cross-border paperless trade. The initiative involves enabling national single window systems to communicate across borders by putting into place laws and regulations for electronic transactions, cross-border electronic data exchange and exchange of certificates of origin, among others. It is estimated that full region-wide implementation of cross-border paperless trade could result in export gains of as much as \$257 billion annually arising from reduced time to export in the range of 24 to 44 per cent and the cost by 17 to 31 per cent. For the export-oriented economies in the ENEA subregion, even small gains in trade facilitation can have far-reaching implications. For example, it was found that businesses in the Republic of Korea gained \$1.8 billion from trade automation (Shepard, 2014). For this reason, the Republic of Korea already has a number of bilateral arrangements for the electronic exchange of trade data within and outside the region, and has been a strong champion of the ESCAP cross-border paperless trade initiative.

**Figure 8. Trade facilitation implementation in various subregions in Asia and the Pacific**



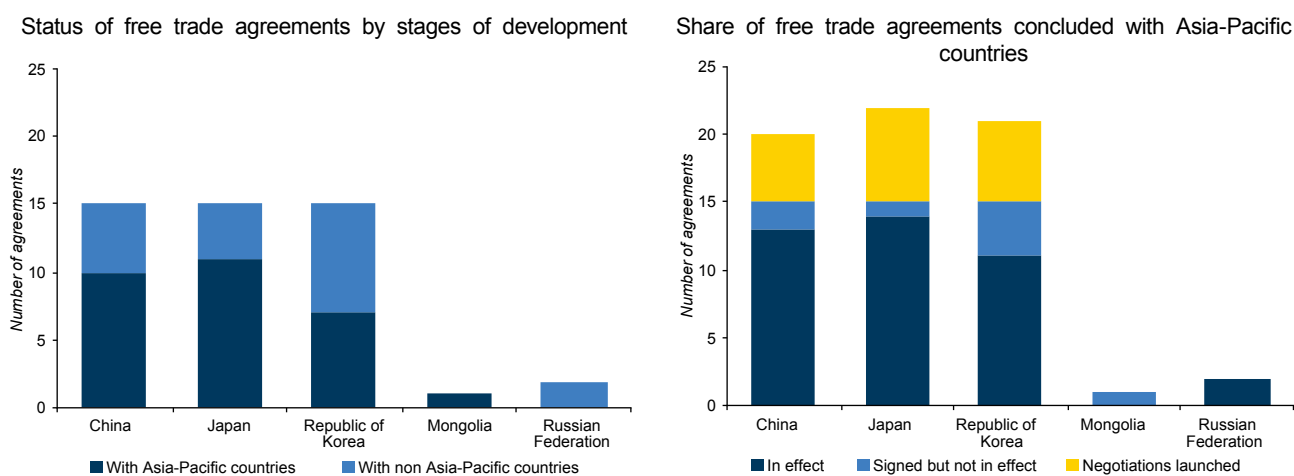
Source: ESCAP, *Joint United Nations Regional Commissions Trade Facilitation and Paperless Trade Implementation Survey 2015*. Available from [www.unescap.org/sites/default/files/Global%20Report%20Final%2020151016.pdf](http://www.unescap.org/sites/default/files/Global%20Report%20Final%2020151016.pdf).

**Table 7. Most and least implemented measures in East and North-East Asia**

	Most implemented	Least implemented
Transparency	<ol style="list-style-type: none"> <li>1. Publication of existing import-export regulations on the Internet</li> <li>2. Stakeholder consultation on new draft regulations (prior to their finalization)</li> <li>3. Advance ruling (on tariff classification)</li> <li>4. Independent appeal mechanism</li> </ol>	<ol style="list-style-type: none"> <li>1. Advance publication/notification of new regulation before its implementation</li> </ol>
Formalities	<ol style="list-style-type: none"> <li>1. Risk management</li> <li>2. Pre-arrival processing</li> <li>3. Post-clearance audit</li> </ol>	<ol style="list-style-type: none"> <li>1. Acceptance of paper or electronic copies of supporting documents required for import, export or transit</li> </ol>
Institutional arrangement and cooperation	<ol style="list-style-type: none"> <li>1. National Trade Facilitation Committee</li> <li>2. Cooperation between agencies on the ground at the national level</li> </ol>	<ol style="list-style-type: none"> <li>1. Government agencies delegating controls to customs authorities</li> </ol>
Paperless trade	<ol style="list-style-type: none"> <li>1. Internet connection available to customs and other trade control agencies at border crossings</li> </ol>	<ol style="list-style-type: none"> <li>1. Electronic application and issuance of preferential certificate of origin</li> <li>2. Electronic application for customs refunds</li> </ol>
Cross-border paperless trade	<ol style="list-style-type: none"> <li>1. Recognized certification authority</li> </ol>	<ol style="list-style-type: none"> <li>1. Electronic exchange of sanitary and phytosanitary certificate</li> <li>2. Banks and insurers retrieving letters of credit electronically</li> </ol>

Source: ESCAP, *Joint United Nations Regional Commissions Trade Facilitation and Paperless Trade Implementation Survey 2015*. Available from [www.unescap.org/sites/default/files/Global%20Report%20Final%2020151016.pdf](http://www.unescap.org/sites/default/files/Global%20Report%20Final%2020151016.pdf).

The importance of trade facilitation to trade is also recognized in the BRI Action Plan (National Development and Reform Commission and others, 2015), which identifies the enhancement of customs cooperation for information exchange, the mutual recognition of regulations and mutual assistance in law enforcement as key areas of work.

**Figure 9. Status of bilateral/regional free trade agreements, 2015**

Source: ESCAP, based on data from Asian Development Bank Asia Regional Integration Center. Available from <https://aric.adb.org/fta-all> (accessed 18 November 2015); and national sources.

Note: In effect – provisions of free trade agreements come into force after legislative or executive ratification; signed but not in effect – parties sign the agreement after negotiations have been completed; however, the agreement has yet to be implemented; negotiations launched – the parties, through the relevant ministries, declare the official launch of negotiations or set the date for such, or start the first round of negotiations (information as of August 2015).

## Trade agreements

Unlike other subregions in the Asia-Pacific region, the ENEA subregion does not have a strong intergovernmental platform to steer regional cooperation processes on trade. In the absence of a subregional or multilateral mechanism on trade and little progress on global trade talks, ENEA economies have turned to bilateral or regional free trade agreements to boost trade competitiveness. As illustrated in figure 9, between 2000 and 2015 the number of trade agreements signed or under negotiation jumped dramatically.<sup>5</sup>

There has also been a growing momentum to form multilateral trade agreements. With the impending withdrawal of the United States from the Trans Pacific Partnership (TPP), it will be worth noticing the impact on the discussions of the proposed Regional Comprehensive Economic Partnership (RCEP). Negotiations on RCEP, launched in 2011, represented the most visible effort by major trading countries in East Asia (China, Japan and the Republic of Korea) towards creating a multilateral trade agreement and has the potential to be the anchor for greater regional cooperation and integration in other areas as well. RCEP, if realized as planned, could emerge as the largest economic bloc in the world, covering 16 member States with a combined GDP of \$21 trillion (29.5 per cent of global GDP) and serving 3.4 billion people (48.7 per cent of the global population) (Guoqiang and Petri, 2014).

### 1.4. Policy recommendations for East and North-East Asia

The proliferation of free trade agreements in the region, described as the “noodle bowl” effect, is often costly due to overlapping and conflicting rules and regulations. In moving towards an integrated market, the region must find a solution to untangle the “noodle bowl”, whether through consolidation or harmonization (Brummer, 2007; Kawai and Wignaraja, 2007; Kawai, 2007; Baldwin, 2004). In this regard, it is recommended that the subregion fast-track regional free trade agreements rather than bilateral agreements.

Further inroads into trade integration depend on both enhancing cooperation on cross-border issues and making progress in tackling the challenges of trade bottlenecks faced by individual countries.

<sup>5</sup> As at the end of 2000, only the Asia-Pacific Trade Agreement (APTA) was in effect for China and the Republic of Korea.

Mongolia has the most to gain by improving access to ports and transport efficiency. In 2006, the Government of Mongolia established the National Committee on Trade and Transport Facilitation. Subsequently, the “Transit Mongolia” National Programme was adopted in May 2008 with the aim of improving trade facilitation (Oxford Business Group, 2013). Its main projects include establishing freight terminal facilities and a hub for the international railroad and air transportation network based at the New Ulaanbaatar International Airport. There have also been recent developments in expanding access to maritime port infrastructure. In 2014, the Governments of China and Mongolia signed a memorandum of understanding allowing Mongolian exports to be shipped from six Chinese seaports, including the major ports of Tianjin, Dalian and Jinzhou.<sup>6</sup>

Japan and the Republic of Korea, as leaders in almost all aspects of trade facilitation in the Asia-Pacific region, are likely to play a more active role in raising the capacity of the rest of ENEA countries in trade facilitation. However, there is a need to revisit some of the high technical barriers in certain groups of imports, such as agricultural products, in both countries.

A key priority for the Russian Federation is improving its regulatory environment. While the Russian Federation’s accession process to WTO has already boosted its transparency in regulation and openness to trade to a certain extent, additional effort is required to increase perceived effectiveness and transparency of government agencies in charge of monitoring and implementing trade policies and procedures.

China has also taken measures to increase the transparency of its trade policies as well as amended or enacted trade-related legislation, such as its anti-monopoly law. In addition, most administrative regulations promulgated at the legislative level of the State Council are being published on a platform called the China Legislative Information Network System for public comment before promulgation. While all foreign trade-related laws, regulations and rules are also published, not all trade-related information is available to the public, including tax and non-tax incentives (see WTO, 2010; 2012).

Possible actions for the subregion in enhancing trade include: (a) harmonizing data and documentation for cross-border transactions and clearance of goods; (b) adhering to the international standards for the format of electronic documents; (c) domestically improving coordination among government agencies; (d) improving transparency and consistency of trade policies; and (e) enhancing the role of the private sector, particularly on cross-border investments in trade infrastructure.

## 2. FOREIGN DIRECT INVESTMENT

Foreign direct investment plays a key role in boosting regional integration and growth as well as narrowing the development gap among countries. FDI promotes industrial agglomeration as well as the transfer of soft infrastructure through skills upgrading and technology spillover. ENEA countries, particularly China, Japan and the Republic of Korea, benefited extensively from the inflow of FDI during their early stages of development. Since then, the ENEA subregion has emerged as a major source of FDI, including financing for development, which is crucial for promoting sustainable development in the Asia-Pacific region. Despite the global role of East and North-East Asian FDI, intrasubregional FDI is limited and concentrated on the China-Japan-Republic of Korea supply chains. As the ENEA economies continue to engage in trilateral and regional negotiation for free trade agreements, the subregion could look into how the current investment structure and planned initiatives could promote intraregional FDI integration, including tapping the large potential for increased FDI and economic complementarity with Mongolia and the Russian Federation.

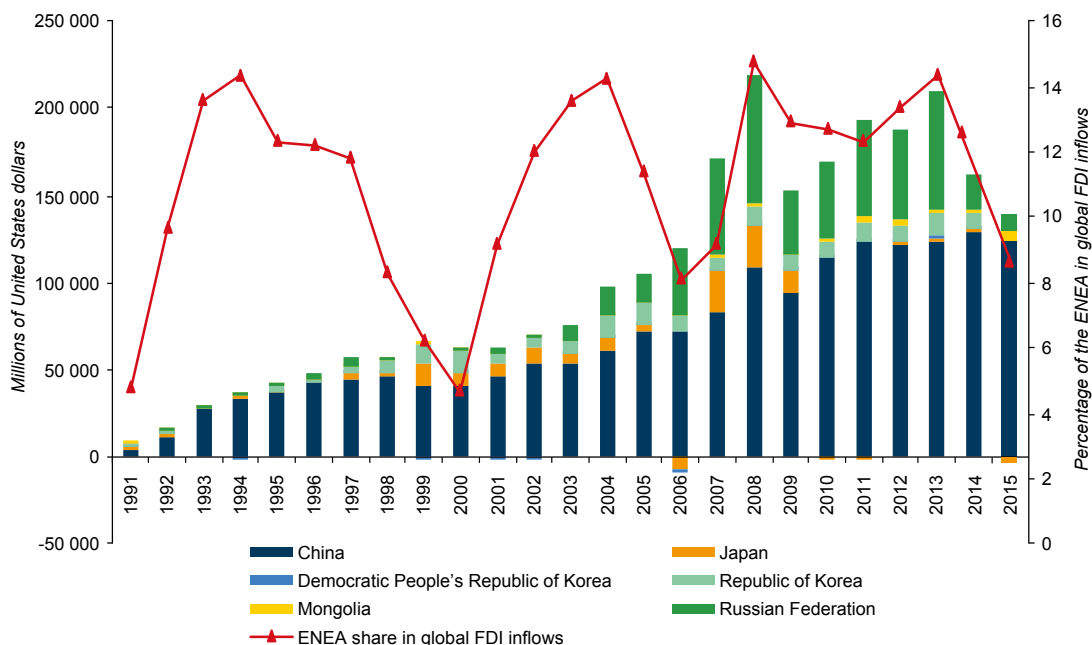
### 2.1. East and North-East Asia in the global investment landscape

The ENEA subregion is among the leading destinations and sources of FDI in the world, sharing 8.4 and 21.1 per cent of the global FDI inflows and outflows, respectively, in 2015 (see figures 10 and 11). FDI inflows into the ENEA subregion are directed primarily to China,<sup>7</sup> while substantial FDI outflows originate from China and Japan.

---

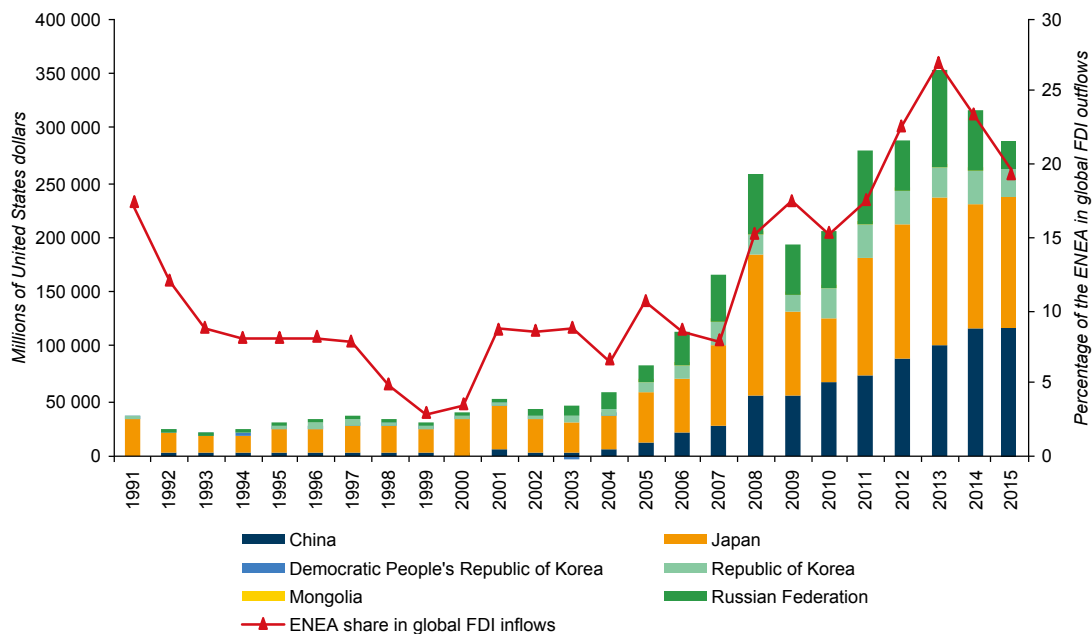
<sup>6</sup> For further information, see [http://usa.chinadaily.com.cn/epaper/2014-08/22/content\\_18470590.htm](http://usa.chinadaily.com.cn/epaper/2014-08/22/content_18470590.htm).

**Figure 10. East and North-East Asia inflows of foreign direct investment, value and global share, 1991-2015**



Source: ESCAP, based on data from UNCTAD, FDI Statistics database. Available from [www.unctad.org/fdistatistics](http://www.unctad.org/fdistatistics). (accessed 3 October 2016).

**Figure 11. East and North-East Asia outflows of foreign direct investment, value and global share, 1991-2015**



Source: ESCAP, based on data from UNCTAD, FDI Statistics database. Available from [www.unctad.org/fdistatistics](http://www.unctad.org/fdistatistics) (accessed 3 October 2016).



Favourable investment regimes, such as China's accession to WTO, and a huge Chinese consumer market contributed to the growth of global FDI inflows into the ENEA subregion, which steadily increased from 2001 to 2008. The subregion's share in global FDI (14.7 per cent share in 2008) tapered off during the 2008-2011 global crisis, and while a slight recovery was experienced in 2013, recent years showed a decreasing trend due to the continuing economic slowdown. The fall in commodity prices, especially for crude oil, metals and minerals, aggravated by investment disputes have contributed particularly to the FDI decline in mining-reliant Mongolia. Meanwhile, the restructuring towards services and high-end manufacturing promoted in special economic zones continues to attract FDI flows, particularly in China.

FDI outflows from the ENEA subregion on the other hand present a more positive picture, with an upward trend since 2000. Against the backdrop of the new normal of low growth in the subregion, post-crisis FDI outflows from the ENEA subregion remain high and almost double its total FDI inflows. In 2015, China was the third largest investing country worldwide, after the United States and Japan (in that order). Chinese companies are proactively pursuing mergers and acquisitions in developed countries. Meanwhile, Japanese multinational enterprises continued to seek growth opportunities abroad, having invested more than \$100 billion for the fifth consecutive year (UNCTAD, 2016).

The non-manufacturing sector shared about 65 per cent of China's FDI inflows compared with 33 per cent in the manufacturing sector in 2014 (Trilateral Cooperation Secretariat, 2015b). China's economic rebalancing supported the shift of investment towards the services sector, and rising wages and production costs, particularly in the coastal regions of China, contributed to the declining share of the manufacturing sector in FDI inflows. Nonetheless, multinational enterprises continue to invest in the Chinese car market as part of their global strategy.

Notably, ENEA countries continue to amend their investment-specific policies, with most of the changes directed at liberalizing, promoting or facilitating foreign investment. For instance, China simplified the capital registration system for companies, loosened restrictions on foreign investment in the real estate market and implemented regulatory relaxations on China's Qualified Foreign Institutional Investors scheme, which allows foreign institutional investors to invest in China's securities markets. The Republic of Korea adopted amendments to Foreign Investment Promotion Act No. 5559 in order to simplify FDI registration procedures. It also eased employment regulations for foreign investment in the Saemangeum region (OECD and UNCTAD, 2016). In January 2016, Mongolia established a working committee to develop a new bilateral investment treaty model that aligns its international investment agreement policy with its national laws and development strategy. The Russian Federation set up a procedure for special investment contracts in certain industries and with certain threshold amounts, aimed at providing investors with various support measures as well as financial incentives (UNCTAD, 2016).

## 2.2. Trends in intrasubregional foreign direct investment

Despite the magnitude of FDI in the subregion, intraregional FDI among ENEA economies is low. Between 2008 and 2014, only 7 per cent of inflows as well as outflows were within the subregion. In contrast, an average of 93 per cent of East and North-East Asian FDI inflows and outflows were sourced from and invested elsewhere. The gap between FDI flows within and outside the subregion continues to expand, with the intraregional flows being at almost stagnant levels (see figure 12). Competition, costs, varying FDI priorities and motivation and a probable lack of an intraregional mechanism could explain the low level of FDI integration in the subregion.

The extent of each ENEA economy's participation in intraregional FDI also varies across the subregion. For instance, while China is a recipient of 52 per cent of intraregional FDI inflows, it contributed only 10 per cent to the intraregional outflows in 2014. Although China is among the top global investors, its investments in the ENEA subregion are only about 1.3 per cent of its total FDI outflows. Japan and the Republic of Korea contribute about 66 and 24 per cent, respectively, in terms of intraregional FDI outflows. Meanwhile, Mongolia and the Russian Federation share about 9-10 per cent each of intraregional inflows that show the potential to attract further investment from within the ENEA subregion.<sup>8</sup>

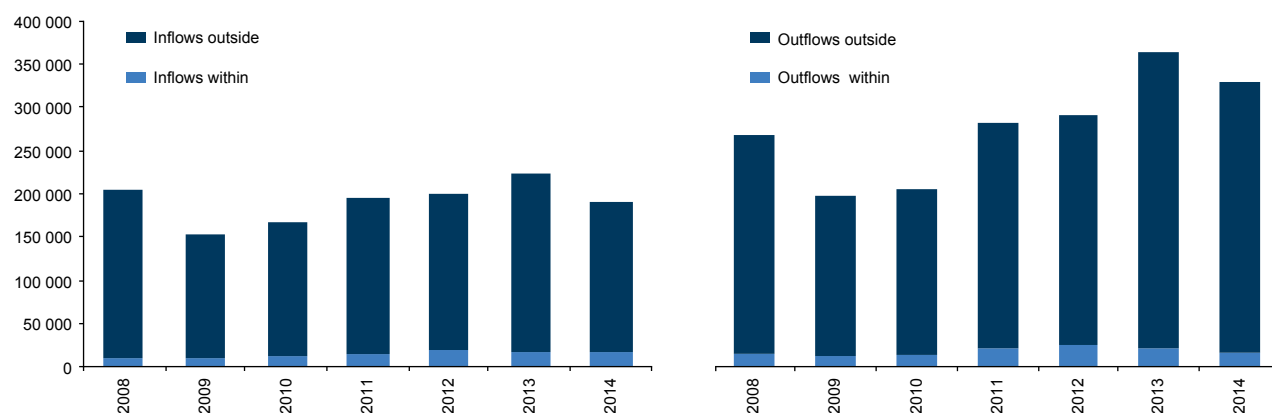
---

<sup>7</sup> Data exclude Hong Kong, China, which is the second host economy of FDI inflows following the United States.



**Figure 12. East and North-East Asian inflows and outflows of foreign direct investment from within and outside the subregion**

(Millions of United States dollars)



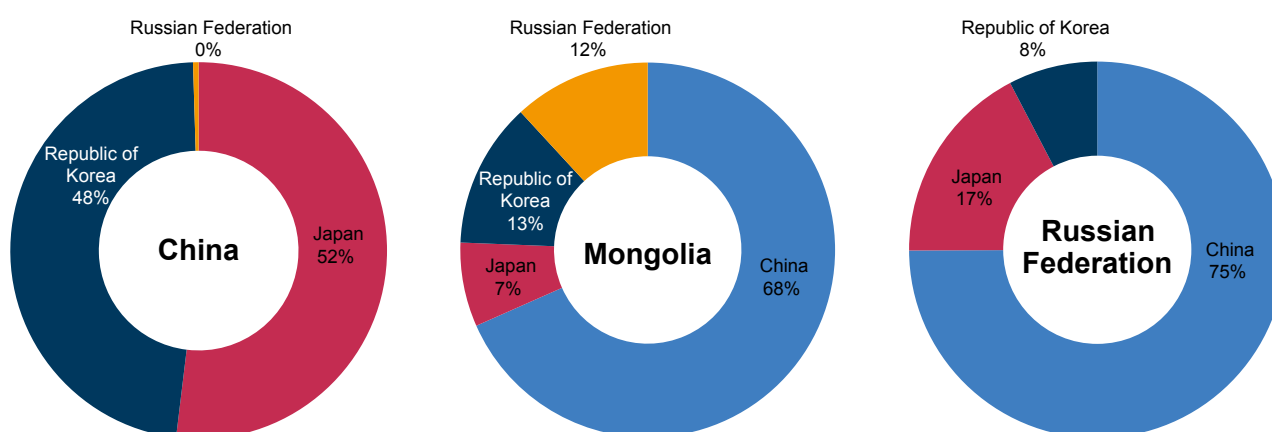
Source: ESCAP, based on data from National Bureau of Statistics of China; Japan External Trade Organization (JETRO); Ministry of Trade, Industry and Energy of the Republic of Korea, International Monetary Fund Coordinated Direct Investment Survey; and the Bank of Russia.

Note: Regional data are the sum of individual countries' data; the figures are only indicative because the data collection methodology is not consistent across different sources; data for the Democratic People's Republic of Korea are not available; data for Mongolia are for the period 2009-2013; data for the Russian Federation are for the period 2007-2014.

### Trends in inflows of foreign direct investment

At the bilateral level, Japan and the Republic of Korea accounted for most of the total intraregional FDI inflows into China. Meanwhile, Mongolia and the Russian Federation are highly dependent on China's FDI compared with other ENEA economies (see figure 13). Amid China's rebalancing and falling commodity prices, this situation raises the need to look for further scope and potential for FDI expansion with other ENEA countries.

**Figure 13. Percentage share of partner countries in intraregional inflows of foreign direct investment in selected countries in East and North-East Asia, 2014**



Source: ESCAP, based on data from National Bureau of Statistics of China; International Monetary Fund Coordinated Direct Investment Survey; and the Bank of Russia.

<sup>8</sup> ESCAP estimates are based on data from National Bureau of Statistics of China; Japan External Trade Organization (JETRO); the Ministry of Trade, Industry and Energy of the Republic of Korea; the International Monetary Fund Coordinated Direct Investment Survey; and the Bank of Russia.

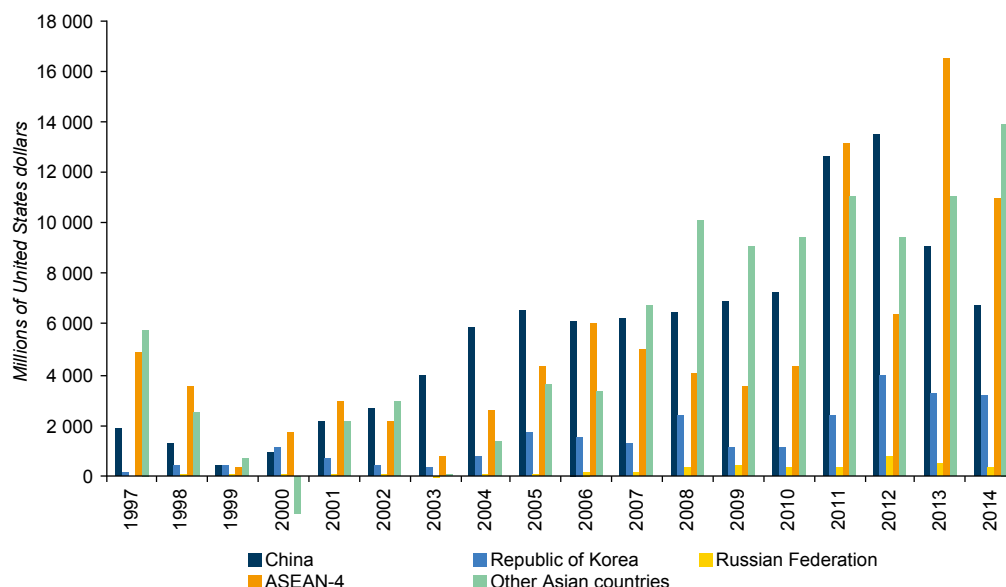
In the case of Mongolia, FDI inflows have been heavily concentrated in mining, country of origin and geographical location. As of 2013, mining, exploration and petroleum accounted for 73.3 per cent of Mongolia’s FDI inflows, followed by trade, catering and services (17 per cent)(Department of State, United States, 2014). Once the world’s fastest-growing economy (earning the name “Minegolia”), Mongolia currently faces serious economic woes, many of which stem from a lack of transparency in its business regulations and difficulties due to the weak institutional framework for economic cooperation, which has become a hindrance in attracting FDI. For instance, the uncertainties in the phase II development of the Oyu Tolgoi mine discouraged many potential investors.

In the case of the Russian Federation, the financial sector was the most attractive sector for FDI inflows in 2014 (22.2 per cent of total FDI), followed by trading, manufacturing and mining, accounting for 22.1, 18.3 and 11.2 per cent of the total, respectively.<sup>9</sup> In 2015, the Russian Federation experienced a 66 per cent contraction of FDI flows due to falling oil prices and geopolitical tensions, which eroded investor confidence (UNCTAD, 2016). Nonetheless, with geographical proximity and an abundance of natural resources, there remains huge potential for the Russian Federation to expand FDI linkages with China, Japan and the Republic of Korea.

### Trends in outflows of foreign direct investment

Japan’s early industrialization and economic advancement has made it the strongest source country of intraregional FDI outflows in the ENEA subregion. From 2010 to 2014, more than a third of Japan’s FDI outflows to Asia were with ENEA partners, primarily in China and the Republic of Korea. Nonetheless, China’s share in Japan’s Asian investments has declined since 2013, partly due to increased labour costs and decreased tax benefits for foreign-owned companies in China. Consequently, the share of ASEAN-4 in Japan’s FDI outflows in Asia increased to 41 per cent in 2013 and 31 per cent in 2014 (see figure 14), and in the process, Japan established production, and research and development functions, and supported overseas business expansion in ASEAN.

**Figure 14. Japan’s investment in Asia, 1997-2014**



Source: ESCAP, based on data from the Japan External Trade Organization (JETRO). Available from [www.jetro.go.jp/en/reports/statistics](http://www.jetro.go.jp/en/reports/statistics) (accessed 18 November 2015). Note: ASEAN-4 comprises Indonesia, Malaysia, Philippines and Thailand; other Asian countries and areas are India, Singapore and Viet Nam, plus Hong Kong, China; and Taiwan Province of China.

<sup>9</sup> For further information, see the Bank of Russia External Sector Statistics database. Available from [www.cbr.ru/eng/statistics/?Prtid=svs](http://www.cbr.ru/eng/statistics/?Prtid=svs).

The Republic of Korea is likewise an increasing contributor of FDI in Asia, including in East Asia (see figure 15). In terms of value, China received the highest amount of investments from the Republic of Korea at its peak in 2007 (pre-crisis); they increased moderately from 2010 to 2013. Similar to the case of Japan, FDI from the Republic of Korea in 2014 tilted towards other Asian countries, including Singapore and Viet Nam. While the progressive rise of ASEAN as an investment destination has not reached the level of Japan, large conglomerates in the Republic of Korea, such as Samsung, LG, Hyundai and Lotte, are increasingly pursuing FDI activities in South-East Asia.

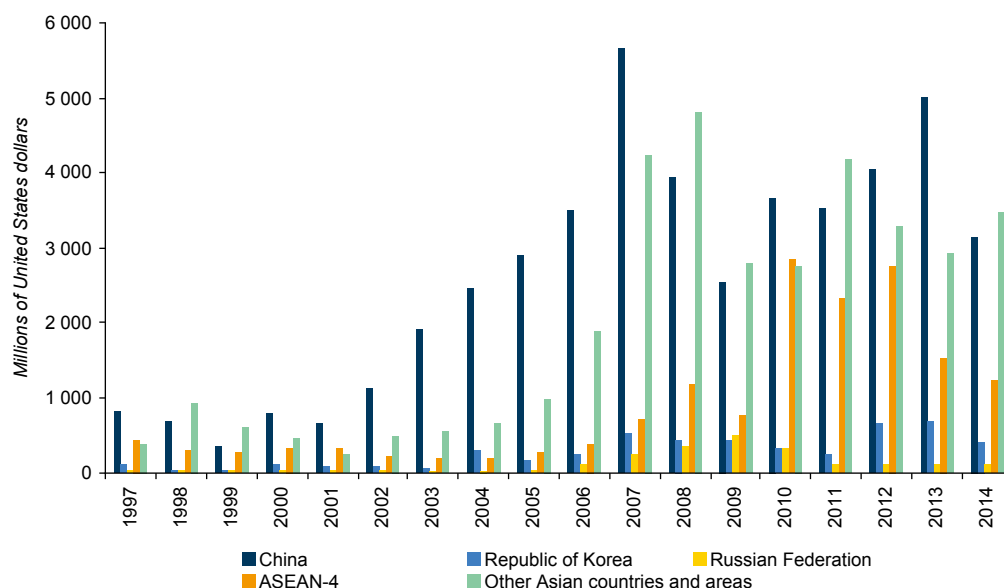
China's shift from being a recipient of large FDIs to becoming an active investor abroad was particularly notable in 2015 when the size of its outward FDI almost caught up with inward FDI. Interestingly, a large portion of China's FDI outflows are in the non-manufacturing sector; the share of manufacturing was only 7.8 per cent. In comparison, the share of the manufacturing sector in Japan and the Republic of Korea's outward FDI are 37 and 23 per cent, respectively (Trilateral Cooperation Secretariat, 2016).

### China, Japan and the Republic of Korea

As mentioned previously, intraregional FDI in the ENEA subregion is centred in China, Japan and the Republic of Korea largely owing to their trade complementarity and regional supply chain. Japan's investments in the Republic of Korea and China shifted from labour-intensive industries to higher value-added and technology-intensive segments. FDI flows from Japan to the Republic of Korea also indicate moving up the value chain with the establishment of research and development centres. Enterprises from the three ENEA economies have begun to establish cooperative arrangements, particularly in emerging industries (see box 1).

In 2014, the investment promotion and protection agreement pertaining to these three countries entered into force. It is the first legal agreement and mechanism aimed at enhancing and protecting investment between the trilateral parties and is foreseen to promote deeper economic integration in the form of a free trade agreement.

**Figure 15. Republic of Korea's investment in Asia, 1997-2014**



Source: Korea Eximbank, Foreign Investment Statistics. Available from [http://211.171.208.92/odisas\\_eng.html](http://211.171.208.92/odisas_eng.html) (accessed 18 November 2015).

Note: ASEAN-4 comprises Indonesia, Malaysia, Philippines and Thailand; other Asian countries and areas are India, Singapore and Viet Nam, plus Hong Kong, China; and Taiwan Province of China.

### Box 1. Enterprise cooperation in China, Japan and the Republic of Korea

In order to seize the opportunities offered by the new scientific and technical revolution (also referred to as the “Fourth Industrial Revolution”) and create impetus for national economic growth, China, Japan and the Republic of Korea have included in their respective development strategies the promotion of emerging industries. With strong support and comparative advantage in these areas, enterprises have cooperated in many emerging industrial fields. For example, Anhui Conch Group Co., Ltd. of China and Kawasaki Heavy Industries, Ltd. of Japan are collaborating to develop devices for the cogeneration of electricity that are equipped to conserve energy, reduce emissions and transform recycling technology. In addition, these companies have established a joint venture specializing in manufacturing cogeneration devices and supplying cogeneration turnkey project services. Hynix Semiconductor, Inc. and Wuxi Industrial Development Group Co., Ltd. have a joint venture to establish a semiconductor plant in China to develop a new generation of information technology. Beijing Automotive Group Co., Ltd., Beijing Electric Power Company, and SK Group of the Republic of Korea have put into operation China’s first fully automated battery production line and SEMIPACK module assembly line to help enhance the competitiveness of new energy vehicles of the Beijing Automotive Group.

Source: Trilateral Cooperation Secretariat, *2016 Trilateral Economic Report*. Available from [http://file.tcs-asia.org/file\\_manager/files/tcs/publication/economics/\(2016\)%202016%20Trilateral%20Economic%20Report.pdf](http://file.tcs-asia.org/file_manager/files/tcs/publication/economics/(2016)%202016%20Trilateral%20Economic%20Report.pdf).

### 2.3. Trends in extrasubregional foreign direct investment

Major ENEA economies continue to expand their presence and role in regional production networks, particularly in the South-East Asian subregion. While still negotiating RCEP, three ENEA countries, namely China, Japan and the Republic of Korea are already parties to ASEAN+1 free trade agreements and are among the top investors in ASEAN, accounting for a cumulative share of 26 per cent in FDI inflows. Japanese investments that were largely in manufacturing and financial and insurance services in 2014 have been expanded to wholesale and retail trade, and other services. Meanwhile, China’s FDI flows are in financial and insurance services and real estate activities, while the Republic of Korea is concentrated in the manufacturing sector (ASEAN Secretariat and UNCTAD, 2016). The progressive regional investment agreements, such as the ASEAN Comprehensive Investment Agreement (ACIA), the relocation of businesses due to locational advantages and the anticipated utilization benefits from the RCEP formation are instrumental in attracting FDI inflows in the South-East Asian subregion (ESCAP, 2015b).

Furthermore, some of the ENEA economies are part of major economic groups, which account for a significant share of global FDI and feature significant intragroup investment. For instance, China, Japan, the Republic of Korea and the Russian Federation are among the Group of Twenty (G-20) countries which collectively attracted half of global FDI flows in 2015. Intragroup investment within G-20 reached an average of 42 per cent following the rise in mergers and acquisitions. Similarly, in the proposed RCEP, about 30 per cent of the total FDI flows are among its negotiating parties. However, in the case of the BRICS countries (Brazil, Russian Federation, India, China and South Africa) intragroup investment inflows are highly concentrated in China, and there is minimal corporate connectivity. While the actual impact of these groupings on FDI is likely to vary depending on a number of factors, such as specific provisions of the agreements among members, transaction costs, the scale and distribution of existing multinational enterprise operations within the grouping and corporate strategy, such arrangements are expected to influence investor companies’ investment decisions over the next few years (UNCTAD, 2016).

The ENEA economies could leverage on the approaches, existing arrangements and ongoing negotiations to deepen their FDI linkages within the subregion.

### 2.4. Policy recommendations for East and North-East Asia

Enhancing intrasubregional FDI flows within the ENEA subregion starts with improvements in investment policies at the country level. In the case of Mongolia, there is a need to improve the investment climate, particularly to address such issues as lack of transparency and predictability, in order to attract FDI outside of mining and from non-traditional sources.

In the absence of a subregion-wide mechanism, ENEA economies could take advantage of existing bilateral trade agreements as well those under negotiation to improve market access and cooperation in investment. For instance, under the China-Republic of Korea FTA, which entered into force in December 2015, market access with regard to investment and services has yet to be negotiated. The revival of talks on the proposed China-Japan-Republic of Korea FTA could go beyond the scope of the current investment promotion and protection agreement and facilitate convergence of rules and market access in investment. The proposed RCEP could deepen FDI linkages not only with ASEAN and India but also among the three major East Asian economies.

Meanwhile, the Japan-Mongolia Economic Partnership Agreement, which entered into force in June 2016, and the proposed free trade pact between Mongolia and the Republic of Korea provide further opportunities for increased FDI flows while at the same time bringing about spillover effects, such as the transfer of technology from Japan and the Republic of Korea to Mongolia.

At the subregional level, ENEA economies could deepen FDI integration through:

- (a) Harmonization or convergence of rules and regulations governing FDIs;
- (b) Business support for expansion of supply-chain connectivity, especially among multinational enterprises;
- (c) Creation of an enabling environment that would promote cooperation and linkages in the development of new and emerging industries, such as information technology, software and services sectors, including through establishment of high-technology parks, industrial clusters and special economic zones, and removal of investment barriers to innovation;
- (d) To the extent possible, coordination of national development strategies. For instance, under China's Belt and Road Initiative, the establishment of economic corridors is expected to create growth in demand for FDI within the subregion and beyond. Conversely, the intrasubregional FDI in infrastructure industries is likely to accelerate infrastructural build-up and promote economic development in the subregion.

ENEA countries can take advantage of their complementarities and geographic contiguity to promote FDI integration. For example as China, Japan and the Republic of Korea promote energy-efficient and renewable technologies as new growth engines, Mongolia and the Russian Federation could benefit by promoting investments in renewable energy production and trade. To illustrate, Mongolia has entered into a bilateral arrangement allowing companies in the Republic of Korea to participate in the construction of power plants, energy transmission networks and the production of renewable energy following the construction of the country's first mega solar power plant built in 2016 with Japanese technology and investment.

### 3. MOVEMENT OF PEOPLE

The inclusion of a sociocultural or human dimension within regional integration efforts has attracted much attention in recent years. For example, ASEAN is promoting a people-centred community; it has identified people-to-people connectivity as one of the key elements of the Master Plan of Connectivity for ASEAN. Similarly, Europe's 2020 growth strategy includes targets that are relevant to immigrant integration. While the economic impact of international migration has been generally recognized (see box 2), the potential for cooperation in people's mobility has yet to be realized.

In the context of the ENEA subregion, continuing demographic change, such as ageing of the population and shrinking of the workforce, economic rebalancing towards services-led growth and emerging opportunities in travel and tourism, among other changes, underpins the significance of the movement of people, which can be both an outcome and a factor of economic convergence in the subregion.

There is a dearth of information on the economic and social impact of migration within the ENEA subregion. In some studies and in respect of anecdotal evidence, there has been an attempt to look at the potential impact of the increased movement of people from national perspectives. For instance, in the Russian Federation it is estimated that documented migrant workers, mostly from North and Central Asia, added about 3 trillion roubles (1 rouble = about \$0.017) to the GDP of the Russian Federation in 2010, excluding additional income from administrative procedures and migrants' consumption in the country (Ryazantsev, 2016).

## Box 2. Economic impact of the movement of people

Migrants can affect their host country and local workers via four major channels: the size of the country's GDP; the wages and employment of local workers; spillovers in entrepreneurship or innovation; and public finances.<sup>a</sup>

Migration could also boost earnings from tourist consumption, investment and increase labour productivity.<sup>b</sup>

The potential for migration to mitigate the labour force impacts of ageing across East Asia and the Pacific is significant and would present a "win-win" situation for both the sending and the host countries.<sup>c</sup>

Migration can produce substantial consequent changes in labour markets at home and in social conditions, including wage levels, household welfare, food security, child welfare and the role of women as workers and carers. Migrants' remittances can also have impacts on work, productivity and education.<sup>d</sup>

<sup>a</sup> United Nations, Economic and Social Commission for Asia and the Pacific, Asia-Pacific Migration Report 2015: Migrants' Contribution to Development. ST/ESCAP/2738. Bangkok.

<sup>b</sup> International Monetary Fund, "Spillovers from China's transition and from migration", in World Economic Outlook 2016: Too Slow for Too Long (Washington, D.C., 2016), chap. 4.

<sup>c</sup> World Bank, Live Long and Prosper: Aging in East Asia and Pacific (Washington, D.C., 2016).

<sup>d</sup> Organisation for Economic Co-operation and Development, "Emigration, labour markets and development", in Tackling the Policy Changes of Migration: Regulation, Integration and Development (Paris, 2011), pp. 87-113.

In the case of the Republic of Korea, it was estimated in a Hyundai Research Institute study that an increase in tourism could generate huge production- and value-added induction effects worth about \$97.6 billion and 45.4 billion, respectively, by 2020 (Jang, 2016). In a study conducted by the Korea Economic Institute, it was also estimated that the Republic of Korea will need to receive 1.6 million immigrants by 2020 and 11.8 million by 2050 to offset the shrinking of the economically active population. Similarly, as the population continues to change in Japan, about 40 million immigrants would be needed by 2040 to maintain housing asset values as of 2010, which would mean an approximate increase of 30 per cent in the ratio of foreigners in the total Japanese population (Shimizu and others, 2016).

### 3.1. Recent migration-related policies

In recognizing the contribution of foreign workers in the labour market and the role of tourism in economic growth, some ENEA economies have gradually eased their migration policies to facilitate the movement of people, and in the case of China and the Republic of Korea they have done so to woo back their expatriate nationals and their families.

China has experienced an increasing number of foreign migrants, mostly for business, study and employment due to its rapid economic development. In 2012, China enacted its first comprehensive legal framework to regulate the entry, residence and rights of foreigners. Recently, the Government announced measures to streamline applications for permanent residency and skilled foreign workers to attract top talents, innovators and entrepreneurs. However, uneven enforcement due to the de facto decentralization of the immigration law and lack of standardized procedures or qualification criteria have posed some challenges (Haugen, 2015).

In September 2015, Japan approved its Fifth Basic Plan for Immigration Control, which included policy priorities in attracting foreign talent, reforming the technical intern training system and measures against irregular migration and illegal employment of foreigners. In order to attract and retain highly skilled foreign professionals, Japan announced in 2016 the world's fastest issuance of permanent-residency cards. Japan has relaxed its entry visa requirements and expanded coverage of multiple entry visas to benefit visitors from China and the Russian Federation. In addition, Japan adopted some government measures and policies to respond to its growing labour requirements. For instance, Japan agreed on measures for qualifications and acceptance of certified caregivers under its bilateral economic partnerships with some ASEAN countries (Indonesia, Philippines and Viet Nam) to cater to its ageing population. Japan also began opening its doors for foreign housekeepers to boost female participation in the Japanese workforce.

The Republic of Korea also improved and diversified access to permanent residence status (F-5 visas) among professional foreign workers. In 2015, a point system for selection and increased quota for sectors with growth potential was pilot-tested for low-skilled foreign workers. The Republic of Korea also eased its entry visa policies to attract tourist arrivals, particularly from China, and in 2013 signed a visa-waiver agreement with the Russian Federation to stimulate tourism and trade between the countries.

In Mongolia, government policy tends to be focused on outward migration as mobility and international migration of Mongolians continue to increase for economic reasons.

In January 2015, the Russian Federation issued new rules on the admission for foreign workers – from testing of their knowledge of the Russian language and history to health examination and insurance. With the continuing economic crisis and ban on foreign workers, migration in the Russian Federation could experience a further decline in coming years.

### 3.2. Trends in intrasubregional migration

At mid-2015, there were more than 2 million intrasubregional migrants in the ENEA subregion, coming mostly from China (64 per cent) and the Republic of Korea (31 per cent) (see table 8). By destination, migrants from China went primarily to Japan and the Republic of Korea, while migrants from the Republic of Korea went to Japan, and those from Japan went to the Republic of Korea. Migrants from Mongolia went to the Republic of Korea and the Russian Federation.

About 95 per cent of ENEA migrants to China were from the Republic of Korea. This figure represents 20 per cent of almost a million migrants to China in mid-2015. The immigrants' profile in China did not change much compared with the sixth national population census in 2010, when nationals from the Republic of Korea accounted for the largest group of foreign nationals at 20 per cent, followed by those from Japan at 11 per cent.<sup>10</sup>

Half the migrants to Japan originated from the subregion, particularly from China and the Republic of Korea, accounting for 30 and 20 per cent of the total, respectively. By the end of 2015, the total number of registered foreign residents in Japan reached more than 2.23 million; they came primarily for work purposes as entertainers, intracorporate transfers and engineers (OECD, 2016).

Among the ENEA countries, Mongolia has the smallest foreign migrant population. Nonetheless, more than 80 per cent of its migrants come from the ENEA subregion, mostly from China, followed by the Russian Federation and the Republic of Korea (United Nations, 2015). The mining sector boom and growth of related investment contributed to the increase in migrants to Mongolia in recent years.

**Table 8. Intrasubregional migrants in the East and North-East Asia, mid-2015**

Origin	Number of intrasubregional migrants	Percentage share of country of origin
<b>Total for ENEA</b>	<b>2 322 291</b>	
China	1 497 190	64
Democratic People's Republic of Korea	1 185	0
Japan	32 342	1
Mongolia	39 551	2
Republic of Korea	719 994	31
Russian Federation	22 029	1

Source: ESCAP, based on United Nations, Department of Economic and Social Affairs, Trends in International Migrant Stock: Migrants by Destination and Origin (Table 16. Total migrant stock at mid-year by origin and by major area, region, country or area of destination). POP/DB/Stock/Rev.2015. December 2015. CD-ROM.

<sup>10</sup> Based on 593,832 international migrants. Details are available from [www.stats.gov.cn](http://www.stats.gov.cn) (accessed 26 January 2016)



The majority of foreign migrants in the Republic of Korea originate from China. Migration inflows (based on permits) remained largely for family and other purposes, such as working visits by ethnic Koreans, suggesting that family and ethnic linkages are the strongest factors for migration to the Republic of Korea. By the end of 2015, the Republic of Korea received more than 1.4 million foreign migrants (4 per cent of whom came from Japan and Mongolia) and employment-based migration increased slightly by 1.3 per cent in 2015 (OECD, 2016).

Migrants from the ENEA subregion accounted for only 1 per cent of the total migrants in the Russian Federation. The Russian Federation is among the top global destinations, with 11.6 million migrants, 30 per cent of whom originated from the Commonwealth of Independent States (United Nations, 2015). In 2015, net migration inflows decreased by 18 per cent, reflecting the large outflows of long-term labour migrants with expired registration or persons unable to find new jobs in the Russian Federation (OECD, 2016).

### 3.3. Trends in intrasubregional tourism

Tourism, as a source of income and employment opportunities, is increasingly becoming an important economic sector in most ENEA economies. Table 9 shows the rise in inbound and outbound expenditure (by 19 and 56 per cent respectively).

The importance of the tourism industry in the subregion is noteworthy, particularly in travel services and air transportation. In 2014, travel was the most important component of China's trade in services, accounting for 40 per cent of exports and 62.7 per cent of imports. In Japan, the share of travel in total trade in services expanded from 11.5 per cent in 2014 to 16.1 per cent in 2015, reflecting the Japanese Government's commitment to increasing the number of foreign tourists to Japan. For China and the Republic of Korea, imports of travel services significantly exceeded corresponding exports, and tourists from these two countries were of significance to Japan, particularly in terms of increasing consumption demand (Trilateral Cooperation Secretariat, 2016).

In 2015, 37 per cent of almost 26 million foreign visits in China originated from the ENEA subregion. Within the subregion, almost half came from the Republic of Korea, followed by Japan (26 per cent), the Russian Federation (17 per cent) and Mongolia (11 per cent). Sightseeing/leisure activities and meetings/business were the primary purpose of visits from the Republic of Korea, Japan and the Russian Federation (in that order). On the other hand, nationals of the Democratic People's Republic of Korea and Mongolia were visiting mostly as workers and crews.<sup>11</sup>

Tourist arrivals in Japan in 2015 increased remarkably by 47 per cent, reaching 19.7 million. China and the Republic of Korea together shared 46 per cent of total foreign visits, primarily for tourism purposes.<sup>12</sup> Visitors to Japan

**Table 9. Inbound and outward tourism expenditure in East and North-East Asia**

Country	<i>(Millions of United States dollars)</i>			
	Inbound tourism expenditure		Outbound tourism expenditure	
	2010	2013	2010	2013
China	50 154	54 937	59 840	109 898
Japan	15 356	16 197	39 306	40 967
Mongolia	288	480	319	420
Republic of Korea	14 398	19 422	20 802	24 068
Russian Federation	13 239	20 198	30 169	59 504
Total for ENEA subregion	93 435	111 234	150 436	234 857

Source: ESCAP and World Tourism Organization statistical database (accessed 11 October 2016).

Note: Tourism expenditure refers to the amount paid for the acquisition of consumption goods and services, as well as valuables, for own use or to give away, for and during tourism trips.

<sup>11</sup> Data are from the China National Tourism Association.

<sup>12</sup> Data are from the Japan National Tourism Organization.



from the Russian Federation are still negligible but could potentially increase with the relaxation of Japanese visa requirements for Russian visitors that was announced in December 2016.

In the Republic of Korea, ENEA tourists shared 61 per cent of the 13.2 million arrivals in 2015. Within the subregion, three of every four visitors came from China (74 per cent), while 23 per cent came from Japan. Only 2 per cent of intrasubregional tourist arrival came from the Russian Federation. It is useful to mention that visits from nationals of the Russian Federation increased by 22 per cent in 2014, with the implementation of a visa waiver programme in the same year.<sup>13</sup>

Among ENEA countries, the Russian Federation had the most non-resident arrivals in 2015 at 33.7 million. However, only 4 per cent of such arrivals originated from the subregion, coming mainly from China, Mongolia and the Republic of Korea. In contrast, Mongolia, which had the lowest number of tourist arrivals in the subregion (close to 400,000), accounted for the highest proportion of intrasubregional visitors at 73 per cent in 2015. China comprised half of ENEA visits to Mongolia, followed by visitors from the Russian Federation (25 per cent) and the Republic of Korea (17 per cent).<sup>14</sup>

The trends in intraregional migration and tourism suggest that people-to-people connectivity exists, albeit at varying degrees, among ENEA economies due to demographic, educational and social characteristics. Nonetheless, at least two economic objectives, namely attracting human capital and promoting tourism to support consumption-led growth, serve as a basis for enhancing subregional cooperation to promote greater people mobility.

### 3.4. Regional action on the movement of people

The Bangkok Declaration recognizes the economic and social significance of the movement of people and underscores the role of regional cooperation in the areas of migration and intraregional tourism.<sup>15</sup>

Within the subregion, facilitating the movement of people is crucial not only in responding to the demographic challenge but also in the paradigm shift towards a self-sustaining economy supported by consumption, services and innovation. However, with the exception of reciprocal arrangements (e.g. bilateral visa-free agreements), motivation and approaches to tackling migration issues remain at the national level. Political-security issues, cultural resistance and language barriers are among the challenges in deepening people-to-people connectivity within the subregion.

Compared with migration, the promotion of intraregional tourism is on a faster track, driven by the private sector and the availability of transportation options, such as conjunction tickets or tour packages. There are also regional programmes, such as the World Tourism Organization Silk Road Programme, that are aimed at enhancing sustainable tourism development along the route of the historic "Silk Road". The programme maximizes the benefits of tourism development for local communities along that route, while stimulating investment and promoting the conservation of the route's natural and cultural heritage.

### 3.5. Policy recommendations for East and North-East Asia

While ENEA countries are slowly and carefully embracing immigration as a policy tool, the extent to which their national migration policies could move forward on an integration agenda is limited. The proposed actions at the subregional level include the following points:

- (a) Considering an open and consistent migration policy. This includes not only inbound migration but also extends to possible restrictions or measures in outbound travel;

<sup>13</sup> Data are from the Korea Tourism Organization.

<sup>14</sup> Data are from the World Tourism Organization's electronic dataset (accessed 7 February 2017).

<sup>15</sup> See ESCAP resolution 70/1, section III.A, paras. 8-9.

- (b) Facilitating movement of people to support a regional growth agenda, such as promoting tourism services, and/or trade and investment policies;
- (c) Promoting professional and student mobility, including through possible mutual recognition arrangements for skilled workers, and adopting a flexible regional qualifications framework within the subregion;
- (d) Supporting education, tourism and cultural exchanges, such as through the establishment of an “East Asian Cultural City”, which would be aimed at strengthening exchanges and cooperation in cultural heritage protection and cultural industry development;
- (e) Supporting business conventions, such as the World Korean Business Convention in 2015, which was reported to have generated contracts valued at more than \$100 million;
- (f) Setting up regional platforms to discuss cross-cutting issues, such as migrants and/or workers’ rights and protection, irregular migration and the treatment and wage gaps between foreigners and nationals of host countries.

# DEVELOPING SEAMLESS CONNECTIVITY

---

---

## 1. ENERGY

The main objective of energy market integration is to improve energy security through the harnessing of the benefits of geographical proximity and the potential of complementarities among neighbouring countries based on different levels of energy resource endowments and technological development (Kimura and Shi, 2011). At the same time, energy integration can also facilitate regional integration in several ways: fostering economic growth by facilitating energy trade; optimizing resource allocation across countries; and enhancing economic and technical efficiencies.

However, due to geopolitical and economic constraints in the subregion, energy cooperation has been lagging despite its perceived mutual benefits (Lee, 2010). In fact, energy integration is not an easy process in view of the sensitivity of national security, national regulation schemes and even sovereignty issues. Many energy products and companies are often under strong supervision of the Government. Even in Europe's experience, despite the creation of the European Coal and Steel Community in the 1950s, energy market integration did not take place until the 1980s (Lee, 2013).

### 1.1. Energy situation in East and North-East Asia

With the exception of coal, reserves of oil and gas in the ENEA subregion are relatively small by comparison to those at the global level, and most production is confined to China and the Russian Federation (see figure 16). Yet there are major global energy consumers in the subregion: China (23.0 per cent), Japan (3.5 per cent), the Republic of Korea (2.1 per cent) and the Russian Federation (5.3 per cent), which together accounted for 33.9 per cent of the global total primary energy consumption in 2014 (BP, 2015) (see figure 17).

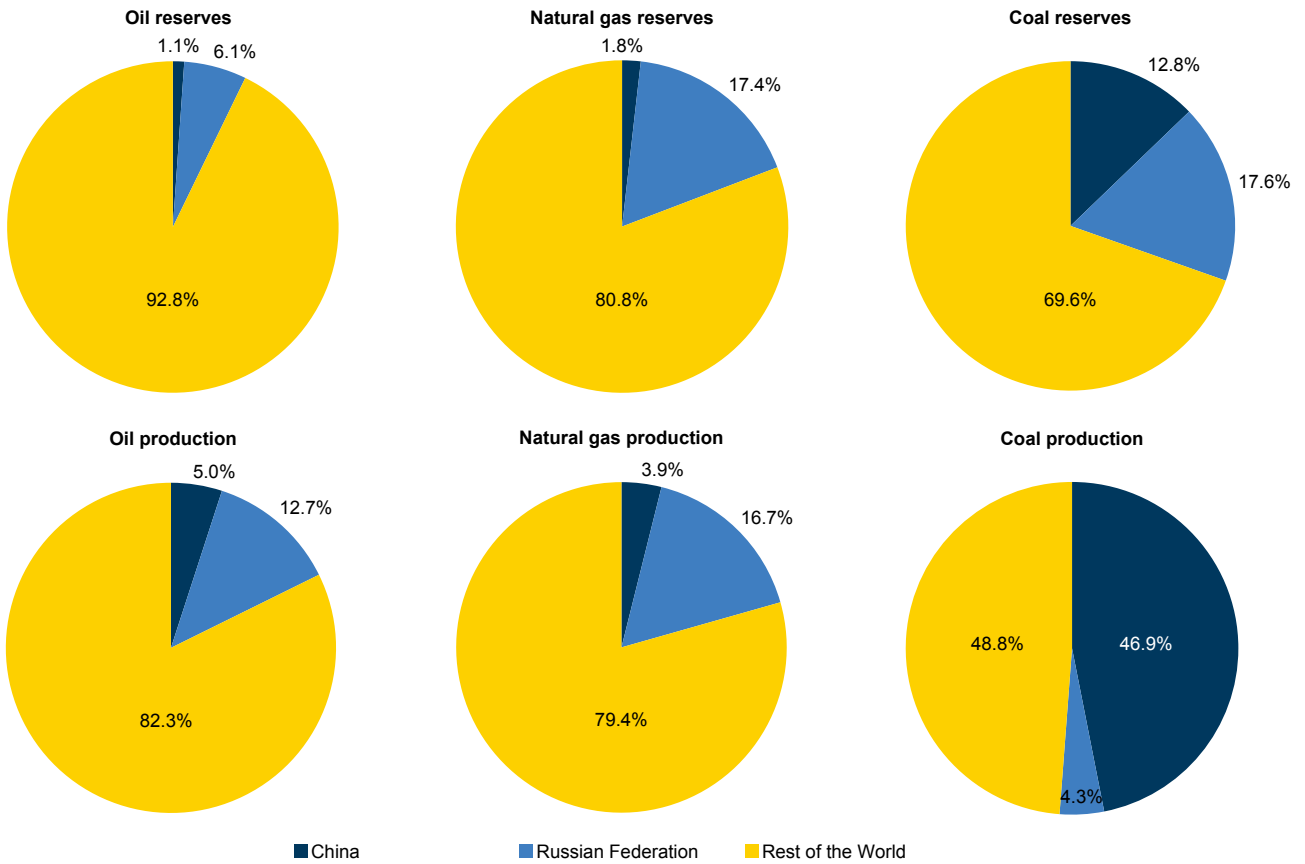
Domestic energy resources are scarce in Japan and the Republic of Korea. In these two countries, energy self-sufficiency<sup>16</sup> rates in 2014 were as low as 6 and 18 per cent, respectively.<sup>17</sup> China has been a net oil importer

---

<sup>16</sup> Energy self-sufficiency is the value of production divided by the total primary energy supply.

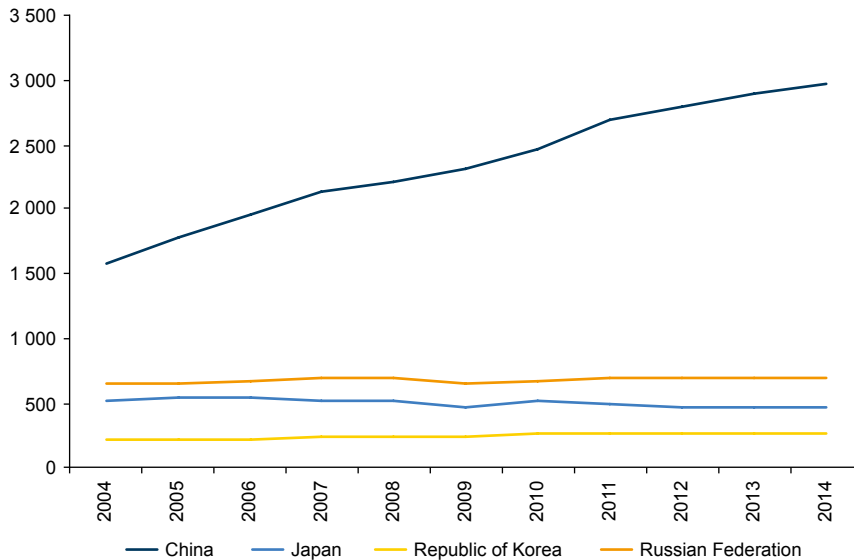
<sup>17</sup> For details, see [www.iea.org/statistics/statisticssearch/](http://www.iea.org/statistics/statisticssearch/).

**Figure 16. Conventional energy reserves and production of fossil fuels, 2014**



Source: BP, *BP Statistical Review of World Energy 2015* (London, 2015).  
 Note: Total proven reserves at the end of 2014.

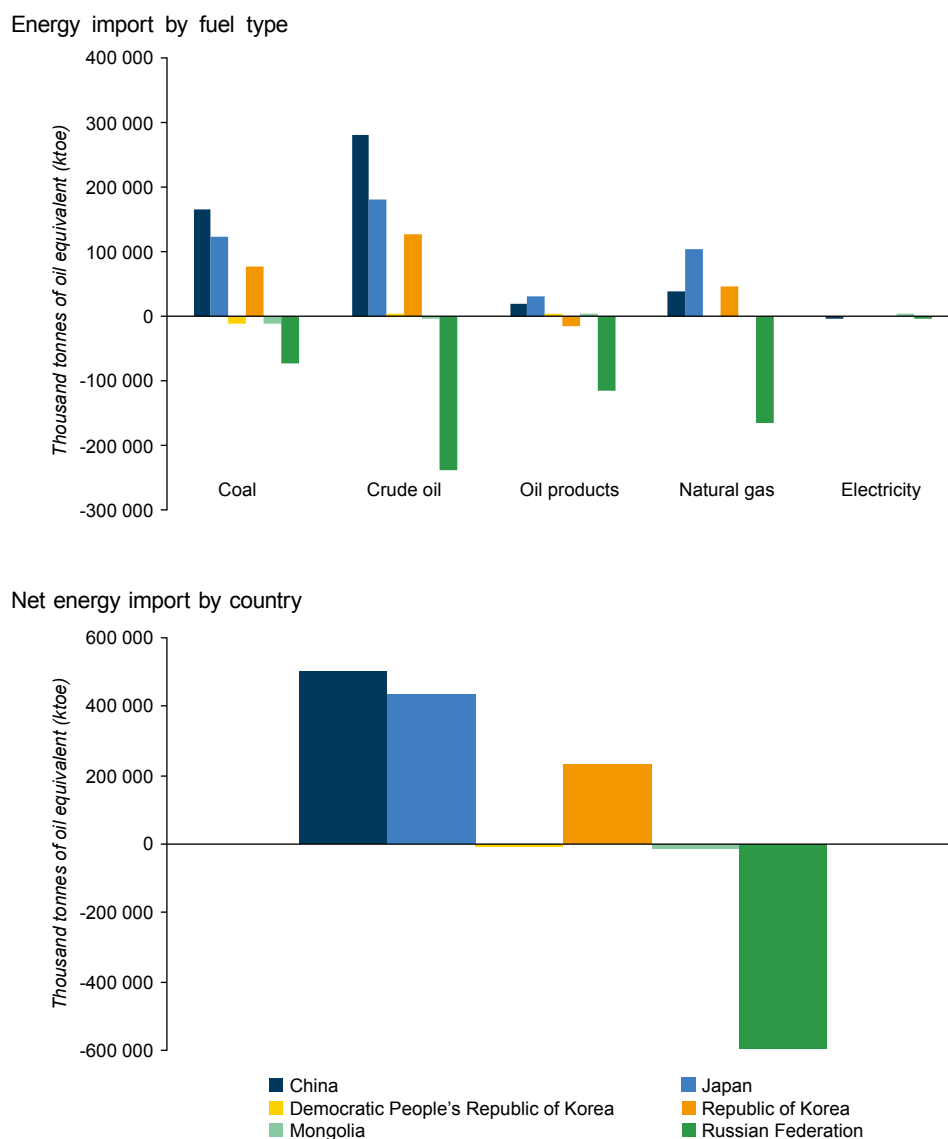
**Figure 17. Primary energy consumption in East and North-East Asia, 2004-2014**



Source: BP, *BP Statistical Review of World Energy 2015* (London, 2015).

since 1993, although it was the world’s fifth largest producer of crude oil in 2015 (IEA, 2016). China also became a net importer of liquefied natural gas in 2007 as domestic production was unable to meet the rapidly increasing demand. The low rates of energy self-sufficiency in Japan and the Republic of Korea and the increasing energy demand in China that far surpasses the domestic production capacity resulted in the countries being ranked as the world’s top five net importers of crude oil – China (second), Japan (fourth) and the Republic of Korea (fifth) in 2014. Meanwhile, three ENEA countries, namely the Democratic People’s Republic of Korea, Mongolia and the Russian Federation, are net exporters of energy, as shown in figure 18. In terms of crude oil and natural gas production, the Russian Federation was the third and the second largest in the world, respectively, in 2014. The Democratic People’s Republic of Korea and Mongolia are also net energy exporters of coal, mainly to China. Despite being a net energy exporter, the Democratic People’s Republic of Korea has difficulties in meeting its own basic energy needs.

**Figure 18. Energy imports in East and North-East Asia, 2013**

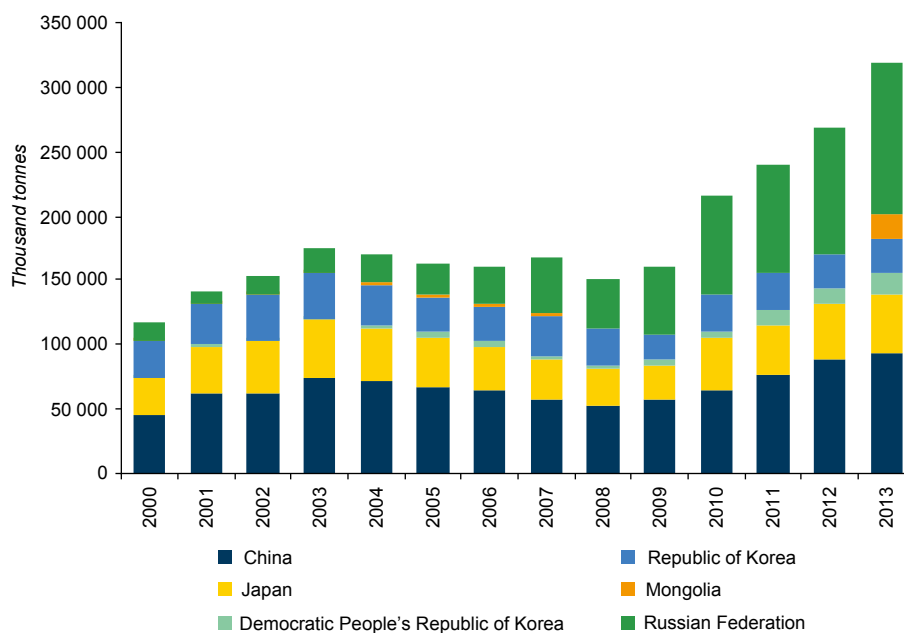


Source: ESCAP, based on data from the International Energy Agency. Available from [www.iea.org/statistics/statisticssearch/](http://www.iea.org/statistics/statisticssearch/).  
 Note: Coal includes peat and oil shale, where relevant; crude oil includes crude oil, natural gas liquids, refinery feedstocks, additives and other hydrocarbons; and net energy import equals import minus export.

## 1.2. Intrasubregional energy trade

During the last decade, intrasubregional energy trade increased gradually (figure 19). In particular, China has transformed from being a major exporter to becoming an importer, and has rapidly increased the volume of its energy imports. Large amounts of oil were imported not only to meet growing demand but also to construct strategic petroleum reserves and diversify the sources of oil imports in order to mitigate geopolitical uncertainties.<sup>18</sup>

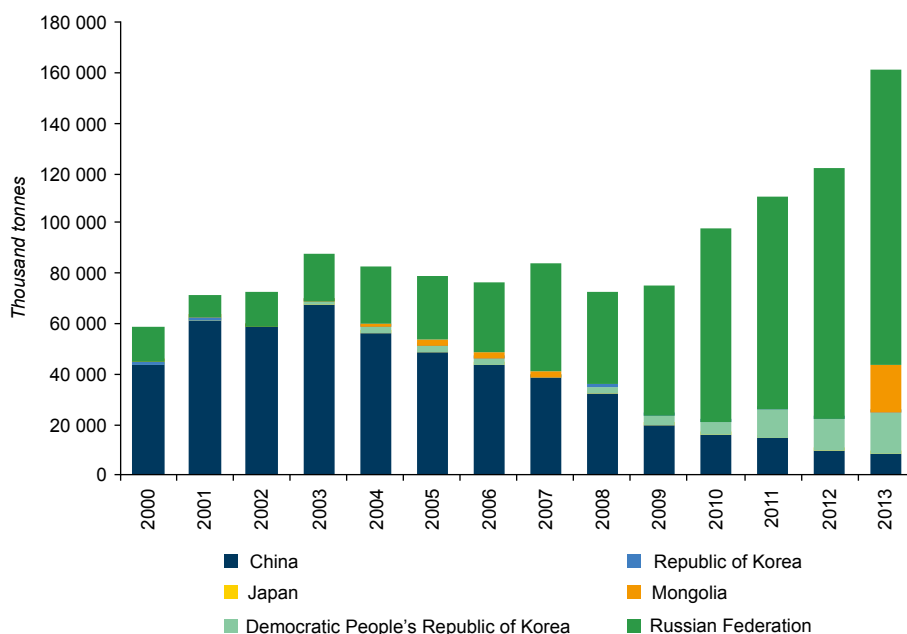
**Figure 19. Intra-regional energy trade volumes in East and North-East Asia, 2000-2013**



Source: ESCAP, based on data from UNCOMTRADE.

Note: Energy trade volumes denote total exports and imports of oil, natural gas (liquefied), petroleum gas and coal in weight terms.

**Figure 20. Intra-regional energy exports in East and North-East Asia, 2000-2013**



Source: ESCAP, based on data from UNCOMTRADE.

Note: Energy exports denote exports of oil, natural gas (liquefied), petroleum gas and coal in weight terms.

<sup>18</sup> For further information, see [www.eia.gov/beta/international](http://www.eia.gov/beta/international).

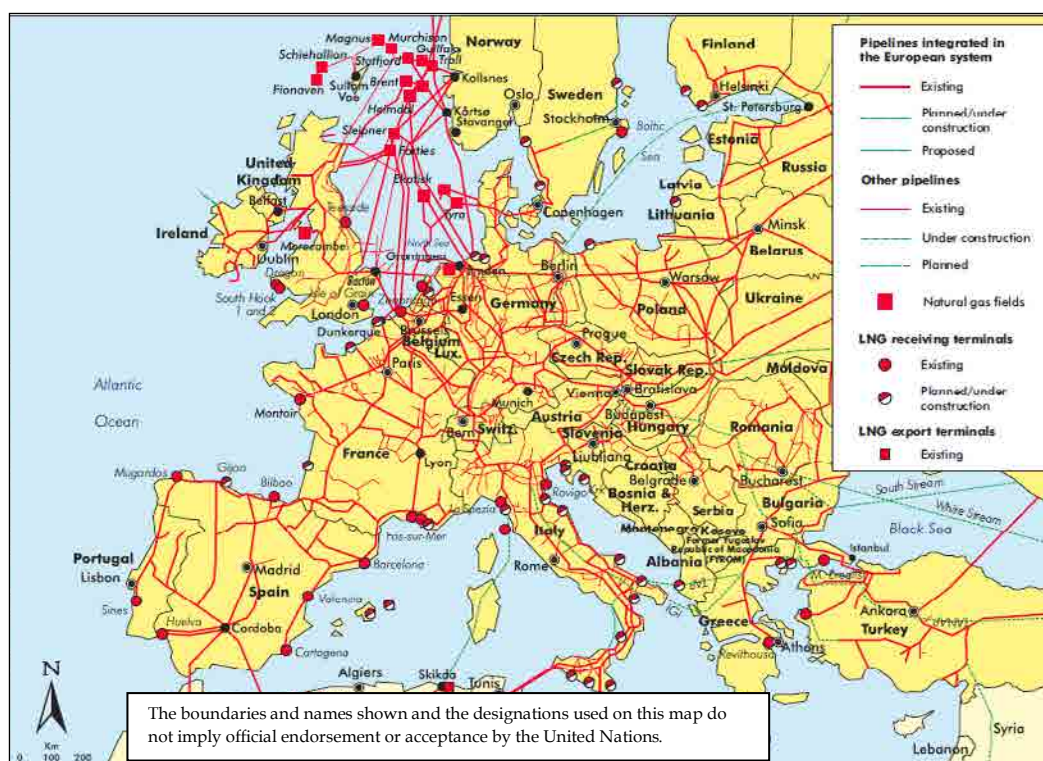
Energy trade from the Russian Federation has been on an upward trend since 2001, and the country has become the largest exporter of energy in the subregion. However, the share of the Russian Federation's natural gas was only 6.4 per cent of the combined imports of China, Japan and the Republic of Korea in 2015 despite the recent increase (figure 20).

### 1.3. Energy connectivity: oil pipeline, gas pipeline and power grid

Compared with Europe and ASEAN, the level of energy connectivity in the ENEA subregion is relatively low. For instance, Europe has a very dense network of cross-border gas pipeline and power-grid connections, as shown in figure 21. In the case of ASEAN, 16 ASEAN power grid projects were ongoing or planned as of 2015, with a total capacity of 32,925–36,075 megawatts (MW). The “Master Plan on ASEAN Connectivity” adopted in 2010 is aimed at connecting ASEAN through enhanced physical infrastructure development, effective institutions, mechanisms and processes. Enhanced power, oil and gas connectivity is also expected to facilitate energy trade, investment and services within the subregion (ASEAN, 2011).

ENEA countries have also started grid interconnections for electricity trade. However, current cross-border power cooperation projects remain bilateral and are small in scale, such as the link from the Russian Federation to China and Mongolia, and between China and the Democratic People's Republic of Korea. China and the Russian Federation began a grid connection in 1992 and scaled it up from 2010 with the expansion of transmission lines from one to three: 110 kV, 220 kV and 500 kV. In 2014, China imported 3.38 billion kWh from the Russian Federation, equivalent to 0.06 per cent of China's total electricity generation, while the electricity imported from the Russian Federation

**Figure 21. European gas pipeline and power grid**

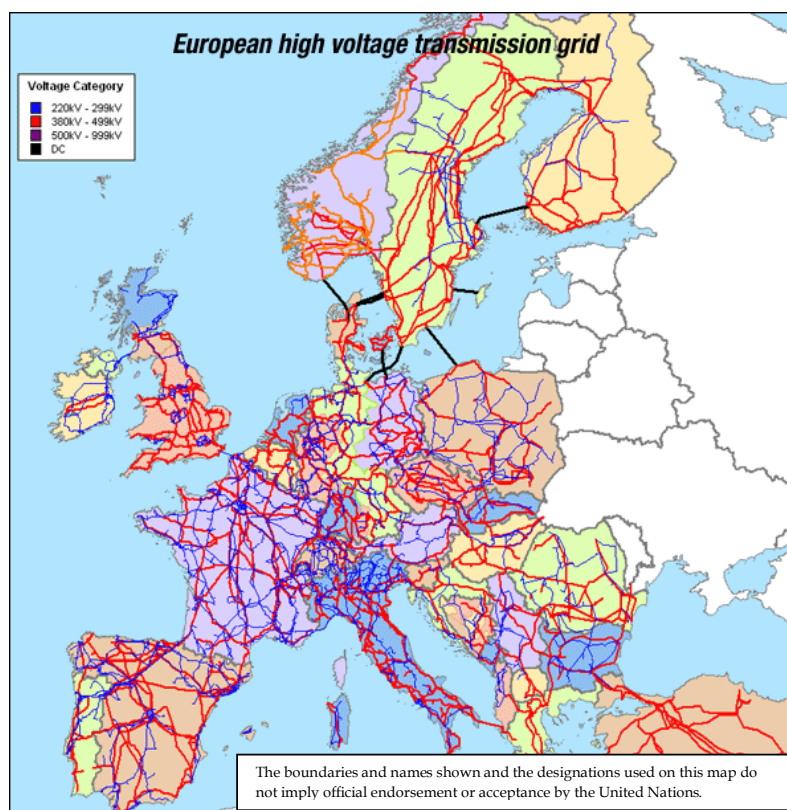


Source: International Energy Agency, *Natural Gas Information 2015 edition: Database Documentation*. Available from [http://wds.iea.org/wds/pdf/Gas\\_Documentation.pdf](http://wds.iea.org/wds/pdf/Gas_Documentation.pdf).

<sup>19</sup> For further information, see [www.china5e.com/news/news-899520-1.html](http://www.china5e.com/news/news-899520-1.html).



Figure 21. (continued)



Source: Global Energy Network Institute, Map of European electricity grid

accounts for over half of China's electricity imports.<sup>19</sup> There was also an agreement in 2013 to build a new grid connection that could enable the Russian Federation to export about 30-50 billion kWh per year, which amounted to 3-5 per cent of total electricity generation of the Russian Federation in 2014. The Russian Federation has also begun the process of building grid connections with the Rason Special Economic Zone in the Democratic People's Republic of Korea. In 2015, the Russian Federation completed a feasibility study on exporting electricity with a 110 kV supply system to that Zone, which borders both China and the Russian Federation. Mongolia's reliance on electricity imported from China via 11 locations and the Russian Federation via 7 locations is also significant. In particular, Mongolia relies heavily on electricity imported from Inner Mongolia Province of China for copper and gold mining in the southern part of Mongolia.

Meanwhile, national institutions and power corporations have put forward various proposals for power interconnections at the subregional level. Such proposals include the Northeast Asian Region Electrical System Ties (Melentiev Energy Systems Institute of the Russian Federation and Korea Electrotechnology Research Institute of the Republic of Korea), Asian Super Grid (Japan Renewable Energy Foundation), Korea Electric Power Corporation of the Republic of Korea and Skolkovo Institute of Science and Technology (Skoltech) of the Russian Federation, Gobitec and the Asian Super Grid for Renewable Energies in Northeast Asia (Ministry of Energy of Mongolia, Energy Charter Secretariat, among others) (figure 22).

Most proposals are aimed at fully harnessing renewable energy potential in Mongolia and the Russian Federation to supply electricity to the entire ENEA subregion. For example, Gobitec and the Asian Super Grid are aimed at utilizing the abundant wind and solar energy available in the Gobi Desert of Mongolia, which may have the potential for generating about 2,600 TWh per year, which is equivalent to about half of China's total electricity generation in 2013. According to a recent study by the Asia Pacific Energy Research Centre on the economic viability of power grid interconnections in the ENEA subregion and renewable energy development in the Gobi Desert and the far



**Figure 22. Map of Asian super grid proposal**



Source: Korea Electric Power Corporation (KEPCO).

east region of the Russian Federation, strengthened subregional grid interconnection could substantially reduce greenhouse gas emissions and cut the cost of electricity generation (see figure 23). Illustrating this, compared with a scenario without any grid extensions, both the combination of Gobitec and Russian hydro options for 100 GW could reduce carbon dioxide emissions by 5.3 per cent, while saving \$20 billion in yearly fuel costs (APER, 2015).

In 2016, there was a major development in strengthening the foundation of power interconnection projects and bringing key stakeholders together. Global Energy Interconnection Development and Cooperation Organization of China, Korea Electric Power Corporation of the Republic of Korea, Rosseti of the Russian Federation and the SoftBank Group of Japan signed a memorandum of understanding in March 2016 to start feasibility studies on multinational power grid interconnections in the ENEA subregion and business evaluation studies. During the Eastern

**Figure 23. Potential benefits of Gobitec project**

Economic benefits		Social benefits		Environmental benefits	
All participating countries	Mongolia	All participating countries	Mongolia	All participating countries	Mongolia
<ul style="list-style-type: none"> <li>• Cost advantage due to cheap renewable-based electricity</li> <li>• Maximized renewable potential in grid systems and increased flexibility</li> <li>• Closer energy, economic and political integration in ENEA subregion through creation of ENEA energy community</li> <li>• Increased energy security for participating countries by increasing energy choices</li> <li>• Improved balance between energy demand and supply and diversified energy sources</li> </ul>	<ul style="list-style-type: none"> <li>• Cost advantage over 16 years of \$9 billion profit in Mongolia</li> <li>• Job creation, diversification of local economy (100 GW renewable energy would create 880,000 direct jobs</li> </ul>	<ul style="list-style-type: none"> <li>• Poverty alleviation</li> <li>• Improving infrastructure</li> <li>• Possibility of closer cooperation between Democratic People's Republic of Korea and Republic of Korea</li> <li>• Economic and political integration between participating countries due to transport of electricity, unlike fossil fuels, only possible with power transmission infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to profit from development of ENEA subregion.</li> <li>• More division of economy and money through Asian Super Grid</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction of carbon dioxide emissions</li> <li>• Create a green image</li> <li>• Green solution on a large scale</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction of air pollution</li> <li>• Protection of natural environment</li> </ul>

Technology transfer

Source: Energy Charter Secretariat and others, Gobitec and Asian Super Grid for Renewable Energies in Northeast Asia. Available from [www.energycharter.org/fileadmin/DocumentsMedia/Thematic/Gobitec\\_and\\_the\\_Asian\\_Supergrid\\_2014\\_en.pdf](http://www.energycharter.org/fileadmin/DocumentsMedia/Thematic/Gobitec_and_the_Asian_Supergrid_2014_en.pdf).

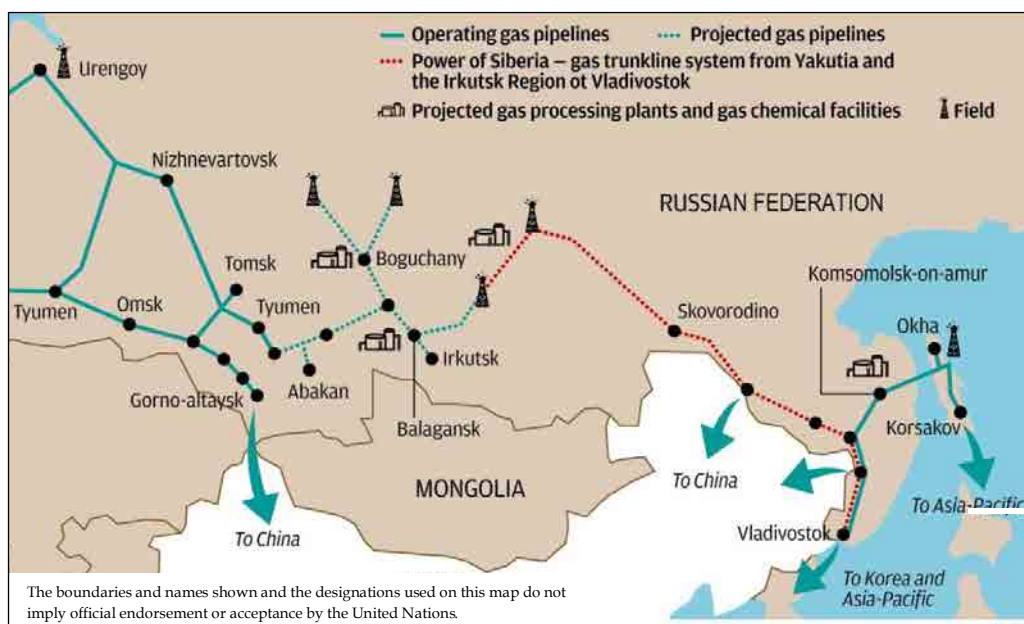
Economic Forum held in Vladivostok, Russian Federation, in September 2016, Mr. Vladimir V. Putin, President of the country, called for the creation of an East Asian super energy ring connecting the grid among all North-East Asian countries and an intergovernmental working group to discuss the proposal. In October 2016, the State Grid Corporation of China and the China Electricity Council initiated steps to launch the “Northeast Asia Regional Power Interconnection Mechanism” to coordinate regional power development and operation, and to promote renewable energy development and integration.

In addition to power interconnections, the connectivity for gas and oil infrastructure across national borders has been a key topic of subregional discussions on energy cooperation and integration since the 1990s, as China, Japan and the Republic of Korea have increased their imports of oil and gas from the Russian Federation. However, political dynamics, different economic interests and trade relationships have prevented the subregion from building such infrastructure. It was only in the early 2000s that countries, notably China and the Russian Federation, were able to agree on a plan for building transnational pipelines (see figure 24). China and the Russian Federation have constructed a branch oil pipeline from the Siberia–Pacific Ocean oil pipeline to Daqing, China, which has supplied oil to China since 2011. The pipeline is expected to transport 80 million tons of oil per year by 2025. In addition, two new pipelines have been planned for the natural gas deal signed by China and the Russian Federation in 2014: the Power of Siberia pipeline (eastern route) and Power of Siberia-2 pipeline (western route). The pipelines are expected to deliver 30 billion cubic metres of natural gas annually for 30 years starting in 2018.

#### 1.4. Policy recommendations for East and North-East Asia

In addition to energy trade, the promotion of cross-border energy investment is an essential part of subregional energy integration. Investment liberalization and transparency in energy sectors can also attract foreign direct investment. Multilateral financing mechanisms, including the Asian Infrastructure Investment Bank, have a critical role to play in boosting energy investment as well as improving energy access. Access to electricity remains a major challenge for the Democratic People’s Republic of Korea and Mongolia. In 2012, only 29.6 per cent of the population in the

**Figure 24. Gas pipelines in East and North-East Asia**



Source: “Why China and Russia are ready to deal on oil and gas”, South China Morning Post, 21 May 2014 Available from [www.scmp.com/news/china/article/1516755/why-china-and-russia-are-ready-deal-oil-and-gas](http://www.scmp.com/news/china/article/1516755/why-china-and-russia-are-ready-deal-oil-and-gas).

Note: the map was modified from South China Morning Post edition dated 21 May 2014

**Table 10. Energy intensity in East and North-East Asia, 2014**

Region/country	TPES/GDP (toe/thousand 2010 United States dollars)
China	0.37
Japan	0.08
Democratic People's Republic of Korea	0.31
Republic of Korea	0.22
Mongolia	0.47
Russian Federation	0.42
OECD total	0.11
World	0.19

Source: International Energy Agency, *Key World Energy Statistics 2016* (Paris, 2016). Available from [www.iew.org/publications/freepublications/publication/KeyWorld2016.pdf](http://www.iew.org/publications/freepublications/publication/KeyWorld2016.pdf).

Abbreviations: TPES = total primary energy supply; toe = metric ton of oil equivalent.

Democratic People's Republic of Korea had access to electricity, leaving 17.4 million people without access. Mongolia also had approximately 0.3 million people without access to electricity in the same year.<sup>20</sup>

Greenhouse gas (GHG) emissions in the ENEA subregion have continued to grow due to the fossil fuel-based nature and relatively high energy intensity of the economies in the subregion. China, the world's largest source of GHG emissions, accounts for about a quarter of the world's total GHG emissions, followed by the Russian Federation, Japan and the Republic of Korea. Together the ENEA subregion accounted for about 38 per cent of the world's carbon dioxide emissions from fuel combustion in 2014. The subregion, as a major energy consumer with countries at various stages of development, has a large energy savings potential, which could be achieved through improvements in energy efficiency (see table 10); most countries have been adopting strong policy measures to reduce energy intensity.<sup>21</sup> Such improvements could be supported by furthering subregional and policy coordination, especially through the spread of best practices and experiences among countries.

While various ideas of grid interconnection are gaining political support, the concept lacks an intergovernmental framework to intensify the promotion of multilateral energy cooperation. The need of the hour is to bring all countries together by establishing a regular dialogue and communication mechanism for North-East Asian power cooperation. Such a platform would facilitate dialogues on legal, technical and economic conditions, support technical studies, align national policies and regulations and promote renewable energy development and integration. One possible way forward is to learn from and adopt where appropriate the cooperation mechanism of ASEAN on energy connectivity, which includes the ASEAN Ministers on Energy Meeting, Senior Officials Meeting on Energy, Heads of ASEAN Power Utilities/Authorities Council and ASEAN Power Grid Consultative Committee.

## 2. TRANSPORT

Without a doubt, transport connectivity plays a key role in promoting trade and thus accelerating economic growth and development. The importance of subregional transport connectivity is well recognized in intergovernmental subregional platforms, such as the Greater Tumen Initiative and Shanghai Cooperation Organisation; however, cooperation on cross-border infrastructure investment has not been strong compared with other subregional mechanisms in Asia, such as the Greater Mekong Subregion Programme and the Central Asia Regional Economic Cooperation Programme (Kawai, 2013). Nevertheless, subregional economies have in recent years prioritized the development of cross-border infrastructure as a key economic strategy. In this regard, cross-border transport connectivity will most likely drive forward regional economic cooperation and integration in coming years.

<sup>20</sup> For further information, see <http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS/countries>.

<sup>21</sup> China pledged to reduce 16 per cent of its energy intensity by 2015. For further information, see [www.worldbank.org/en/news/feature/2014/06/27/bringing-chinas-energy-efficiency-experience-to-the-world-knowledge-exchange-with-asian-countries](http://www.worldbank.org/en/news/feature/2014/06/27/bringing-chinas-energy-efficiency-experience-to-the-world-knowledge-exchange-with-asian-countries). The Republic of Korea intends to reduce its energy intensity to 0.185 (toe/\$1,000) by 2030. For further information, see [www.ipeec.org/site/download/fd/26/type/members.html](http://www.ipeec.org/site/download/fd/26/type/members.html).

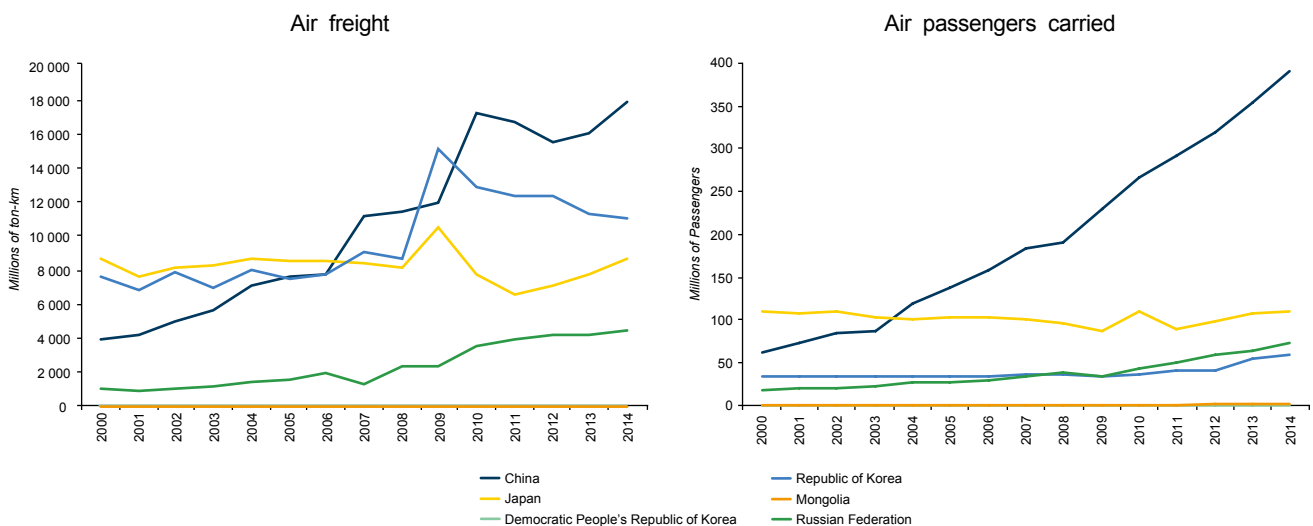
## 2.1. Transport by air

The ENEA subregion has experienced rapid growth in air cargo traffic in recent years. Among the 10 cargo airports in the subregion with the highest freight volume, 8 are in China and 1 in the Republic of Korea. Asia-Pacific carriers account for about 40 per cent of global freight markets. While they are the most exposed to volatility in terms of freight volumes, they are still benefiting from the dominance of trade flows in Asia.<sup>22</sup>

In 2012, China recorded the highest air traffic volume in the subregion, followed by the Republic of Korea (see figure 25). According to forecasts made by Boeing, the aviation market in the ENEA subregion will increase at an annual growth rate of 2.7 per cent for passenger traffic and, subject to trade, 4.3 per cent for cargo traffic over the next 20 years (Boeing, 2015).

The overall improvement in air transport connectivity in the ENEA subregion has led to an increase in passenger and cargo transported by air; in the course of the past decade, more low-cost carriers entered the market, flight frequencies significantly increased and country investments in new and existing airports rose equally (ESCAP, 2012). Specifically, the number of flight arrivals and departures in 2014 between China and the Republic of Korea and between Japan and the Republic of Korea increased by 117.9 and 68.3 per cent, respectively, compared with that in 2006. The number of airports servicing flights between China and the Republic of Korea also increased from 21 to 31 in China and from 4 to 8 in the Republic of Korea between 2006 and 2014. Air transport connectivity between the Russian Federation and the Republic of Korea and between Mongolia and the Republic of Korea, measured by flight arrivals and departures, also improved by 128.6 and 33.3 per cent, respectively, from 2006 to 2014. China and the Russian Federation are connected to all member States in the ENEA subregion. In particular, there are on average two flights a day, flying three air routes between China and the Democratic People's Republic of Korea, and two flights per week, flying one air route between the Democratic People's Republic of Korea and the Russian Federation (see table 11).

**Figure 25. Trend in air traffic, by country, 2000-2014**



Source: ESCAP, based on data from World Bank Indicators databases (accessed 13 November 2015).

Note: Air freight is the volume of freight, express and diplomatic bags carried on each flight stage (operation of an aircraft from take-off to its next landing), measured in metric tons multiplied by the kilometres travelled; air passengers carried include both domestic and international aircraft passengers of air carriers registered in the country.

<sup>22</sup> For further information, see [www.iata.org/pressroom/pr/pages/2011-11-28-01.aspx](http://www.iata.org/pressroom/pr/pages/2011-11-28-01.aspx).

**Table 11. Number of flight arrivals and departures per day, 2014**

From	To						
		China	Japan	Democratic People's Republic of Korea	Mongolia	Republic of Korea	Russian Federation
China	2014		164	2	12	340	14
	2006					156	
Japan	2014	164			2	202	8
	2006				120	120	
Democratic People's Republic of Korea	2014	2					1
	2006						
Mongolia	2014	12	2			4	16
	2006					3	7
Republic of Korea	2014	340	202				4
	2006	156	120				
Russian Federation	2014	14	8	1	4	16	
	2006					7	

Source: Ministry of Land, Infrastructure and Transport of the Republic of Korea; and national sources.

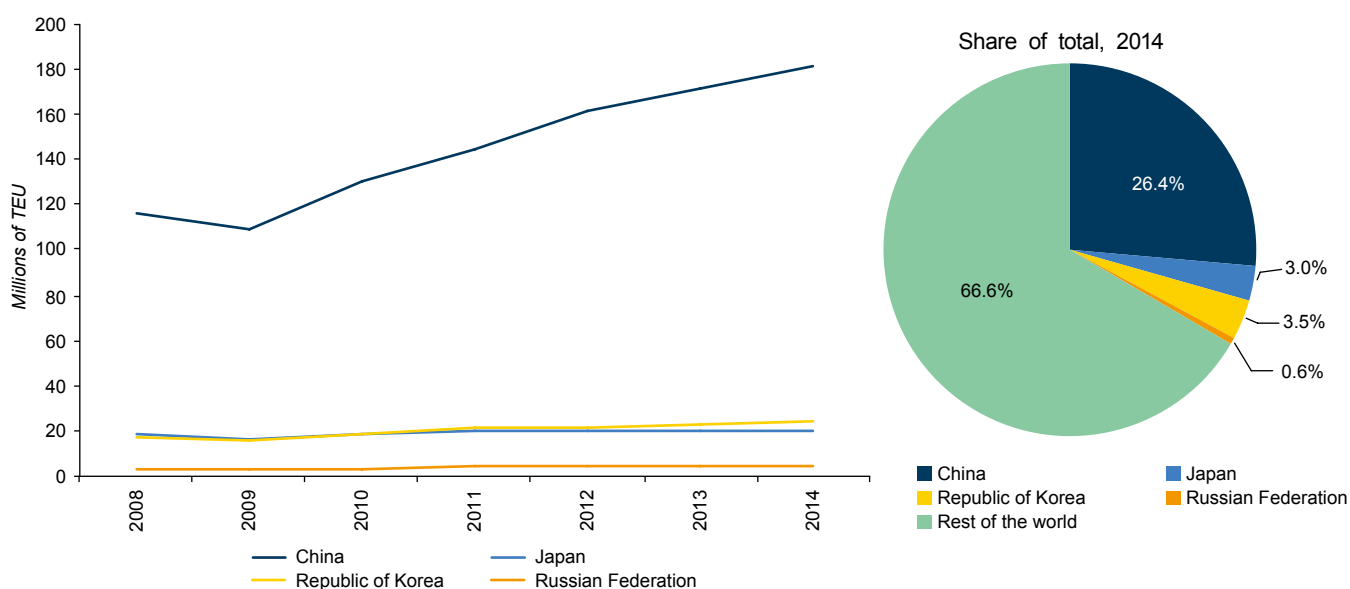
Note: Figures for China include flights at Beijing capital airport and Shanghai Pudong airport on 10 September 2014; figures for Japan include flights at Narita International Airport, Kansai Airport, Haneda Airport, Fukuoka Airport and Centrair Airport on 7 September 2014; figures for Mongolia include flights at Chinggis Khaan International Airport and Sheremetyevo Airport on 10 September 2014; between the Democratic People's Republic of Korea and the Russian Federation, there are two flights from/to Vladivostok per week.

## 2.2. Transport by sea

The geographical disposition of the ENEA subregion renders ocean transportation an essential logistics and trade path; in fact, the expansion of international trade in the Asia-Pacific region has largely depended on the capacity and efficiency of its major sea ports (ESCAP, 2012), with transport volumes of intraregional trade increasing significantly through reinforcement of economic cooperation in the region (ESCAP and Korea Transport Institute, 2006).

In 2014, container port throughput for China, Japan and the Republic of Korea accounted for 33 per cent of the global total, constituting the largest transport chain in Asia (see figure 26). The subregion has dominated global container handling (see table 12), with 9 of the world's top 10 busiest ports in 2013 being East Asian ports.

**Figure 26. Container port throughput, 2008-2014**



Source: ESCAP, based on data from UNCTAD. Available from <http://unctadstat.unctad.org> (accessed 13 November 2015).

Note: Data for the Democratic People's Republic of Korea and Mongolia are not available.

**Table 12. Top 10 container ports in the world, 2013**

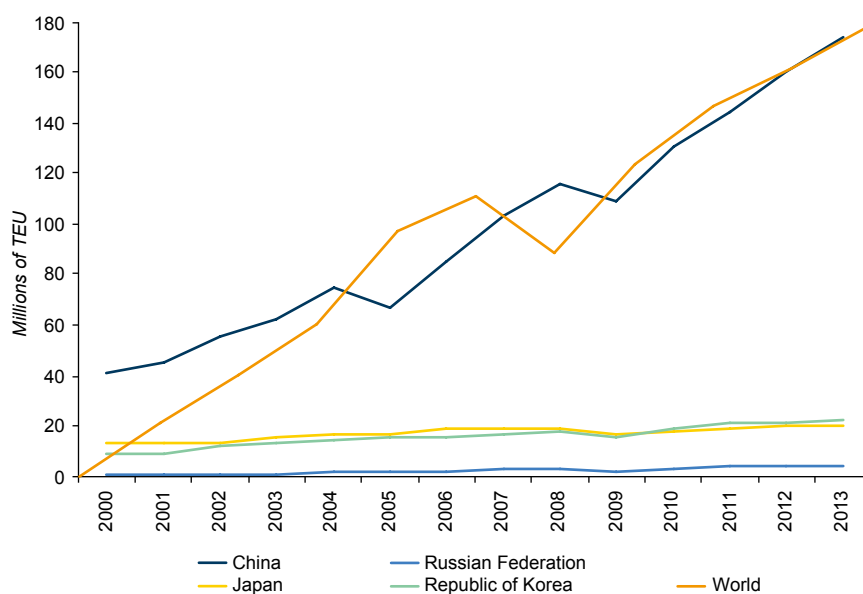
Rank	Port	Country	Volume (millions of TEU)
1	Shanghai	China	33.62
2	Singapore	Singapore	32.6
3	Shenzhen	China	23.28
4	Hong Kong, China	China	22.35
5	Busan	Republic of Korea	17.69
6	Ningbo-Zhoushan	China	17.33
7	Qingdao	China	15.52
8	Guangzhou Harbour	China	15.31
9	Jebel Ali, Dubai	United Arab Emirates	13.64
10	Tianjin	China	13.01

Source: World Shipping Council. Available from [www.worldshipping.org/about-the-industry/global-trade/top-50-world-container-ports](http://www.worldshipping.org/about-the-industry/global-trade/top-50-world-container-ports) (accessed 12 November 2015).

Note: The data represent total port throughput, including loaded and empty 20-foot equivalent units (TEU).

China's container port traffic increased considerably from 2000 to 2013, with Japan, the Republic of Korea and the Russian Federation trailing behind (figure 27). Further illustrating this increase, China alone accounted for more than 170 million TEU of container volume in 2013, representing roughly one out of every four containers handled worldwide.<sup>23</sup> Against this backdrop, it should be clear that, with increasing economic cooperation and integration in the ENEA subregion, the need for integrated maritime transportation for trade will grow, particularly if high levels of shipping freight are to be maintained, the shift from existing long-haul trade to intraregional trade will not be without significance.

**Figure 27. Container port traffic, 2000-2013**



Source: ESCAP, based on data from World Bank Indicators databases. Available from <http://data.worldbank.org/indicator> (accessed 13 November 2015).

Note: Data for the Democratic People's Republic of Korea and Mongolia are not available.

<sup>23</sup> In 2013, container port traffic for China was 174,080,330 TEU, while the global total recorded 651,098,615 TEU. For further information, see <http://data.worldbank.org>.



In anticipation of an increase in seaborne trade, ENEA countries have started to develop long-term plans to boost port handling capacities in order to offset potential capacity shortages. However, in order to achieve the level of port investment necessary to continue the region's current pace of economic development, each country's ability to finance its projects will be critical, and failure to respond to capacity demands could create bottlenecks in the trade flows of each country in the region and ultimately constrain the region's economic growth.

It should be noted that the most important liner routes in Asia, measured by volume, still run from Asia to Europe and North America. However, there has been a notable increase in intra-Asian shipping, particularly among China, Japan and the Republic of Korea and between them and South-East Asia. Direct shipping services, transshipment and transit operations through hub ports have enabled almost all the subregion's coastal economies to be directly connected (ESCAP, 2012). Countries in the ENEA subregion have made renewed efforts towards port development and management in order to address the remaining infrastructure gaps hindering further connectivity. Traditionally such infrastructure investments have been funded and managed by the public sector; however, renewed efforts have incorporated new approaches, including deregulation measures, improvements in FDI and increased private sector involvement in ports (ESCAP and KTI, 2006).

The rapid advancement of the international division of labour and industry between China, Japan and the Republic of Korea has led to the region becoming the busiest maritime transport hub in the world. However, the international ferry system in the ENEA subregion is beset by structural differences, which have led to critical bottlenecks in trade flows.

### 2.3. Transport by road and rail

Over the past two decades, road length in Asia has doubled. In particular, China has developed its road network into one of the world's largest (4,577,000 km) with an average annual growth in road length of more than 3 per cent.<sup>24</sup> In terms of road density, Japan recorded the highest level at 3.17 km/km<sup>2</sup>, followed by the Republic of Korea (1.06 km/km<sup>2</sup>) and China (0.42 km/km<sup>2</sup>). Mongolia and the Russian Federation achieved densities of only 0.04 km/km<sup>2</sup> and 0.06 km/km<sup>2</sup>, respectively (ESCAP, 2011).

The Asian Highway stretches over a distance of 150,700 km across the Eurasian continent. As of 2013, the Russian Federation accounted for the largest portion (17,290 km), followed by China (11,975). The quality of the network differs significantly between countries. Japan is leading, with 100 per cent of its highways meeting the highest quality standard. For the rest of the member States, the Republic of Korea has 95.6 per cent and China has 80 per cent of highways meeting the requirements of the standards of either Primary Class or Class I quality<sup>25</sup> specified by the Intergovernmental Agreement on the Asian Highway Network,<sup>26</sup> whereas the Russian Federation and Mongolia still have a substantial proportion of low-quality highways (ESCAP, 2016).

Railway infrastructure also shows wide variation between countries. China and the Russian Federation have played a vibrant role in developing the Trans-Asia Railway system (currently approximately 117,500 km long) through improvements in their railways in recent years. China has a vital economic interest in developing its railway (124,000 km)<sup>27</sup> and its intraregional hubs connecting China to Mongolia and the Russian Federation. The Russian Federation has invested mainly in the Trans-Siberian line and its connections (85,280 km), forming a global transit links between Asia and Europe.

Japan has the greatest density of rail networks (55.2 km/km<sup>2</sup>), with 81 per cent of its network being electrified. Japan and the Republic of Korea each have 61 and 60 per cent of their networks under electric traction, respectively (ESCAP, 2015c). However, freight transport increasingly has to rely on the road network rather than the railway

<sup>24</sup> For more information, see [http://zizhan.mot.gov.cn/zfxgk/bnssj/zhghs/201605/t20160506\\_2024006.html](http://zizhan.mot.gov.cn/zfxgk/bnssj/zhghs/201605/t20160506_2024006.html).

<sup>25</sup> For additional details, see [www.unescap.org/sites/default/files/Asian%20Highway%20Status\\_05%20February%202016.xls](http://www.unescap.org/sites/default/files/Asian%20Highway%20Status_05%20February%202016.xls).

<sup>26</sup> United Nations, Treaty Series, vol. 2323, No. 41607.

<sup>27</sup> For further information, see [www.mot.gov.cn/guowuyuanxinxi/201701/t20170104\\_2149491.html](http://www.mot.gov.cn/guowuyuanxinxi/201701/t20170104_2149491.html).

**Table 13. Trends in railway freight tonnage, 1995 vs. 2014**

Country	Growth			Freight traffic (1,000 tons)	
	Compound annual growth rate (percentage)	From	To	First year	Last year
China	2.0	1995	2014	1,593,460	2,308,670
Japan	-4.8	1995	2014	52,103	20,255
Mongolia	2.3	1996	2014	7,458	11,418
Republic of Korea	-8.5	1995	2014	56,073	10,459

Source: ESCAP (2015d)

Note: Data for Democratic People's Republic of Korea and the Russian Federation are not available.

system. Japan and the Republic of Korea recorded negative growth in railway freight traffic between 1995 and 2014 (see table 13). Increased effort is required to promote rail transport to reduce the environmental costs of road transport. Making intermodal transport more efficient and seamless to overcome the inherent challenges of limited penetration of rail transport is a priority.

Mongolia's railway system (1,818 km in length) is less developed than that of other countries in the ENEA subregion (World Bank, 2017a). According to the *Global Competitiveness Report 2015-2016*, WEF, 2015) the development of Mongolia's railway system was rated 2.5 out of 7.0, which is far below the world mean. Its railway system is sparse (1.1 km/km<sup>2</sup>) and, despite Mongolia having experienced 2.3 per cent growth in railway freight tonnage from 1995 to 2014 (partly due to 5.4 per cent growth in trade with its major trading partner, China), the system is not electrified.<sup>28</sup>

One of the key issues with rail transport in the ENEA subregion is the break of gauge caused by countries adopting different track gauges. China, the Democratic People's Republic of Korea and the Republic of Korea have standard gauge networks, while Mongolia and the Russian Federation use a wider gauge. The break of gauge is a particular concern for Mongolia as the country heavily relies on shipments to and from China. Transshipping freight is costly and time-intensive and contributes to reducing the predictability of shipments. Another challenge in road and rail transport in the subregion is the missing links, particularly in the Korean peninsula.

#### 2.4. International conventions, bilateral and multilateral agreements in East and North-East Asia

The Inland Transport Committee of the United Nations Economic Commission for Europe has successfully served as a pan-European intergovernmental framework for cooperation to facilitate international transport. Within the committee's framework there are now 55 international agreements and conventions, all of which provide an international legal base for the development and management of road, rail, inland waterway and combined transport in the ECE region.<sup>29</sup> These international legal instruments have had an important bearing on a wide range of transport issues, notably coherent international infrastructure networks, uniform and simplified border crossing procedures and uniform rules and regulations aimed at ensuring a high level of efficiency and safety in transport (ESCAP and KTI, 2006).

In this respect, ESCAP has actively promoted accession by Asian countries to seven of the ECE transport conventions listed in table 14. However, the achievements on accession to these conventions across the ENEA subregion have been uneven; of the six countries in the subregion, only the Russian Federation, as of December 2016, has ratified or acceded to six of the seven conventions, followed by Mongolia, which has acceded to five conventions, and China and the Republic of Korea have acceded to two conventions, while Japan and the Democratic People's Republic of Korea have not acceded to any. The consequences, which flow from uneven accession across these six

<sup>28</sup> See ESCAP Online Statistical Database for more information [http://data.unescap.org/escap\\_stat/](http://data.unescap.org/escap_stat/)

<sup>29</sup> Full texts of the 55 UNECE transport conventions and their status of accession are available from [www.unece.org/trans/conventn/legalinst.html](http://www.unece.org/trans/conventn/legalinst.html)



**Table 14. Ratification status of conventions contained in ESCAP resolution 48/11, 2016**

Country	Customs Convention on the Temporary Importation of Commercial Road Vehicles	Convention on the Contract for the International Carriage of Goods by Road	Convention on Road Traffic	Convention on Road Signs and Signals	Customs Convention on Containers, 1972	Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention)	International Convention on the Harmonization of Frontier Controls of Goods
	Geneva, 18 May 1956	Geneva, 19 May 1956	Vienna, 8 November 1968	Vienna, 8 November 1968	Geneva, 2 December 1972	Geneva, 14 November 1975	Geneva, 21 October 1982
China					22 Jan 1986 <sup>a</sup>	5 Jan 2017	
Japan							
Democratic People's Republic of Korea							
Mongolia		18 Sep 2003 <sup>a</sup>	19 Dec 1997 <sup>a</sup>	19 Dec 1997 <sup>a</sup>		1 Oct 2002 <sup>a</sup>	2 Nov 2007 <sup>a</sup>
Republic of Korea			29 Dec 1969 <sup>s</sup>	29 Dec 1969 <sup>s</sup>	19 Oct 1984	29 Jan 1982	
Russian Federation		2 Sep 1983 <sup>a</sup>	7 Jun 1974	7 Jun 1974	23 Aug 1976	8 Jun 1982 <sup>a</sup>	28 Jan 1986 <sup>a</sup>

Source: United Nations Treaty Collection.

Abbreviations: s = signature; and a = accession.

countries, are far-reaching; lack of territorial continuity of conventions due to the non-accession by one or more States located between contracting parties disrupts the application of the convention in question. Furthermore, accession to different versions of conventions can undermine the underlying objectives; for example, although Japan has not joined any of the international transport conventions listed in ESCAP resolution 48/11, it had acceded to some older versions, such as the 1949 Convention on Road Traffic,<sup>30</sup> the 1959 TIR Convention<sup>31</sup> and the 1956 Customs Convention on Containers.<sup>32</sup>

## 2.5. Recent cross-border transport initiatives in East and North-East Asia

In the ENEA subregion, there has been growing interest in the last few years in promoting cross-border transport connectivity, with a number of important initiatives being developed and proposed by member countries.

At the Ministerial Conference on Transport held in Moscow in December 2016, China, Mongolia and the Russian Federation, with the assistance of ESCAP, signed an international road transport agreement concerning transport connectivity on a pilot basis through Asian Highway Routes 3 and 4. The agreement, once it becomes operational, will invite other key countries, including Pakistan, to join so that transport connectivity gains can be maximized.

China stands out with two major projects: the Asian Infrastructure Investment Bank and the Belt and Road Initiative. Under that Initiative, the \$40 billion Silk Road Fund was established to offer a win-win cooperation plan to neighbouring countries. The concept of the Initiative encompasses 65 countries, going beyond economics, pursuing the strategic and geopolitical goals of China and striving to establish a comprehensive Eurasian infrastructure network. The concept includes the creation of transregional corridors that would link land and sea routes. China's leadership is planning on creating a China-centred pipeline, a railway and transport network and expanded deep-sea ports. The Initiative is intended to be an effective way to stimulate trade and exports among neighbours, to increase export demand for China's construction and engineering capacity and to help internationalize the Chinese currency (Renminbi).

<sup>30</sup> United Nations, *Treaty Series*, vol. 125, No. 1671.

<sup>31</sup> *Ibid.*, vol. 348, No. 481.

<sup>32</sup> *Ibid.*, vol. 338.

According to recent estimates, the Initiative will mobilize up to \$1 trillion in outbound State investment from the Government of China in the next 10 years (PricewaterhouseCoopers, 2016). The investment will be supported by the New Silk Road Fund, the Asian Infrastructure Investment Bank and the New Development Bank of the BRICS countries, with initial capital of \$50 billion.

In September 2014, the Heads of State of China, Mongolia and the Russian Federation agreed to work together on transnational infrastructure development. In particular, the three Governments agreed to build a “Steppe Road” in Mongolia, which would connect China, Mongolia and the Russian Federation and revive Mongolia’s role as a transit nation.

The Eurasia Initiative – one of the two flagship projects of the Government – is a plan to link the Republic of Korea to locations across Asia and Europe. While the landlink part of the Eurasia Initiative depends largely on improvements in relations with the Democratic People’s Republic of Korea, intermodal transport is still a possibility.

The Russian Federation has in recent years developed ambitious plans to revitalize Siberia and its far east region through infrastructure projects, including the reconstruction of the Baikal-Amur and Trans-Siberian railways.

At various bilateral and trilateral summit meetings held in 2015 and 2016, China, Mongolia, the Republic of Korea and the Russian Federation have all expressed mutual support for the national initiatives and for cooperating in joining the Eurasian Economic Union, Steppe Road initiative and Eurasia Initiative with the Belt and Road Initiative (BRI). Plans to link China, Mongolia and the Russian Federation as one of six economic corridors under BRI have already been included within the Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road issued by the National Development and Reform Commission. In July 2015, the leaders of the three countries adopted the “Mid-Term Roadmap for Development of Trilateral Cooperation between China, Russia and Mongolia”. While linking the Republic of Korea’s Eurasia Initiative with BRI depends largely on the political environment in the Korean peninsula, it is still possible to connect BRI to Japan and the Republic of Korea through extension of the Maritime Silk Road.

## 2.6. Policy recommendations for East and North-East Asia

Previous studies on East and North-East Asian transit transport corridors have identified and recommended a number of actions to enhance transport connectivity in the subregion. These recommendations include addressing both physical and non-physical barriers and bottlenecks existing in the subregion.

There are critical missing links in the road and rail networks in the subregion, particularly through the Democratic People’s Republic of Korea and Mongolia. In addition, inland logistics infrastructures and facilities, such as inland container depots, warehouses and information and communications technologies, are needed.

While physical road and rail linkages create a more obvious bottleneck for transit transport in the subregion, non-physical or institutional barriers are equally cumbersome and costly for moving across borders. These include inconsistent and difficult border-crossing formalities and procedures, restriction and limitation on the entry of vehicles and even easily addressed issues, such as incompatible working hours at the border.

As the non-physical barriers to transport are multiple and complex in many cases, a road map to tackle bottlenecks incrementally in a more cost-effective and orderly manner is appropriate.

The road map should include planning for the following: (a) harmonization and simplification of cross-border transport procedures and documentation; (b) harmonization of transport regulations; (c) ratification of regional and international transport conventions; (d) strengthening intermodal transport networks; and (e) improvement of sector funding and management.

# ENHANCING FINANCIAL COOPERATION

## 1. FINANCIAL COOPERATION FOR MARKET INTEGRATION

The main benefit of financial integration is that it offers investors diversified investment opportunities, creating a more efficient system of capital allocation, which in turn results in reduced transaction costs and economic growth.

The large gap among countries in terms of financial development and internationalization poses a significant challenge to financial integration in the subregion. On one end of the spectrum, Japan's Tokyo Stock Exchange is the second largest stock exchange in the world by aggregate market capitalization of its listed companies (3,504 listed companies), while on the other end, Mongolia's stock market has 329 listed companies and the Democratic People's Republic of Korea does not as yet have a functioning stock market (see table 15 below). Even with the progress made on financial market development in recent years, financial integration and cooperation merits closer attention among the ENEA countries.

**Table 15. Domestic credit provided by banking sector (percentage of GDP), 2005-2014**

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
China	133.6	132.7	126.7	119.8	143.1	143.6	142.1	150.8	157.6	169.2
Japan	317.9	309.6	299.1	302.0	330.9	328.5	338.1	348.0	366.5	373.8
Mongolia	26.6	20.0	28.2	31.8	29.8	25.9	34.0	25.8	58.4	67.2
Republic of Korea	125.5	138.5	143.6	158.7	157.4	151.0	153.2	155.8	155.8	162.4
Russian Federation	20.8	22.4	25.5	24.4	34.1	37.7	39.6	42.7	48.7	52.4

Source: World Bank, World Bank Open Data website. Available from <http://data.worldbank.org> (accessed 18 September 2016).

## 1.1. Current state of financial development in East and North-East Asia

### Banking sector

One of most commonly used indicators for banking sector development is the ratio of domestic credit provided by the banking sector over GDP. In the ENEA subregion, Japan has by far the most developed banking sector. ENEA countries, in general, have a financial system that is more dependent on the banking sector than on capital markets, where the levels of domestic credit provided by the banking sector over the GDP ratio remains higher than market capitalization over GDP (see table 16). This trend is partially due to the economic growth model pursued by the subregional economies. During early stages of development, Governments typically hold a tight rein over the financial industry and particularly the banking sector in order to provide key industries with capital at low interest rates and with relatively depreciated exchange rates. As a result, rapid economic growth has been achieved, but such policies indirectly impeded the development of direct financial markets, such as bond markets, and led to high reliance on the banking sector. The indicators for Mongolia and the Russian Federation show that the banking sector is still relatively underdeveloped.

In the meantime, corporate financing is becoming less dependent on the banking sector, as many of the large corporations are able to raise funds through direct financing. The information asymmetry that existed previously in financial markets has, in many ways, been addressed by rapid developments in information technology, contributing to lowering financial transaction costs and concurrently the need for intermediation by banks. As a result, trends in banking services have moved towards retail banking from corporate banking.

### Capital market

Several indicators are commonly used to examine capital market development. The first indicator is the number of listed firms (see table 17). Among ENEA countries, Japan has the highest number of listed firms in the ENEA

**Table 16. Number of domestic firms listed in stock markets, 1995-2015**

	Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
East and North-East Asia	China	323	1 086	1 377	1 421	1 530	1 604	1 700	2 063	2 342	2 494	2 489	2 613	2 827
	Japan	1 714	2 561	3 279	3 362	3 844	3 299	3 208	3 553	3 961	3 470	3 408	3 458	3 504
	Mongolia	461	410	392	386	384	376	358	336	332	329	-	-	-
	Republic of Korea	721	1 308	1 620	1 694	1 767	1 789	1 778	1 781	1 792	1 767	1 798	1 849	1 948
	Russian Federation	170	249	296	309	328	314	279	345	327	276	261	254	251
Selected countries outside ENEA	France	450	808	885	717	707	966	941	901	893	862	500	495	490
	Germany	678	1,022	648	656	658	638	601	571	670	665	639	595	555
	United Kingdom	2 078	1 904	2 759	2 913	2 588	2 584	2 179	2 056	1 987	1 879	1,857	1 858	-
ENEA	United States	7 671	7 524	5 143	5 133	5 130	5 603	4 401	4 279	4 171	4 102	4 180	4 369	4 381

Source: World Bank, World Bank Open Data website. Available from <http://data.worldbank.org> (accessed 18 September 2016).

Note: Data for the Democratic People's Republic of Korea are not available.

**Table 17. Market capitalization of listed companies (percentage of GDP), 1995-2015**

	Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
East and North-East Asia	China	5.7	48.2	34.4	88.9	176.7	61.3	99.0	78.9	45.2	43.7	41.6	58.0	75.4
	Japan	68.8	66.7	103.6	108.5	102.2	66.4	67.1	74.6	60.0	61.8	92.6	95.3	118.7
	Mongolia	1.9	3.2	1.8	3.3	14.5	7.2	9.4	15.2	15.2	10.5	-	-	-
	Republic of Korea	32.5	30.6	80.0	82.5	100.1	49.4	92.7	99.5	82.7	96.5	94.6	85.9	89.4
	Russian Federation	4.0	15.0	71.8	106.8	115.6	23.9	70.5	65.9	41.8	43.4	34.5	19.0	29.7
Selected countries outside ENEA	France	32.4	105.7	79.8	104.5	104.1	51.0	73.2	72.8	54.8	68.0	81.9	73.7	86.2
	Germany	22.3	65.2	42.7	54.6	61.3	29.6	38.0	41.9	31.6	42.1	51.7	44.9	51.1
	United Kingdom	113.9	166.4	126.8	146.9	130.2	66.3	121.1	129.0	112.0	115.5	-	-	-
ENEA	United States	89.5	146.9	129.6	140.2	137.8	79.7	104.6	114.5	100.8	115.5	144.2	151.8	139.7

Source: World Bank, World Bank Open Data website. Available from <http://data.worldbank.org> (accessed 18 September 2016).

Note: Data for the Democratic People's Republic of Korea are not available.

stock market – 3,504 at the end of 2015, which is to be expected in view of the fact that Japan has the longest history of capital market development in the ENEA subregion. Although China was far behind in capital market development compared with Japan and the Republic of Korea, the number of listed firms in China's stock market increased rapidly after 2000 and has exceeded the Republic of Korea since 2010 due to its opening of financial markets and subsequent reforms allowing different investor classes both foreign and domestic to participate in the stock market. In comparison, the number of listed firms in the Mongolian and the Russian Federation stock markets has remained low at about 300 each.

Stock market capitalization over GDP (see table 18) and the value of stocks traded over GDP (see table 19) directly measure stock market activity. Japan and the Republic of Korea have the highest ratios of stock market capitalization over GDP in the ENEA subregion, mainly as a result of the high degree of openness of the capital account and, in the case of the Republic of Korea, the strong growth of some of the global conglomerates listed in the stock market. At the end of October 2016, the share of foreign ownership of domestic stocks was about 30 per cent of the total, which is similar to the levels seen in Japan.

In view of the economies of scale in China and Japan, there is still large potential for further stock market development in these countries amid the continuing downward trend brought about by the global financial crisis. The long-term sluggishness of economic activity has had a negative effect on the Japanese stock market, mainly in lowering liquidity. As for China, almost half of market capitalization is owned by State-owned enterprises, and the Government still exerts strict control over the domestic financial market. The Russian Federation's investment climate has improved recently but global investors still regard it as a higher risk than China, Japan and the Republic of Korea.

Bond market indicators include the ratio of the outstanding amount of government bonds and corporate bonds over GDP, which represents the relative size and development of bond markets in each economy. Table 19 shows that Japan's government bond market grew remarkably in the 2000s, reaching almost 200 per cent of GDP, compared

**Table 18. Stocks traded, total value (percentage of GDP), 1995-2015**

	Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
East and North-East Asia	China	6.8	59.9	25.8	59.9	221.2	120.0	177.0	133.0	102.4	68.9	81.1	115.5	361.9
	Japan	23.1	56.9	109.3	143.5	149.1	121.2	83.3	77.9	70.5	60.5	123.9	105.4	135.1
	Mongolia	0.1	0.7	0.1	0.3	1.3	0.9	0.4	0.7	0.4	0.3	-	-	-
	Republic of Korea	33.1	190.2	133.9	132.4	175.8	146.3	175.3	148.6	169.1	123.8	101.9	91.0	133.8
	Russian Federation	0.1	7.8	20.9	52.0	58.1	33.9	55.8	52.4	60.2	36.3	10.6	7.9	8.8
Selected countries outside ENEA	France	22.6	79.2	69.3	107.7	128.4	111.7	50.7	55.4	51.5	42.0	39.4	41.3	-
	Germany	22.1	54.9	61.7	82.9	97.9	82.9	37.8	41.2	46.9	34.7	35.0	32.8	43.0
	United Kingdom	41.3	118.5	172.8	164.2	348.4	232.4	147.4	124.9	114.7	95.2	61.8	78.8	-
	United States	66.7	309.8	164.3	240.1	294.3	434.9	324.1	203.5	198.2	132.2	199.5	224.7	230.7

Source: World Bank, World Bank Open Data website. Available from <http://data.worldbank.org> (accessed 18 September 2016).

Note: Data for the Democratic People's Republic of Korea are not available.

**Table 19. Outstanding amount of government bonds (percentage of GDP), 2005-2014**

	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
East and North-East Asia	China	15.1	13.9	18.3	15.8	16.7	16.7	16.1	15.5	16.5	16.9
	Japan	126.9	133.3	141.4	165.8	164.0	183.1	190.2	177.0	183.7	178.3
	Republic of Korea	25.5	29.1	27.5	23.7	33.4	31.1	30.4	34.3	35.7	34.5
	Russian Federation	9.2	8.0	6.6	4.8	7.5	7.6	6.9	7.7	8.1	6.0
Selected countries outside ENEA	France	51.8	55.9	56.8	53.4	68.4	69.4	67.2	76.9	80.5	73.7
	Germany	44.5	49.8	50.0	44.4	54.8	59.8	55.4	61.6	60.5	51.9
	United Kingdom	31.8	35.9	34.6	34.0	60.1	68.4	78.7	85.0	87.6	91.8
	United States	51.8	50.8	51.0	58.9	71.1	79.6	83.3	86.9	88.4	88.7

Source: World Bank, World Bank Open Data website. Available from <http://data.worldbank.org>; and Bank for International Settlements, BIS statistics. Available from [www.bis.org/statistics](http://www.bis.org/statistics) (accessed 18 September 2016).

Note: Data for the Republic of Korea may include overlaps between international debt securities and domestic debt securities statistics.

**Table 20. Outstanding amount of corporate bonds (percentage of GDP), 2005-2014**

	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>East and North-East Asia</b>	China	1.8	2.7	3.1	4.3	7.1	8.7	10.4	14.6	16.1	18.3
	Japan	14.8	15.1	17.4	19.2	17.8	18.0	16.8	14.7	14.7	14.3
	Republic of Korea	27.4	24.9	22.4	22.1	36.1	36.4	36.9	44.5	46.3	39.1
	Russian Federation	4.6	5.6	6.2	5.5	9.2	8.1	7.1	7.7	8.8	7.8
<b>Selected countries outside ENEA</b>	France	14.8	15.1	14.3	13.5	17.7	18.3	17.7	21.8	22.5	22.1
	Germany	4.1	4.6	5.1	4.7	5.1	4.9	3.4	4.2	4.7	4.0
	United Kingdom	19.4	20.2	18.5	14.9	23.3	1.6	22.1	24.9	24.8	19.4
	United States	22.8	22.6	23.1	24.0	25.7	26.4	26.7	27.8	28.6	29.3

Source: World Bank, World Bank Open Data website. Available from <http://data.worldbank.org>; and Bank for International Settlements, BIS statistics. Available from [www.bis.org/statistics](http://www.bis.org/statistics) (accessed 18 September 2016).

Note: Data for Republic of Korea may include overlaps between international debt securities and domestic debt securities statistics.

with those in other advanced economies in the world. The government bond markets in China and the Republic of Korea are still less developed in magnitude compared with those of advanced European countries. The Russian Federation's government bond market has grown steadily in recent years, but its size remains below 10 per cent of GDP. The government bond market is non-existent in Mongolia.

Corporate bond markets are, in general, much less developed in the ENEA subregion compared with government bond markets (see table 20). The indicators in Japan and China remain quite low at between 10 per cent and 20 per cent. It is notable that the Republic of Korea shows much higher levels than Japan and some advanced European countries. The table further shows that the outstanding amount of corporate bonds over GDP is similar to that of government bonds in the Russian Federation.

One of the major reasons for the less developed bond markets in the ENEA subregion is the past policy of bank-based economic development. Consequently, corporate bonds were not utilized, and government bonds have been traded mostly in secondary markets.

## 1.2. Current state of financial integration in East and North-East Asia

Frequently used indicators for measuring financial integration can be categorized into three groups. The first group of indicators are quantity-based and directly measure cross-border activities in each financial market. They include cross-border investment positions in households, firms and financial institutions, the number of foreign banks in the domestic market and the number of foreign firms listed in domestic capital markets. The second group are price-based indicators, built on the notion that the law of one price should hold in equilibrium between assets with the same risks and cash flows, irrespective of the residence of holders or issuers of the assets. They include differentials in interest rates, the speed of convergence ( $\beta$ -convergence) in credit and bond market yields and correlation of stock market returns. The third group consists of indicators based on institutional integration, such as regulation of dispute resolution and expected duration of a collection procedure for a so-called bounced cheque. The analysis presented here relies mainly on quantity-based and price-based indicators showing the more basic and fundamental aspects of financial integration in the ENEA subregion.

### Banking sector integration

Among ENEA countries, foreign banks are located in China, Japan, the Republic of Korea and the Russian Federation (see table 21).<sup>33</sup> Even in these countries, foreign banks from other ENEA countries are few compared with those from non-ENEAL countries. In particular, foreign banks from the United States and Europe are dominant in the ENEA domestic banking sector. In Japan, of 197 banks, 56 are foreign, and only 11 banks are from other ENEA countries (5 from China and 6 from the Republic of Korea). In the Republic of Korea, of 57 banks, 39 are foreign, among which 9 banks are from other ENEA countries (5 from China and 4 from Japan). In the case of China, of 154 banks, 41

<sup>33</sup> The numbers need to be interpreted with caution as differences in each country's banking system exist. For example, a nationwide banking system is dominant in the Republic of Korea, where among the 18 domestic banks, 12 banks have branches nationwide; whereas, foreign banks operating in the Republic of Korea often have very few branches. Japan and China are similar in this context.

**Table 21. Foreign bank participation in domestic market, 2015**

Foreign bank from	China	Japan	Democratic People's Republic of Korea	Mongolia	Republic of Korea	Russian Federation
China		9	..	-	6	..
Japan	1		..	-	4	..
Democratic People's Republic of Korea	-	-		-	-	..
Mongolia	-	-	..		-	..
Republic of Korea	1	7	..	-		..
Russian Federation	1	-	..	-	-	
ENEASubregion total	3	16	..	-	10	..
United States	5	10	..	-	8	..
Europe	20	13	..	2	10	..
Others	14	17	..	-	11	70
Foreign banks total (a)	42	56	..	2	39	70
Domestic banks (b)	162	141	17	15	18	634
Total (a+b)	204	197	17	17	57	704

Source: PwC, *Banking and Finance in China: The Outlook for 2015*. Available from [www.pwccn.com/webmedia/doc/635585738589999909\\_bfic\\_2015.pdf](http://www.pwccn.com/webmedia/doc/635585738589999909_bfic_2015.pdf); Financial Services Agency of Japan; Ministry of Unification of the Republic of Korea; Financial Services Commission of the Republic of Korea; Invest Mongolia Agency; the Bank of Russia.

Note: Domestic banks in China include large commercial banks, joint-stock commercial banks and city commercial banks (as of 2013); domestic banks in Japan include city and trust banks (as of 2 November 2015); data for the Republic of Korea are current as of 30 November 2015; data for the Russian Federation are current as of 17 November 2015; breakdown data of foreign banks in the Russian Federation are not available.

are from foreign countries, among which only 2 banks are from other ENEA countries (1 from Japan and 1 from the Russian Federation). In the Russian Federation, it has been reported that 77 foreign banks were operating in the country as of the end of 2015, but information on foreign banks, including their countries of origins, is limited. As of the end of 2015, no foreign bank entered into the Democratic People's Republic of Korea and Mongolia.

The reasons for low levels of banking sector integration among ENEA countries are mainly twofold. First, the banking service itself has changed its business structure from corporate banking towards retail banking. In this environment, global banks have to compete with local banks for retail customers, who rarely make a distinction and perhaps even have a preference for domestic banks. Therefore, global banks are less attractive to local customers unless the banks provide very privileged services, which are costly and rather profitless for global banks.

Second, ENEA countries have very diverse restrictions, which are sometimes discriminatory against foreign banks. For example, foreign investors' shareholding in a bank can only reach up to 20 per cent in China, while it can be 100 per cent foreign owned in Japan. Authorized business areas are also very different from country to country; banks are not allowed to invest in equities in China, while they are partially allowed to do so in the Republic of Korea. These barriers make it difficult for global banks to operate in ENEA countries, resulting in the banking sector being less integrated.

### Capital market integration

As of 2015, the stock markets in the ENEA subregion were fairly non-integrated (see table 22). In fact, ENEA countries' capital markets are considered to be in the early stages of globalization. In Japan, of the 3,512 listed companies, 8 companies originated from foreign countries and only 1 company from another ENEA country (the Republic of Korea). In the Republic of Korea, of the 1,951 listed companies, only 3 were foreign, and they originated from other ENEA countries (1 from China and 2 from Japan). There were no foreign listed companies in China, Mongolia and the Russian Federation.

The lack of initial public offerings (IPOs) by foreign firms in ENEA economies stems from the significantly higher financing cost of stock markets compared with other ways of financing, such as remittances from parent companies. Additionally, IPO requirements as well as local regulations for firms listed in the stock market place an added burden on the firm as they need to produce reporting based on different sets of accounting principles as set out by the local government.



Another way of assessing the state of capital market integration in the ENEA subregion is through the international portfolio investment positions released by the IMF Coordinated Portfolio Investment Survey (CPIS) database. As of the end of 2014, the asset-side positions (total assets, equities and debt securities) in each country except China (data on China are not available in CPIS) show that ENEA countries are much less integrated with each other than with European countries and the United States (see table 23). For example, the portion of assets held by ENEA countries in Japan's portfolio investment is only 1.3 per cent, while the portions of assets held by European countries and the United States are 32.2 and 36.3 per cent, respectively.

**Table 22. Number of foreign firms listed in domestic stock markets, at end of 2015**

Country or region	China	Japan	Democratic People's Republic of Korea	Republic of Korea	Mongolia	Russian Federation
China	-	-	-	1	-	-
Democratic People's Republic of Korea	-	-	-	-	-	-
Japan	-	-	-	2	-	-
Mongolia	-	-	-	-	-	-
Republic of Korea	-	1	-	-	-	-
Russian Federation	-	-	-	-	-	-
ENEA total	-	1	-	3	-	-
United States	-	6	-	1	-	-
Europe	-	1	-	-	-	-
Others	-	-	-	-	-	-
Foreign firms total	-	8	-	4	-	-
Domestic firms	2 827	3 504	-	1 948	329	251
Total	2 827	3 512	-	1 952	329	251

Source: World Bank, World Bank Open Data website. Available from <http://data.worldbank.org> (accessed 18 September 2016); data for Mongolia and the Russian Federation are from 2012.

**Table 23. Portfolio investment assets, at end 2014<sup>a</sup>**

(Millions of United States dollars, and percentage)

Country or region	Total investment				Equity				Debt securities			
	Japan	Republic of Korea	Mongolia	Russian Federation	Japan	Republic of Korea	Mongolia	Russian Federation	Japan	Republic of Korea	Mongolia	Russian Federation
China	18 927	10 858	40	4	13 703	8 206	3	4	5 224	2 652	37	0
	0.6%	5.3%	14.2%	0.0%	1.2%	5.7%	1.3%	0.1%	0.2%	4.2%	49.2%	0.0%
Japan	0	9 381	0	1	0	7,251	0	1	0	2 130	0	0
	0.0%	4.5%	0.1%	0.0%	0.0%	5.1%	0.2%	0.0%	0.0%	3.3%	0.0%	0.0%
Democratic People's Republic of Korea	0	0	0	0	0	0	0	0	0	0	0	0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Republic of Korea	25 277	0	3	3	8 721	0	3	3	16 556	0	0	0
	0.7%	0.0%	1.0%	0.0%	0.7%	0.0%	1.3%	0.1%	0.7%	0.0%	0.0%	0.0%
Mongolia	233	29	0	1	0	0	0	0	233	29	0	1
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russian Federation	1,187	577	1	0	589	520	0	0	598	57	0	0
	0.0%	0.3%	0.2%	0.0%	0.0%	0.4%	0.2%	0.0%	0.0%	0.1%	0.3%	0.0%
ENEA subregion	45 624	20 844	44	9	23 013	15 977	6	7	22 611	4 867	37	1
	1.3%	10.1%	15.5%	0.0%	1.9%	11.2%	3.0%	0.2%	1.0%	7.7%	49.6%	0.0%
United States	1 233 568	83 700	32	1 972	361 435	64 199	30	569	872 133	19 501	2	1 402
	36.3%	40.5%	11.4%	3.5%	30.4%	45.0%	14.6%	12.8%	39.5%	30.7%	2.8%	2.7%
Europe <sup>b</sup>	1 093 262	55 617	18	40 103	281 026	35 006	16	869	812 236	20 611	1	39 234
	32.2%	26.9%	6.3%	70.8%	23.6%	24.5%	8.0%	19.6%	36.8%	32.4%	1.8%	75.2%
Total <sup>c</sup>	2 372 454	160 161	93	42 083	665 474	115 181	53	1 446	1 706 980	44 979	41	40 637
	69.8%	77.6%	33.3%	74.3%	55.9%	80.7%	25.6%	32.6%	77.3%	70.7%	54.2%	77.9%
World total	3 399 008	206 418	280	56 630	1 190 780	142 795	205	4 433	2 208 228	63 623	75	52 197

Source: IMF, Coordinated Portfolio Investment (CPIS) database. Available from <http://data.imf.org> (accessed 18 November 2015).

<sup>a</sup> Data for investment by China and the Democratic People's Republic of Korea are not available.

<sup>b</sup> Sum of Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland and United Kingdom.

<sup>c</sup> Sum of ENEA countries, Europe and United States.



**Table 24. Differences in long-term government bond yields, 2005-2014***(Percentage per annum)*

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
China	1.86	2.54	3.51	4.03	1.59	2.64	5.14	4.31	4.98	4.80	
Japan	1.35	1.74	1.67	1.47	1.33	1.15	1.1	0.84	0.69	0.52	
Republic of Korea	4.95	5.15	5.35	5.57	5.17	4.77	4.2	3.45	3.28	3.19	
Russian Federation	8.11	6.98	6.72	7.52	9.87	7.83	8.06	8.15	7.33	8.46	
United States	4.29	4.79	4.63	3.67	3.26	3.21	2.79	1.8	2.35	2.54	
<b>Within ENEA subregion</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Average</b>
China - Japan	0.51	0.80	1.84	2.56	0.26	1.49	4.04	3.47	4.29	4.28	
Republic of Korea - Japan	3.60	3.41	3.68	4.10	3.84	3.62	3.10	2.61	2.59	2.67	
Russian Federation - Japan	6.76	5.24	5.05	6.05	8.54	6.68	6.96	7.31	6.64	7.94	
Average	3.62	3.15	3.52	4.24	4.21	3.93	4.70	4.46	4.51	4.96	
Standard deviation	3.13	2.23	1.61	1.75	4.15	2.61	2.01	2.50	2.03	2.70	2.47
<b>ENEA - United States</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Average</b>
China–United States	-2.43	-2.25	-1.12	0.36	-1.67	-0.57	2.35	2.51	2.63	2.26	
Japan–United States	-2.94	-3.05	-2.96	-2.20	-1.93	-2.06	-1.69	-0.96	-1.66	-2.02	
Rep. of Korea–United States	0.66	0.36	0.72	1.90	1.91	1.56	1.41	1.65	0.93	0.65	
Russian Fed.–United States	3.82	2.19	2.09	3.85	6.61	4.62	5.27	6.35	4.98	5.92	
Average	-0.22	-0.69	-0.32	0.98	1.23	0.89	1.83	2.39	1.72	1.70	
Standard deviation	3.13	2.41	2.20	2.55	3.99	2.90	2.87	3.03	2.80	3.32	2.92

Source: OECD interest rate data. Available from <https://data.oecd.org/interest> (accessed 18 November 2015).

Note: Long-term government bonds refer to government bonds maturing in 10 years; for China, short-term interest rates ("money market rate" or "treasury bill rate"), which are based on 3-month money market rates, are used due to their availability.

Due to the subregion's relatively shallow securities markets and small secondary markets, Asian countries have generally preferred to invest in "safer" dollar-denominated assets, such as United States Treasury bonds. As a result, the assets invested by Asian countries in financially advanced countries or markets with less risk are reinvested in Asia by the advanced countries. In considering this phenomenon, it is not surprising that investment outside the region is much higher than subregional investment.

The degree of financial integration in the ENEA subregion can also be measured using price indicators, interest rate differences and stock price correlation coefficients. The differences in long-term government bond yields are used to measure the degree of integration in bond markets in the ENEA subregion. For the purpose of comparison, the differences in the same long-term interest rates between ENEA countries and the United States have also been calculated. Table 24 shows that the interest rate difference in the ENEA subregion narrowed after it widened during the global financial crisis, but the spread remains larger than in the pre-crisis period. On average, the standard deviation of the differences in long-term government bond yields within the ENEA subregion (on average 2.47) was slightly smaller than that of ENEA-United States (on average 2.92) during the period 2005-2014. Although it is difficult to draw a definite conclusion, the decrease in standard deviation may indicate that long-term government bond markets have become more synchronized and integrated.

The pair-wise correlation coefficients of stock price changes within the ENEA subregion are examined to observe the degree of integration in the ENEA subregion's stock markets. Here, the values of the ENEA subregion with those of ENEA countries and the United States, and the ENEA subregion and Germany are also assessed for comparison (see table 25). The correlation coefficients of stock prices within the ENEA subregion are generally larger than those of the ENEA subregion and the United States, but smaller than those of the ENEA subregion and Germany. The correlation coefficients of all three groups increased over the period, which infers that stock markets have become increasingly integrated subregionally and globally.

**Table 25. Correlation coefficients of stock price indices within East and North-East Asia**

	China	Japan	Republic of Korea	Mongolia	Russian Federation	United States	Germany	
2000	China	1		0.01	0.02	-0.08	-0.03	
	Japan	-0.02	1	-0.06	0.21	0.04	0.18	
	Republic of Korea	0	0.47	1	-0.08	0.23	0.09	
	Mongolia				1	0.04	-0.01	
	Russian Federation					1	0.12	
	United States						1	
	Germany							1
	Within ENEA				0.08			
	ENEA-Germany				0.09			
	ENEA-United States				0.03			
2005	China	1		0.03	0.1	0	0.01	
	Japan	0.08	1	0.12	0.31	0.12	0.33	
	Republic of Korea	0.15	0.52	1	0.12	0.29	0.29	
	Mongolia				1	-0.04	0.04	
	Russian Federation					1	0.06	
	United States						1	
	Germany							1
	Within ENEA				0.17			
	ENEA-United States				0.08			
	ENEA-Germany				0.2			
2010	China	1		0.09	0.28	0.2	0.27	
	Japan	0.33	1	0.02	0.28	0.24	0.3	
	Republic of Korea	0.4	0.68	1	0	0.38	0.33	
	Mongolia				1	-0.02	0.01	
	Russian Federation					1	0.48	
	United States						1	
	Germany							1
	Within ENEA				0.24			
	ENEA-United States				0.24			
	ENEA-Germany				0.3			
2011	China	1		0.12	0.16	0.1	0.17	
	Japan	0.36	1	0.1	0.19	0.13	0.26	
	Republic of Korea	0.41	0.59	1	0	0.35	0.33	
	Mongolia				1	-0.03	-0.06	
	Russian Federation					1	0.55	
	United States						1	
	Germany							1
	Within ENEA				0.23			
	ENEA-United States				0.19			
	ENEA-Germany				0.28			

Source: ESCAP calculations based on each country's stock price index

Note: The correlation coefficients were calculated with daily changes in each country's stock price index: China: SHANGHAI SE COMPOSITE; Germany: DAX 30 PERFORMANCE; Japan: NIKKEI 225 STOCK AVERAGE; Mongolia: MSE TOP INDEX; Republic of Korea: KOREA SE COMPOSITE (KOSPI); Russian Federation: RUSSIAN MICEX INDEX; and United States: NYSE COMPOSITE.

### 1.3. Policy recommendations for East and North-East Asia

There are a number of benefits to be gained from increasing financial integration. Financial integration could generate growth of domestic financial systems through the intensification of competition and the importation of financial services (Agénor, 2003). In addition, financial integration expands investors' opportunities for portfolio diversification and provides the potential for achieving higher risk-adjusted rates of return. Investors, then, would be able to mobilize more savings through productive investments, thereby increasing total factor productivity and

accelerating economic growth. To harness this potential, the subregional economies have started to carefully ease restrictive policies hampering financial market development. For example, in China significant progress has been made in liberalizing bank lending rates, expanding the foreign investment quota and developing financial products (Fitschen, 2014).

In addition to these national efforts, ENEA countries could draw further lessons from the ASEAN capital market integration programme, which calls for the following actions (Kawai and Morgan, 2014): (a) achieve greater harmonization in capital market standards in the areas of offering rules for debt securities, disclosure requirements and distribution roles; (b) facilitate mutual recognition arrangements for cross recognition of qualifications, education and experience of market professionals; (c) achieve greater flexibility in language and governing law requirements for securities issuance; (d) enhance withholding tax structure to promote the broadening of the investor base; and (e) facilitate market-driven efforts to establish exchange and debt market linkages, including cross-border capital-raising activities.

At the same time, in recognizing that financial market deregulation also raises the risk of financial market instability, these measures must go hand in hand with stronger micro- and macroprudential supervision and safety nets.

## 2. FINANCIAL COOPERATION FOR REDUCING RISKS

Developments in financial markets and global integration have the potential to increase instability in financial markets through volatile capital flows. Furthermore, financial integration has the potential to retard the growth of domestic financial markets or even domestic banks, due to possible domination by foreign financial institutions. The stability of the domestic financial market could be seriously threatened if domestic players were to be replaced by foreign competition. Boyd and Smith (1992) argued that financial integration in States with weak institutions and policies actually induces capital outflows from capital-scarce countries to capital-abundant countries with better financial institutions.

For this reason, some countries in the subregion have imposed tighter restrictions on capital flows and bond markets, such as quotas, investor registration, foreign exchange control and higher taxes, than other industrialized regions. In many ways, following the experience of the Asian financial crisis of 1997/98, the subregion has adopted a more precautionary approach in determining the balance between financial stability and financial market development.

Nonetheless, market forces are increasingly pushing for greater financial market development and integration in the ENEA subregion, and reducing systemic financial risks through regional cooperation is therefore a key prerequisite for protecting the economy from the impacts of external financial vulnerabilities.

### 2.1. Assessing financial market risk in East and North-East Asia

The possibility of large reversals of short-term capital flows raises the risk that borrowers may face costly “liquidity runs” and trigger balance-of-payment crises that are not based on economic fundamentals.

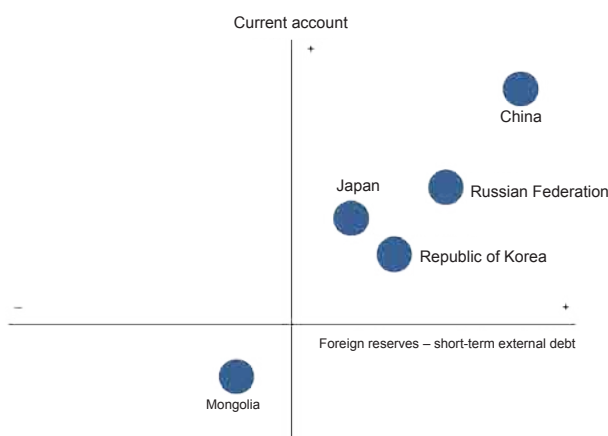
One of the measures for looking at external vulnerability developed by ESCAP<sup>34</sup> can be used to examine the level of short-term debt relative to the borrowing country’s international reserves. The higher the relative debt, the greater is the perceived risk. In the ENEA subregion, Mongolia has the highest external vulnerability, while China has the lowest (see figure 28).

In the case of the Republic of Korea, which is ranked as having the second highest external vulnerability due to its relatively small and open capital markets, there have been a number of episodes of volatile exchange rates and massive outflows of capital. During the recent global financial crisis for example, despite holding large amounts of

---

<sup>34</sup> The vulnerability yardstick measures short-term debt over international reserves. This methodology is discussed in the Economic and Social Survey of Asia and the Pacific 2014.

**Figure 28. External vulnerability in East and North-East Asia, 2014**



Source: World Bank, central banks and financial institutions in each country.

foreign exchange reserves (sixth largest in the world at the time), the sudden capital outflow and sharp currency depreciation was stabilized only through the securing of a \$30 billion currency swap line.

## 2.2. Subregional actions for reducing financial market risks

The outbreak of the Asian financial crisis in July 1997 and the recent experiences of the global financial crisis have created a strong desire in the subregion to strengthen the financial architecture for cooperation. This desire is driven by a common understanding that: (a) the subregion is highly susceptible to contagion from financial crises; (b) Asian countries cannot completely depend on IMF; (c) domestic financial systems in most countries are fragile; and (d) regional trade and investment need to expand to support growth and development.

As the largest economies in the Asia-Pacific region, ENEA countries, particularly China, Japan and the Republic of Korea, have led several regional initiatives on financial cooperation for the early detection and management of financial and macroeconomic vulnerabilities. These initiatives include the Chiang Mai Initiative and its amendment (CMIM), the Economic Surveillance System and a number of bilateral currency swap agreements.

### Chiang Mai Initiative and amended Chiang Mai Initiative Multilateralization Agreement

The Chiang Mai Initiative Multilateralization (CMIM) is one of the most noteworthy outcomes of the efforts by Governments in the Asia-Pacific region to create a financial mechanism that would help the region to address balance-of-payment crises by injecting foreign currency liquidity to counter short-term capital flows. The total size of the pooled fund under the amended agreement in 2014 was \$240 billion, with 80 per cent of the total funding provided by China, Japan and the Republic of Korea.

While CMIM is a promising mechanism, the amount of pooled funds is not large enough to act as a credible deterrence against speculative attacks. For example, the amount of funding available to the Republic of Korea would be about \$38.4 billion under CMIM, while the amount available under the bilateral swap agreement with China alone is about \$56 billion. In addition, a key limitation of CMIM is still the high dependence on the IMF programme. Only 30 per cent of the credit line is de-linked with IMF, meaning that members can draw only up to 30 per cent of their maximum borrowing amount without triggering IMF lending conditions.

### Economic surveillance system

The ASEAN Plus Three in 2002 launched the Economic Review and Policy Dialogue (ERPD), a rudimentary regional economic surveillance system (Jang, 2011). It was designed to assist in the prevention and management of financial crises through the early detection of vulnerabilities and swift implementation of remedial policy measures.

In 2011, the ASEAN+3 Macroeconomic Research Office (AMRO) was established to complement the ASEAN Plus Three ERPD. AMRO is an independent regional surveillance unit established to monitor and analyse regional economies and support the CMIM decision-making process. It also delivers a consolidated surveillance report with an overall financial assessment of all individual member economies (Jang, 2011).

In order to function in a manner similar to IMF, the level of surveillance regime of AMRO needs significant strengthening. Without strong leadership and clear and credible authority for AMRO, it would be difficult to delegate assessment and to enforce ex-ante conditionality.

In terms of exchange rate coordination, which is at a higher level of monetary cooperation than crisis prevention mechanisms, most experts agree that the region has a long way to go. In addition, the experience of European countries in moving towards monetary integration and the current difficulties in maintaining a single currency have reinforced the notion that national economies need to be strengthened and development gaps narrowed in order to truly benefit from monetary integration.

### 2.3. Policy recommendations for East and North-East Asia

In their current forms, the bilateral swap agreements have been proven to be most effective in times of need, while CMIM has yet to be utilized. For CMIM to develop fully into a credible lender of last resort and deterrence against speculative attacks, CMIM should be strengthened further to meet the following criteria: (a) adequate amount of funds in an accessible financial pool; (b) timely access to relevant information; (c) high-quality analytical expertise; (d) speedy decision-making; (e) impartiality in lending decisions; and (f) effective mechanism for monitoring and enforcing conditionality (McKay and others, 2011). To achieve this, China, Japan and the Republic of Korea, as the largest contributor to CMIM, need to step up their collective leadership role in tackling the many technical and political challenges that lay ahead.

## 3. FINANCIAL COOPERATION FOR BRIDGING INFRASTRUCTURE GAPS

Despite having the largest foreign exchange reserves in the world and traditionally high savings rate (see table 26), the subregional economies still depend on financial mobilization from non-regional institutions. A large proportion of the reserves from the ENEA subregion are held in low-yielding United States Treasury securities because developed regional bond markets are underdeveloped. For instance, more than 50 per cent of the Japanese investment portfolio is used to buy assets in advanced countries, while less than 2 per cent is invested within the ENEA subregion.<sup>35</sup>

**Table 26. Foreign currency reserves held by East and North-East Asian economies**

(As at December 2015)

	Foreign exchange currency reserves (millions of United States dollars)	United States Treasury security holdings (millions of United States dollars)
China	3 606 788	1 246 100
Japan	1 289 634	1 122 400
Russian Federation	390 565	200 200
Republic of Korea	368 023	92 100
Hong Kong, China	358 722	74 600

Source: World Bank, World Development Indicators. Available from <http://data.worldbank.org/indicator>; United States Treasury Department data. Available from <http://ticdata.treasury.gov/publish/mfh.txt>.

Note: United States Treasury securities are held by private as well as public entities (i.e. part of the foreign exchange currency reserves would be held as Treasury Security holdings).

<sup>35</sup> ESCAP calculations based on IMF Coordinated Portfolio Investment Survey, accessed from <http://data.imf.org/?sk=B981B4E3-4E58-467E-9B90-9DE0C3367363&ss=1424963554286> on 11 July, 2013.

A critical element of financial cooperation in the region is therefore establishing a mechanism to intermediate regional savings and investment needs, in particular for funding the development of regional infrastructure. The Asian Infrastructure Investment Bank, if successfully managed, will play a key role in meeting the long-standing demands of regional financial cooperation in many ways. However, further regional dialogue and consensus-building is required to strengthen the region's financial architecture to meet the challenges of financial development and globalization in the coming years.

### 3.1 Infrastructure requirements in the Asia-Pacific region and sources of financing

The linkage between infrastructure and socioeconomic development is very clear. According to a recent report, one dollar spent on infrastructure development could raise GDP by 20 cents in the long run by boosting productivity (McKinsey Global Institute, 2016). In the ENEA subregion, Japan and the Republic of Korea are at the very top in terms of quality of overall infrastructure, including roads, ports, water/sanitation and electricity, while Mongolia and the Russian Federation are below the Asia-Pacific regional average, and China is at approximately the regional average (World Economic Forum, 2014). However, for the Asia-Pacific region as a whole there are still 900 million people without access to water and sanitation, 800 million without access to electricity and 1-2 billion with no access to roads (PricewaterhouseCoopers, 2014). Even in the middle-income countries in the Asia-Pacific region (Indonesia, Malaysia, Philippines, Singapore and Thailand) the infrastructure stock was found to be 30 per cent below the benchmark of 70 per cent of GDP (McKinsey Global Institute, 2013). In fact, for the region as a whole, the McKinsey Report (2016) contained an estimate that the total infrastructure needs will be \$48 trillion between 2016 and 2030.

Public sector financing for infrastructure projects has traditionally been the most common and significant source of infrastructure financing in the Asia-Pacific region. It is estimated that the public sector makes up 70 per cent of infrastructure financing, the private sector 20 per cent and multilateral agencies 10 per cent (Das and James, 2013). However, with public sector financing coming under increasing pressure, many countries have been underinvesting in infrastructure. The gap between demand for infrastructure funding and available public finances is increasingly being bridged with private financing. Also, in the Asia-Pacific region, with the establishment of the New Development Bank and AIIB, expectations are that there will be an uptick in infrastructure investment by multilateral banks in the coming years.

### 3.2. Regional actions on financial cooperation

The development of the Asian Bond Markets Initiative (ABMI) was triggered by the Asian financial crisis of 1997/98. One of the major issues of that crisis was the currency and maturity mismatch (Ampri, 2013).

To address the problems of currency/maturity mismatch, ABMI intends to: (a) enable the private sector in Asia to raise and invest long-term capital without maturity and currency risks; (b) facilitate access to markets via a wider variety of bond issuers in Asia; (c) develop efficient and liquid bond markets in Asia; (d) foster a high degree of financial independence in Asia; and (e) support infrastructure development in Asia (Ampri, 2013). The ABMI Working Group was established to address key bond market development issues; subsequently it has actively promoted ABMI to meet regional needs for medium and long-term financial resources and to enable further economic development (Jang, 2011). There have been a number of milestone developments within the ABMI framework, such as the establishment of the Credit Guarantee and Investment Facility in 2009 to support the issuance of local currency-denominated corporate bonds. However, there are still many challenges in the path of a fully functioning Asian bond market, including Asian currencies' inconvertibility, varying degrees of economic development, different legal and regulatory frameworks for capital markets and a weak investor base (Lee, 2012).

#### Asian bond funds

Two Asian bond funds were initiated by the Executives' Meeting of East Asia-Pacific Central Banks in 2003, with the aim of broadening and deepening regional and domestic bond markets in Asia.<sup>36</sup> However, there were impediments,

---

<sup>36</sup> For further information, see [www.hkma.gov.hk/gdbook/eng/a/asian\\_bond\\_fund.shtml](http://www.hkma.gov.hk/gdbook/eng/a/asian_bond_fund.shtml).

such as excessive regulatory hurdles for non-resident issuers and investors and investing only in dollar-denominated Asian bonds, which defeated the purpose of promoting bond markets in Asia. Consequently, the second phase of the Asian bond funds was launched to overcome many of the challenges that faced the first phase. However, the restricted scope of investment, limited to investing in sovereign and quasi-sovereign bonds, is a shortcoming that will have to be addressed in the next phases of the Asian bond funds in order to develop the market for corporate bonds in the region.

### 3.3. Policy recommendations for East and North-East Asia

There are factors in today's financial market that would make raising funds for infrastructure investments easier, including very low long-term interest rates, the establishment of new multilateral development banks and the growth of institutional investors seeking improved balance between risk and return. Also, the demand for large-scale financing for infrastructure projects and climate change mitigation projects offers new opportunities for mobilizing funds through the issuance of bonds. A key factor in drawing investors towards financing infrastructure projects, especially in Asia where the bond market is only just emerging, is the need to adequately address the risks, especially those related to uncertain legal and property rights issues and government transparency issues. Also, owing to the complex legal and financial structure that exists, infrastructure financing entails considerable expertise. In this regard, ENEA countries should share their expertise on developing investable infrastructure projects and help shape the regional financial architecture for cooperating on harmonizing cross-border legal and regulatory frameworks.





# ADDRESSING SHARED VULNERABILITIES

---

---

## 1. ENVIRONMENT

Regional cooperation on environmental issues is unique compared with trade, economic and financial cooperation, which have clear national boundaries and national characteristics. Environment and environment-related issues already connect countries as a result of shared impacts on air, sea, land and underground resources. As a result, subregional environmental agreements share almost two thirds of 500 multilateral environmental agreements.

Owing to their ecological interdependence, inappropriate management of physical and biological interconnections, such as high seas, atmosphere or common pool resources, including international rivers and biodiversity in transboundary borders by one actor, will lead to “shared or mutual vulnerability” of all subregional countries. This situation calls for the countries to pursue collective actions in order to avoid adverse environmental impacts on common pool resources and their shared environment.

Collective action is particularly important in the ENEA subregion, as rapid economic growth has heralded with it a host of large-scale subregional environmental challenges. Meanwhile, environmental cooperation has acted as a major catalyst for institutionalization of regional integration in the subregion.

### 1.1. Ecological interconnections and shared vulnerabilities

#### **Transboundary air pollution**

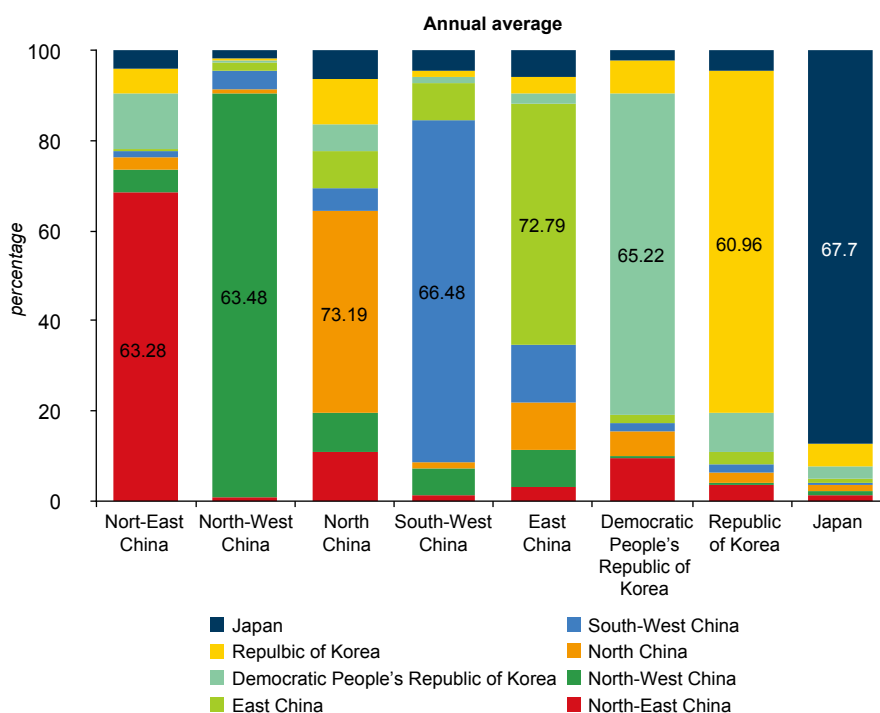
Transboundary air pollution has been recognized as one of the most serious environmental challenges in the subregion due to a range of subregional factors, such as the geographical proximity of ENEA countries, heavy consumption of fossil fuels, insufficiency of abatement technology application and lack of effective policy enforcement. In particular, the combination of meteorological and geographical factors, namely eastward or south-eastward winds during all seasons except summer and the location of emission sources, have contributed significantly to scaling up domestic air pollution and its associated subregional challenges.

Most recently, extremely high levels of particulate matter (PM), which last for relatively short periods of time, have been causing heavy domestic and transboundary environmental impacts and health concerns. A study of source-receptor relations of transboundary air pollution indicated that in 2013 fine particulate matter (diameter of 2.5 microns or less: PM2.5) from foreign sources accounted for 33 and 39 per cent of total concentrations in Japan and the Republic of Korea, respectively (Kim and Lee, 2015). These figures demonstrate the significant level of environmental interconnections among the countries in the subregion (see figure 29).

The long-range movement of dust and sandstorms (DSS) has also contributed to severe environmental impacts along the way from Mongolia and China to the Korean peninsula and Japan. Long-distance transport of dust aerosol particles links the biogeochemical cycles of land, atmosphere and ocean, possibly even influencing the global carbon cycle and having a significant effect on regional radiation balances and human health (ADB, UNCCD, ESCAP and UNEP, 2005) (see figure 30).

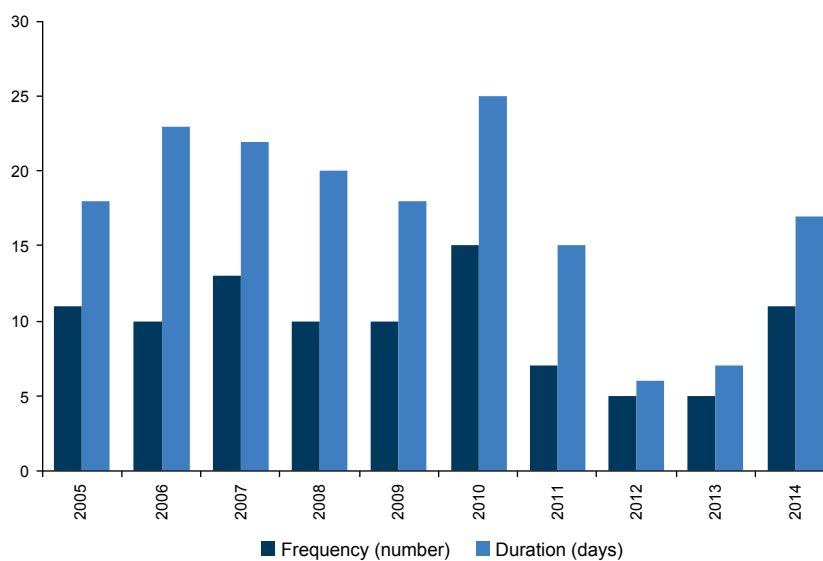
While DSS have been naturally occurring and historically recorded phenomena, they have intensified due to the desertification and land degradation in China and Mongolia. Desertification has had severe impacts on China where about 27 per cent of the total land territory (approximately 2.62 million km<sup>2</sup>) has been adversely affected, mostly in the north-western part of the country. Until the early 2000s, China had been experiencing annual increases in sandy desertification; however, strong policy interventions and technological development since then have reversed the trend (SFA, 2012). About 77 per cent of Mongolia's territory is threatened by desertification and land degradation, including all of its grasslands and pasturelands, and the southern part of the country, which is mostly semi-desert or desert (the Mongolian Gobi Desert). The desertified areas – located along the main route of heavy south-eastward

**Figure 29. Source-receptor relationship of fine particulate matter (2.5 microns or less), 2013**



Source: C.H. Kim and C.J. Lee, "Korea national monitoring activities in 2015". Paper presented at the 18th Expert Meeting on Long-range Transboundary Air Pollutants in Northeast Asia. Incheon, Republic of Korea, 18-20 November 2015.

Note: Each section indicates the share of PM 2.5 contribution from respective external sources; North-East China (Inner Mongol, Liaoning, Jilin and Heilongjiang); North-West China (Xinjiang, Qinghai, Gansu, Shanxi and Ningxia); North China (Beijing, Tianjin, Hebei, Shandong and Shanxi); East China (Shanghai, Chongqing, Henan, Jiangsu, Anhui, Hubei, Hunan, Jiangxi, Zhejiang and Fujian (including Macao, China; and Hong Kong, China)); South-West China (Xizang (Tibet), Sichuan, Yunnan, Guizhou, Guangxi, Guangdong and Hainan).

**Figure 30. Impact of dust and sandstorms from Mongolia and China on the Republic of Korea, 2005-2014**

Source: Statistics Korea database. Available from [www.index.go.kr/potal/main/EachDtlPageDetail.do?idx\\_cd=1395](http://www.index.go.kr/potal/main/EachDtlPageDetail.do?idx_cd=1395) (accessed 18 November 2015).

Note: Frequency measures number of dust and sandstorm (DSS) events occurring per year; duration measures total number of days when DSS events were observed per year.

winds during the spring – have become the source of desertification and land degradation, causing damage not only in these areas but also hundreds and even thousands of kilometres downwind of them.

In addition to being a cross-border issue, transboundary air pollution is also highly technical, requiring considerable human capacity as well as cooperation in data-sharing to generate an accurate picture and inform the decision-making process. With the various existing mechanisms that address transboundary air pollution, such as the North-East Asian Subregional Programme for Environmental Cooperation, the Acid Deposition Monitoring Network in East Asia and the Joint Research Project on Long-range Transboundary Air Pollutants, enhancing cooperation for harmonizing technical assessments and data is a key to formulating an effective way forward.

### Marine environment

As the seas of the ENEA subregion are semi-closed by islands, archipelagos and peninsulas, marine environmental issues tend to occur in an area of overlapping and disputed maritime jurisdictions, hindering and complicating joint environmental management. The subregion's rapid economic development and high population density along coastal areas have also resulted in degradation of the marine environment and depletion of marine resources through coastal development, such as extensive land reclamation, industrial water effluents, oil spills, overfishing and the outflow of pollutants from land sources. Each year, about 200 million tons of domestic sewage flows into the Yellow Sea. With an average depth of 44 metres and slow circulation of water in the Yellow Sea's semi-closed topography, the heavy influx of pollution into it have made the Yellow Sea the most degraded marine area in the world, characterized by drastic declines in biodiversity, fisheries and ecosystem services (UNDP/GEF, 2007).

Four ENEA countries (China, Japan, the Republic of Korea and the Russian Federation) are key players in capture fisheries, having a combined share of about 30 per cent of the world's capture fisheries. The three countries, excluding the Russian Federation, are also among the world's top 15 aquaculture producers. As a result, utilization of marine resources has been a source of ongoing conflict among ENEA countries. There have also been a number of bilateral militarized incidents among these countries, causing the death of military personnel and civilians, all stemming from disputes over fishing vessels.

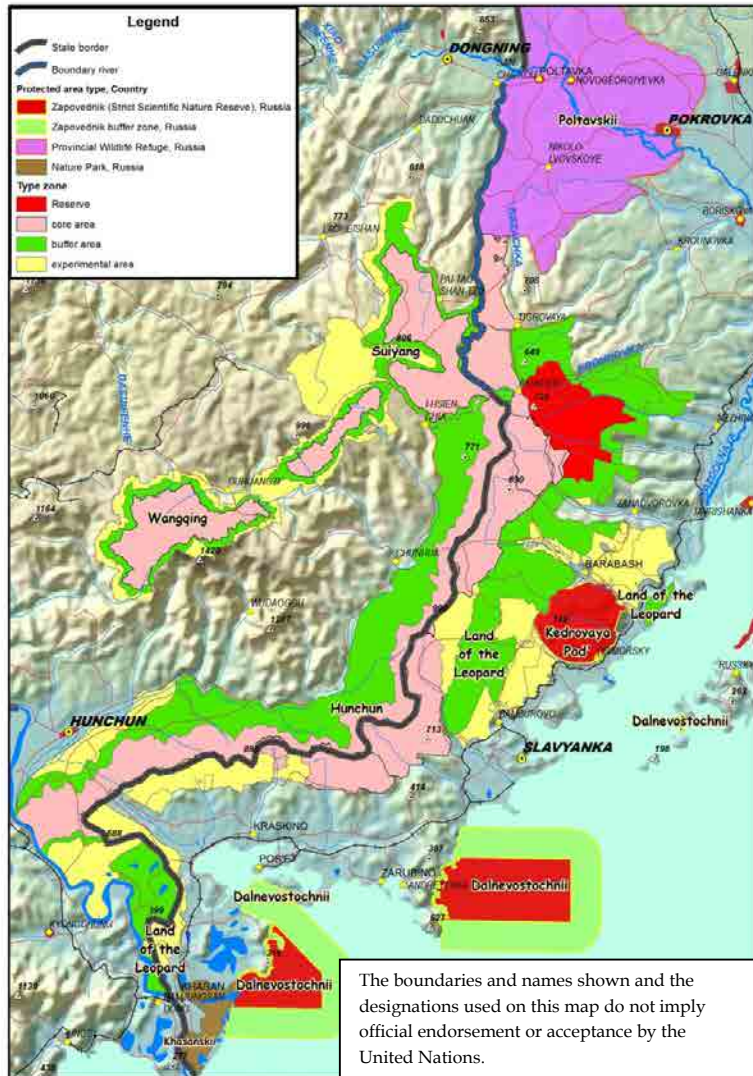
Owing to such immense pressures on the marine resources in the ENEA subregion, conservation of marine ecosystems, especially in coastal areas, is a particular challenge. The close proximity and natural interconnectedness

of the marine and coastal environment implies that sustainable management requires a perspective beyond national boundaries. Instead, sustainable management must consider their natural scale and form as ecosystems. Subregional cooperation can therefore provide an opportunity to explore management more on the scale of the ecosystems and be instrumental in ensuring effective and lasting conservation of marine resources.

### Biodiversity in transboundary areas

Ecosystems in transboundary land areas of the ENEA subregion can be relatively well conserved as they can often remain isolated from intense socioeconomic activity. As a result, large animals and migratory birds are often found in transboundary areas, which become their very few and key habitats. One such example is the habitat of the Amur tiger (*Panthera tigris altaica*) and Amur leopard (*Panthera pardus orientalis*), both classified as critically endangered species under the “Red List” of the International Union for Conservation of Nature. The border areas of China (*Jilin and Heilongjiang provinces*) and the Russian Federation (Primorsky province) serve as key habitats for both of these animals. With regard to Amur leopards, only about 50 individuals are thought to remain in the wild; they are found in or near the border of both countries (see figure 31). As these range areas are not confined within the political border of one country, the animals can move far beyond the national borders; thus, management of human activities has to reflect this aspect in order to ensure the survival of such endangered species.

**Figure 31. Protected areas along the border of China and the Russian Federation**



Source: WWF Russia

Other species of animals that require special cross-border attention are migratory birds. Their habitats also cover ecosystems in both inland and transboundary areas in ENEA countries. Key migratory birds in the ENEA subregion, such as the white-naped crane (*Grus vipio*), hooded crane (*Grus monacha*) and black-faced spoonbill (*Platalea minor*), have breeding and wintering grounds near border areas of China, Mongolia and the Russian Federation, as well as between the Democratic People's Republic of Korea and the Republic of Korea (NEASPEC, 2007). The significance of ecosystems in transboundary areas is also evidenced by the existence of more than 100 protected areas along the international borders among ENEA countries, of which one tenth are categorized as strictly protected areas or national nature reserves.

The terrestrial transboundary habitats in ENEA countries are important as they are relatively undisturbed; many of them are also the only habitats in the world that remain for certain species, such as the Amur tiger. With their transboundary nature, it is obvious that international cooperation across borders is required to ensure the integrity of habitats in maintaining a viable population of the species concerned. On the other hand, habitats that are not physically but ecologically connected, such as those used by migratory birds along a flyway, require special attention. Disturbance or destruction of one can adversely affect others by breaking the chain of habitats that support various life stages of migratory species, hence threatening all species that depend upon such areas. Scientific understanding of migratory birds has been developing in the subregion for decades; while countries in the subregion continue to further such research, it is also important that this knowledge be utilized and that countries cooperate on more coordinated management of these habitats.

## 1.2. Managing shared vulnerabilities and environmental cooperation

In response to the shared environmental challenges facing the subregion, there have been various initiatives to harness cooperation within East and North-East Asia. However, due to geopolitical difficulties in the subregion, most mechanisms tend to be open-ended, non-institutionalized and programme-based. Most of these mechanisms do not constitute an established organizational structure, and secretariats are usually run or hosted by international organizations or national organs of member States. As shown in table 27, such mechanisms include the North-East

**Table 27. Intergovernmental environmental mechanisms in East and North-East Asia**

Framework	Members	Coverage	Governance	Institutional framework
North-East Asian Subregional Programme for Environmental Cooperation (NEASPEC)	All ENEA countries	A, B, C, D, M	Senior officials meeting	Secretariat: ESCAP
Acid Deposition Monitoring Network in East Asia (EANET)	All, except Democratic People's Republic of Korea; and includes South-East Asia	A	Intergovernmental meeting	Secretariat: UNEP
Northwest Pacific Action Plan (NOWPAP)	All, except Democratic People's Republic of Korea and Mongolia	M	Intergovernmental meeting	Secretariat under the auspices of UNEP
Tripartite Environment Ministers Meeting (TEMM)	China, Japan and Republic of Korea	EP, A, B, C1, C2, D, R, W	Environment ministers' meeting	Consultation mechanism/ no secretariat
Joint Research Project on Long-range Transboundary Air Pollutants (LTP)	China, Japan and Republic of Korea	A	Expert meeting	Secretariat: Republic of Korea and working groups
East Asian Biosphere Reserve Network (EABRN)	All ENEA countries	B	Network meeting Secretariat: UNESCO	

Abbreviations: A = air pollution; B = biodiversity; C1 = climate change; C2 = chemicals; D = desertification; M = marine, regional seas, R = resource use; W = water; EP = environmental policy.

Asian Subregional Programme for Environmental Cooperation, the Acid Deposition Monitoring Network in East Asia, the Joint Research Project on Long-range Transboundary Air Pollutants, the Northwest Pacific Action Plan and the Tripartite Environment Ministers Meeting.

Furthermore, as the ENEA subregion lacks multilateral political and economic institutions, such as ASEAN, the South Asian Association for Regional Cooperation and the Pacific Islands Forum, subregional environmental governance has made relatively slow progress in strengthening institutional arrangements and taking a substantial role in addressing subregional environmental challenges. The comparison of NEASPEC with similar mechanisms in other subregions shows that its legal and political level is relatively low despite the high level of economic integration. This is directly associated with the lack of institutionalized regional integration. The correlations between institutional development of environmental mechanisms and the existence of “institutionalized regional integration” are highlighted in table 28.

ESCAP has been playing a catalytic role in facilitating member States’ development of their subregional programmes by providing secretariat and technical support through NEASPEC. In the case of the Acid Deposition Monitoring Network in East Asia, it is UNEP that houses or acts as the secretariat of the respective programme. These roles taken by various organs and agencies of the United Nations demonstrate their legitimate leadership in facilitating intergovernmental discussions leading to the establishment and operation of governance mechanisms.

The scope of their programmes has gradually been expanded, taking a distinctive approach with different compositions of member countries, stakeholders and primary activities. In the case of transboundary air pollution, the Acid Deposition Monitoring Network in East Asia promotes cooperation in data monitoring and analysis, research and capacity-building with monitoring sites, while the Joint Research Project on Long-range Transboundary Air Pollutants focuses on the modelling of long-range transport of air pollution. On the other hand, NEASPEC has focused on capacity-building for reducing air pollution emission from coal-fired power plants. For the marine environment, while the Northwest Pacific Action Plan addresses comprehensive marine environmental issues with four technical centres on data, environmental assessment, environmental emergency and pollution monitoring, NEASPEC works exclusively on marine protected areas with the North-East Asian Marine Protected Areas Network (NEAMPAN), which is designed to promote information and knowledge-sharing and facilitate technical cooperation among the marine protected areas.

**Table 28. Institutionalized regional integration and environmental mechanism**

Subregional environmental programme	Institutionalized regional integration (subregional political body)	Economic integration (intratrade)	Ecological interconnections	Legal and political level of programme	Formal linkages with other programmes
SACEP	High (SAARC)	Low (5%)	High	High	Yes
ASEAN cooperation on environment	High (ASEAN)	Medium (20-25%)	High	Medium	Yes
NEASPEC	Low	Medium (20~25%)	High	Low	No
SPREP	High (Pacific Community, Pacific Islands Forum)	Low (n/a)	Medium	High	Yes

Source: Sang Nam, “Institutionalizing complex and ecological interdependence: subregional environmental governance in Asia and the Pacific”, *Environmental Policy*, vol. 16, No. 3 (December 2008), pp. 5-30

Abbreviations: SACEP = South Asia Cooperative Environment Programme; established in 1981, it comprises eight South Asian countries, namely Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka; SPREP = South Pacific Regional Environment Programme; established in 1982, it encompasses 22 Pacific island countries and 4 developed countries, namely Australia, France, New Zealand and the United States. ASEAN = Association of Southeast Asian Nations; SAARC = South Asian Association for Regional Cooperation; and NEASPEC = North-East Asian Subregional Programme for Environmental Cooperation.



### 1.3. Policy recommendations for East and North-East Asia

Together with economic integration, diverse environmental mechanisms are poised to become a key building block of regional integration. This is done by raising a sense of regional ecological community and expanding practical experiences of cooperation on identifying and managing common pool resources. Thus, the mechanisms contribute to an enabling environment for dialogue and cooperation, and in turn help form concerted rules and actions for regional integration.

In this connection, a major challenge of the environmental area with regard to regional cooperation and integration is not the development of new institutional mechanisms; instead, it is the improvement of efficiency and effectiveness of the existing mechanisms to make them more effective in mobilizing collective actions of countries with regard to immediate transboundary environmental challenges as well as broader issues of sustainable development. Improving efficiency and effectiveness requires more solid foundations for undertaking scientific assessment of target issues and linking the outcomes with policy dialogue and action. For most subregional environmental issues identified in the present report, the ENEA subregion has a low level of shared scientific knowledge and data, a situation that delays the policy dialogue and cooperation among the countries concerned. Building such foundations in turn needs the political and financial support of Governments for involving wider stakeholder groups, developing long-term activities, formulating scientific policy linkages and institutionalizing platforms for policy dialogue and cooperation.

Furthermore, the connection between subregional environmental cooperation and other sectoral processes for regional cooperation and integration could be strengthened for mutual benefit. The process of institutionalizing environmental cooperation can provide lessons learned for similar processes in other sectors, including political, economic and energy sectors. On the other hand, environmental cooperation could benefit from a higher level of institutionalized regional integration and incorporation into other forms of sectoral cooperation as a key element, such as investment in green technology and infrastructure, sustainable transport and greener and cleaner energy. These steps would also help environmental cooperation efforts to address broader issues of sustainable development.

## 2. DISASTER RISK

Between 2005 and 2015, the ENEA subregion was adversely affected by 458 hazard events resulting in 182,137 deaths, more than a billion people being distressed and causing economic losses in excess of \$541 billion.<sup>37</sup> Despite the subregion's high vulnerability to disasters, it has yet to develop a cooperation mechanism to address disaster risks. At the Asia-Pacific regional level, mechanisms are in place in which the subregional countries are actively participating. While strong support and leadership in these regional platforms should continue, it is also important for the subregion to step up dialogue on subregional cooperation for disaster management, particularly on sharing data, best practices and technologies for reducing vulnerability and coping with disasters.

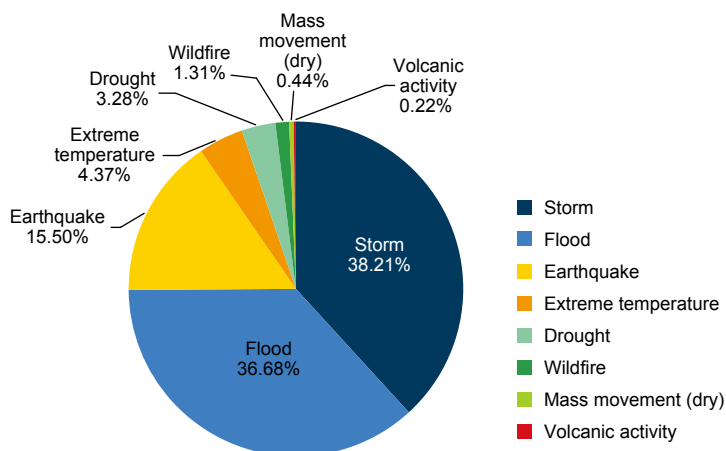
### 2.1. Hazard and risk profile in East and North-East Asia

In the ENEA subregion, storms are the most common type of disaster, followed by floods and earthquakes (see figure 33). Between 2005 and 2015, by country, China had the highest number of disasters, accounting for 67.25 per cent of the total for the ENEA subregion, followed by Japan (15.5 per cent) and the Russian Federation (8.73 per cent) (see figure 32).

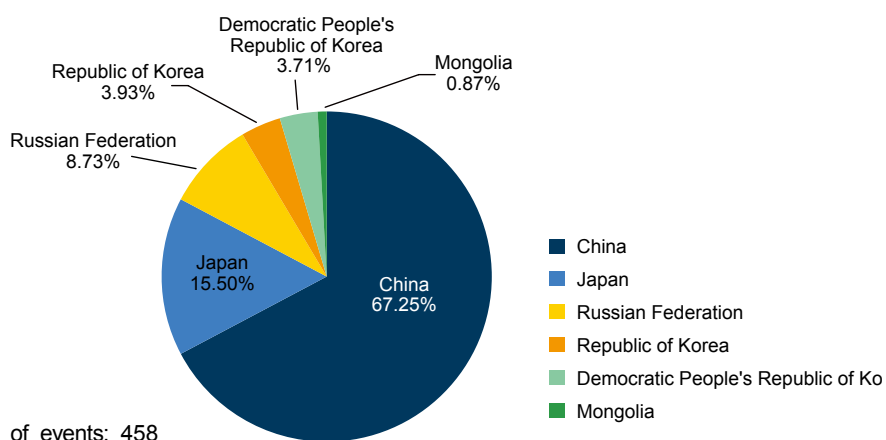
China experienced a number of mega-disasters during the last 20 years, including the Sichuan earthquake which resulted in 87,476 deaths, more than 45 million people affected and a total of \$85 billion in economic losses. Disasters in China annually affect more than 200 million people, with floods having the largest impact, affecting 61 per cent of people (out of the total number of people affected), followed by storms (17 per cent) and droughts (15 per cent) (figure 33)

<sup>37</sup> The term "people affected" refers to the total number of people injured (people who suffered physical injuries, trauma or illness requiring medical treatment), homeless (people who needed immediate assistance for shelter) and affected (people who needed assistance during a period of emergency as people displaced or evacuated).

**Figure 32. Occurrence of disasters in East and North-East Asia by type of hazard (2005-2015)**



**Figure 33. Occurrence of disasters in East and North-East Asia by country (2005-2015)**



Source: EM-DAT, The International Disaster Database, Centre for Research on the Epidemiology of Disasters-CRED <http://www.emdat.be/database>

The Democratic People’s Republic of Korea is also frequently and severely affected by floods. Owing to massive deforestation and inappropriate land use, mudflows and landslides often accompany floods during the rainy season. The lack of capacity to mitigate and cope with disaster events also results in increases in malnutrition and other health concerns.

While Japan is the region’s most developed country and a global leader in disaster preparedness, its location on the “Pacific Ring of Fire” has made Japan vulnerable to severe and frequent earthquakes and tsunamis. The “Great East Japan earthquake and tsunami” of 2011 claimed 19,846 lives.

Mongolia’s unique topography (large landmass consisting of steppe and desert) and climate makes it vulnerable to severe winter conditions (called *dzuds*), which normally follow summer droughts and generally cause serious loss of livestock. While *dzuds* and droughts are not directly associated with human casualties, they have an enormous impact on the livelihood of rural herders.



The most frequent and destructive natural hazard in the Republic of Korea are floods, many of which occur during the summer months from July to September. Owing to the country's mountainous landscape, the heavy summer monsoon rains often lead to flooding and landslides. The Republic of Korea is also susceptible to tsunamis, albeit to a lesser extent than Japan, due to its proximity to Japan where earthquakes occur frequently.

In the Russian Federation, the summer heat wave and wildfire in 2010 was the most devastating natural disaster recorded in the previous 20 years in terms of casualties. However, the most frequently occurring hazard in that country is floods.

**Table 29. Disasters in East and North East Asia, by country, 2005-2015**

Country	Type of disaster	Number of events	People killed	People affected	Estimated damage (Millions of United States dollars)
Total North and North-East Asian countries		458	182 137	1 028 897 237	540 622
China	Drought	11	134	157 360 000	15 258
	Earthquakes	56	91 760	56 029 994	102 246
	Extreme temperature	6	187	81 084 322	21 401
	Floods	118	7 219	512 453 991	92 240
	Mass movement (dry)	2	57	7	8
	Storms	114	3 227	195 144 887	57 921
	Wildfires	1	22	3	-
Total for China		308	102 606	1 002 073 204	289 074
Japan	Earthquakes	12	19 884	465 896	223 827
	Extreme temperature	6	665	122 187	-
	Floods	10	121	170 249	2 800
	Storms	42	610	553 278	15 201
	Volcanic activity	1	63	69	-
Total for Japan		71	21 343	1 311 679	241 828
Republic of Korea	Floods	7	156	49 153	52
Total population: 50 293	Storms	10	89	46 423	1 046
	Wildfires	1		2 140	
Total for Republic of Korea		18	245	97 716	1 098
Democratic People's Republic of Korea	Droughts	2	-	21 000 000	-
Total population: 25 155	Floods	11	1 317	2 330 838	311
	Storms	4	89	92 609	-
Total for Democratic People's Republic of Korea		17	1 406	23 423 447	311
Mongolia	Extreme temperature	2	5	1 734 113	62
Total population: 2 959	Floods	1	26	15 000	-
	Storms	1	52	-	-
Total for Mongolia		4	83	1 749 113	62
Russian Federation	Droughts	2			2 540
Total population: 143 457	Earthquakes	3	15	24 787	475
	Extreme temperature	6	56 110	1 619	1 400
	Floods	21	235	201 885	1 894
	Storms	4	1	16	3
	Wildfires	4	93	13 771	1 937
Total for Russian Federation		40	56 454	242 078	8 249

Note: The total populations were obtained from the United Nations, Department of Economic and Social Affairs, World Population Prospects: The 2015 Revision, CD-ROM edition. Available from <https://esa.un.org/unpd/wpp/Download/Standard/Population/> (accessed 11 October 2016). Other data were obtained from EM-DAT: OFDA/CRED International Disaster Database. Available from [www.emdat.be](http://www.emdat.be); and the Université Catholique de Louvain, Brussels (accessed 11 October 2016).

## 2.2. Engagement of East and North-East Asia in regional actions on disaster risk reduction

While disaster risk profiles are slightly different for each ENEA country, the subregion has in common a strong interest in enhancing disaster risk management by prioritizing preparedness and early warning. In fact, ENEA countries have been strong promoters of many of the regional cooperation mechanisms on disaster risk reduction. Some examples include the following.

### **ESCAP Multi-Donor Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries**

The Trust Fund was set up in 2005 originally to support tsunami early warning through a multi-hazard approach. As one of the countries most affected by tsunamis, Japan has been a strong supporter of the Trust Fund and other regional activities related to tsunami preparedness, including providing tsunami advisories for the North-West Pacific.

### **Regional Cooperative Mechanism for Drought Monitoring and Early Warning**

Mongolia is one of the pilot countries in operationalizing the regional mechanism on drought monitoring, which was set up to provide space-based data, products and services, and strengthen the capacity of member States in addressing gaps in monitoring and early warning of agricultural droughts. With technical assistance from China, the Mongolian agency for remote sensing has been working to enhance its capacity to monitor drought and provide early warning to end users.

### **ESCAP WMO Typhoon Committee**

This intergovernmental body was one of the first cooperation mechanisms to be set up in the Asia-Pacific region. In recognition of the shared impacts from tropical cyclones, the Committee was established to promote and coordinate the planning and implementation of measures required for minimizing loss and damage. China, Japan and the Republic of Korea are all members of the Typhoon Committee. In particular, the Republic of Korea has been very actively engaged in providing other members of the Typhoon Committee with capacity-building support.

## 2.3. Policy recommendations for East and North-East Asia

While overall, the subregion's capacity to mitigate disaster risk and cope in the aftermath of disasters is relatively high, there are pockets of vulnerability that still exist within countries. For example, during the "Great East Japan earthquake and tsunami", more than 60 per cent of the people killed were aged 60 years and older. With a rapidly ageing population in the subregion, the vulnerability of the elderly to disaster risk needs to be addressed through targeted policy measures.

Additionally, there is evidence that tropical cyclones and typhoons, which are the subregion's most frequent hazards, are becoming more intense due to climate change (Mei and Xie, 2016). In this regard, the subregion will benefit from a mechanism for exchanging data, technical expertise and best practices, similar to that of the Typhoon Committee but encompassing a wider range of hazards, such as earthquakes and droughts.

# SUMMARY AND FUTURE AGENDA

---

---

## 1. SUMMARY OF KEY RECOMMENDATIONS

In the face of increasing global economic uncertainties, this report contains an examination of how subregional cooperation and integration can serve as a basis for overcoming many challenges in the ENEA subregion. Some of the key recommendations are as follows:

### **(a) Implement cross-border paperless trade and fast-track multilateral free trade agreements rather than bilateral trade agreements**

Adopt a two-pronged approach for lowering trade costs and enhancing trade flows in the subregion and beyond. These include: (a) tackling non-tariff barriers through trade facilitation; and (b) directly lowering tariffs through trade agreements. On the non-tariff barriers front, there are country-specific measures that need to be taken, such as increasing transparency and enhancing cooperation among customs and other trade-related agencies. At the same time, regional actions, such as promoting a cross-border paperless trade environment, would greatly contribute to lowering trade costs. On the tariff front, moving ahead with RCEP discussions will be the key element for both the ENEA subregion and the ESCAP region as a whole.

### **(b) Create a regional investment framework to strengthen linkages**

ENEA economies must adopt conducive and coherent investment policies that would sustain and expand the existing supply-chain networks. The ENEA subregion must take advantage of regional complementarities and technological innovation to support emerging industries and promote the growth of new investment areas in the subregion. Investment facilitation and connectivity would be complemented by implementation of subregional transit/transport agreements and integration of their national development strategies, such as China's Belt and Road Initiative.

### **(c) Maintain a coordinated and consistent policy on people mobility**

ENEA economies have been slow in embracing immigration as a policy tool to attract skilled workers and even low-skilled workers in order to respond to the effects of its ageing population and shrinking workforce. Adopting a coordinated and an open migration policy would support greater movement of people in the subregion. People-to-people connectivity would also be enhanced through educational and cultural exchanges. Mutual recognition of qualifications would enable and ensure that skills requirements are met as they provide more job opportunities within the subregion.

#### **(d) Create a multi-stakeholder platform on energy connectivity in the subregion**

Energy cooperation in the ENEA subregion is gaining momentum with China's Belt and Road Initiative supporting regional energy infrastructure and proposals from the Russian Federation on creating an energy grid in the subregion. Since signing the memorandum of understanding in 2016 to develop the "Asian Super Grid" the parties concerned have already concluded a pre-feasibility study on transmission schemes, project costs and profits. Now is the time to develop the platform for Governments and other stakeholders to discuss regulatory and policy changes required for cross-border electricity trade.

#### **(e) Step up efforts on "soft" connectivity issues to support the subregion's "hard" infrastructure initiatives**

In the light of the fact that in recent years ENEA countries have prioritized domestic and cross-border transport infrastructure development, more effort is needed in developing "soft" infrastructure connectivity by strengthening transit, transport agreements and harmonization of rules and regulations. One way to move forward in this regard is by fully utilizing the midterm development road map for the "China-Mongolia-Russian Federation Economic Corridor". Regular meetings of transport ministry officials from China, Mongolia and the Russian Federation can provide the basis for tracking progress and gradually extending the cooperation to other countries in the subregion, including the Democratic People's Republic of Korea, Japan and the Republic of Korea.

#### **(f) Strengthen financial architecture in the region**

The vulnerability of the ENEA subregion to economic and financial crises requires it to have credible and sustainable financial architecture for financial surveillance and cooperation. Proposals for establishing an Asian monetary fund as a dedicated lender of last resort for the Asia-Pacific region have not made much progress. Regardless of the name or form, the region needs to continue on the path towards creating a stronger financial architecture to guard against devastating financial crises. Additionally, subregional economies need to address the large capacity gaps among countries in both the public and private sectors to promote meaningful and mutually beneficial financial cooperation. Launching vigorous capacity development and technical assistance programmes, especially on macroprudential regulations, is one way forward.

#### **(g) Mainstream and institutionalize disaster risk reduction and environmental cooperation as priorities for addressing shared vulnerabilities**

There are a number of environmental cooperation mechanisms in the ENEA subregion to address a variety of environmental challenges. However, these mechanisms are often underfunded, marginalized and lack institutional support for implementing programmes with high impact that would cut across other sectors. There are now opportunities, under the 2030 Agenda for Sustainable Development, to mainstream these mechanisms as key elements of a regional strategy for sustainable development. The first order of business is to develop a cooperation mechanism for disaster management for sharing data, best practices and technologies for reducing vulnerability and coping with hazard events.

## **2. FUTURE AGENDA: FROM SUBREGIONAL COOPERATION IN EAST AND NORTH-EAST ASIA TO REGIONAL INTEGRATION IN ASIA AND THE PACIFIC**

In the ENEA subregion, there are multiple subregional groupings with overlapping memberships. While this is true for all of ESCAP subregions, the ENEA subregion does not have any single entity taking on a leadership role backed by strong government support and institutional set-up, such as ASEAN in South-East Asia, SAARC in South and South-West Asia, the Eurasian Economic Community in Central Asia and the Pacific Islands Forum in the Pacific.

The question is how to create synergies among the subregional groupings towards region-wide cooperation and integration in the Asia-Pacific region. There are definite positives and negatives to having multiple groupings both at the subregional and regional levels. On one hand, the existence of smaller blocs within a large bloc could allow the smaller blocs to proceed at a faster pace, as is the case with ASEAN in the Asia-Pacific region. Also, the smaller groups could make coordination of national policies and strategies more manageable. On the other hand, the multiple subgroups with overlapping mandates have the disadvantage of creating duplication, which could lead to wasteful competition among the subgroups. Furthermore, not all subregional institutions have the capacity and/or

resources to adequately represent the interests of their members on a wide range of regional integration issues. Member States also face the added burden of an increased number of meetings, decisions and implementation of obligations (ECA, 2004).

As in the case of the Asia-Pacific region, member countries must first decide on the depth and scope of regional integration arrangements that they want. ESCAP has initiated this process by establishing four working groups to formulate recommendations on this very issue under each of the identified sectoral integration elements. Once this process is complete, the next step would be to establish a platform for coordination and harmonization of activities of member States and existing subregional mechanisms towards forming consensus on developing region-wide goals.



## REFERENCES

- Agénor, Pierre-Richard (2003). Benefits and costs of international financial integration: theory and facts. *World Economy*, vol. 26, No. 8, pp. 1089-1118 (August).
- Alavi, Rokiah, and Aisha Al-Alim Ramadan (2008). Narrowing development gaps in ASEAN. *Journal of Economic Cooperation*, vol. 29, No. 1, pp. 29-60.
- Ampri, Irfa (2013). Asian Bond Markets Initiative to support infrastructure development in the region. Paper presented at a seminar of the Reinventing Bretton Woods Committee entitled "Investment and Investment Finance: The Supply and Demand of Long-term Finance", Moscow, 14 February. Available from [www.itic.org/images/events/Partner\\_events/I\\_Ampri\\_-\\_Presentation\\_Sesi\\_6\\_-\\_RWBC\\_rev\\_13feb.pdf](http://www.itic.org/images/events/Partner_events/I_Ampri_-_Presentation_Sesi_6_-_RWBC_rev_13feb.pdf).
- Asia Pacific Energy Research Centre (2015). *Electric Power Grid Interconnections in Northeast Asia: A quantitative analysis of economic and environmental benefits*. Available from [http://aperc.ieej.or.jp/file/2015/11/27/FinalReport-APERC-Electric\\_Power\\_Grid\\_Interconnection\\_in\\_NEA.pdf](http://aperc.ieej.or.jp/file/2015/11/27/FinalReport-APERC-Electric_Power_Grid_Interconnection_in_NEA.pdf)
- ASEAN (2011). *Master Plan on ASEAN Connectivity: One Vision, One Identity, One Community*. Jakarta: ASEAN Secretariat. Available from [www.asean.org/storage/images/ASEAN\\_RTK\\_2014/4\\_Master\\_Plan\\_on\\_ASEAN\\_Connectivity.pdf](http://www.asean.org/storage/images/ASEAN_RTK_2014/4_Master_Plan_on_ASEAN_Connectivity.pdf).
- ASEAN Secretariat and UNCTAD (2016). *ASEAN Investment Report 2016 – Foreign Direct Investment and MSME Linkages*. Jakarta. Available from <http://asean.org/storage/2016/09/ASEAN-Investment-Report-2016.pdf>.
- Asian Development Bank (ADB), United Nations Convention to Combat Desertification (UNCCD), United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and United Nations Environment Programme (UNEP) (2005). *Regional Master Plan for the Prevention and Control of Dust and Sandstorms in Northeast Asia*. Available from [www.unccd.int/Lists/SiteDocumentLibrary/Publications/dustsandstorms\\_northeastasia.pdf](http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/dustsandstorms_northeastasia.pdf).
- Baldwin, Richard E. (2004). The spoke trap: hub-and-spoke bilateralism in East Asia. KIEP CNAEC Research Series 04-02. Seoul: Korea Institute for International Economic Policy (KIEP).
- Ball, Desmond (2000). Multilateral security cooperation in the Asia-Pacific region: prospects and possibilities. In *The Security Environment in the Asia-Pacific*, Hung-mao Tien, and Tun-jen Cheng, eds. Armonk, New York: M.E. Sharpe Publishers, pp. 129-153.
- Beeson, Mark (2009). Developmental states in East Asia: a comparison of the Japanese and Chinese experiences. *Asian Perspective*, vol. 33, No. 2, pp. 5-39 (January).
- Bhattacharyay, Biswa Nath (2010). Institutions for Asian connectivity. *Journal of International Commerce, Economics and Policy*, vol. 1, No. 2, pp. 309-335.
- Boeing (2014). *World Air Cargo Forecast 2014-2015*. Seattle, Washington.
- \_\_\_\_ (2015). *Current Market Outlook 2014-2033*. Seattle, Washington.
- Boltho, Andrea, and Maria Weber (2009). Did China follow the East Asian development model? *European Journal of Comparative Economics*, vol. 6, No. 2, pp. 267-286.
- Boyd, John H., and Bruce D. Smith (1992). Intermediation and the equilibrium allocation of investment capital: Implications for economic development, *Journal of Monetary Economics* 30 (1992) Issue 3, pp. 409-432.
- BP (2015). *BP Statistical Review of World Energy 2015*. London.
- Brummer, Chris J. (2007). Ties that bind: regionalism, commercial treaties, and the future of global economic integration. *Vanderbilt Law Review*, vol. 60, No. 5 (October).
- Das, Sanchita Basu, and Catherine Rose James (2013). Addressing Infrastructure Financing in Asia, Institute of Southeast Asian Studies Perspective No. 27. [https://www.iseas.edu.sg/images/pdf/ISEAS\\_Perspective\\_2013\\_27.pdf](https://www.iseas.edu.sg/images/pdf/ISEAS_Perspective_2013_27.pdf)
- Dent, Christopher M. (2008). *East Asian Regionalism*. London: Routledge.
- \_\_\_\_ and Peter Richter (2011). Sub-regional cooperation and developmental regionalism: the case of BIMP-EAGA. *Contemporary Southeast Asia*, vol. 33, No. 1, pp. 29-55 (April).

- Department of State, United States (2014). *2014 Investment Climate Statement - Mongolia*. June. Available from [www.state.gov/documents/organization/231251.pdf](http://www.state.gov/documents/organization/231251.pdf).
- Fitschen, Juergen (2014) Strategis for Financial Deregulation in China, *China Development Review*, No.2, 2014, [http://en.drc.gov.cn/2015-07/03/content\\_21170963.htm](http://en.drc.gov.cn/2015-07/03/content_21170963.htm)
- Friedman, Edward, and Sung Chull Kim (2006). *Regional Cooperation and Its Enemies in Northeast Asia: The Impact of Domestic Forces*. London: Routledge.
- Guoqiang, Tang, and Peter A. Petri, eds. (2014). *New Directions in Asia-Pacific Economic Integration*. Honolulu, Hawaii: East-West Center. Available from [www.eastwestcenter.org/sites/default/files/filemanager/pubs/pdfs/NewDirections/NewDirections.pdf](http://www.eastwestcenter.org/sites/default/files/filemanager/pubs/pdfs/NewDirections/NewDirections.pdf).
- Haugen, Heidi Østbø (2015). Destination China: the country adjusts to its new migration reality. Migration Policy Institute. 4 March. Available from [www.migrationpolicy.org/article/destination-china-country-adjusts-its-new-migration-reality](http://www.migrationpolicy.org/article/destination-china-country-adjusts-its-new-migration-reality) (accessed 10 October 2016).
- Higgott, Richard, and Martina Timmermann (2008). Institutionalizing East Asia: learning lessons from Europe on regionalism, regionalization, identity and leadership. In *Institutionalizing Northeast Asia: Regional Steps Towards Global Governance*, Martina Timmermann and Jitsuo Tsuchiyama, eds. Tokyo: United Nations University Press, pp. 43-62.
- Hix, Simon (2010). Institutional design of regional integration: balancing delegation and representation. ADB Working Paper Series on Regional Economic Integration, No. 64. Asian Development Bank. Available from [www.adb.org/sites/default/files/publication/28546/wp64-hix-institutional-design.pdf](http://www.adb.org/sites/default/files/publication/28546/wp64-hix-institutional-design.pdf).
- International Energy Agency (IEA) (2016). *Key World Energy Statistics 2016*. Paris: Organisation for Economic Co-operation and Development, and International Energy Agency.
- Jang, J. (2016). Migration in Korea as Newly Emerging Driving Force for Development. Presentation material at the Sustainable Development Goals in the Asian Landscape: Think Tanks as Catalysts for Policy Analysis and Implementation. June 2016, Seoul.
- Jang, Hong Bum (2011). Financial integration and cooperation in East Asia: assessment of recent developments and their implications. IMES Discussion Paper Series, No. 2011-E-5. Tokyo: Institute for Monetary and Economic Studies, Bank of Japan.
- Jang, Sang Shik, H.J. Je, J.S. Hong and Y.M. Kim (2013). Weak Japanese Yen's impact on Korea's export. *Trade Focus*, vol. 12, No. 31 (in Korean). Available from [www.kita.net/newtri2/report/iitreporter\\_download.jsp?orig\\_name=130610-%C6%F7%C4%BF%BD%BA31%C8%A3.pdf&file\\_name=iitreporter\\_994\\_1.pdf](http://www.kita.net/newtri2/report/iitreporter_download.jsp?orig_name=130610-%C6%F7%C4%BF%BD%BA31%C8%A3.pdf&file_name=iitreporter_994_1.pdf).
- Jo, Sam-Sang (2012). Region-building and critical juncture: Europe and Northeast Asia in comparative perspective. *Asia Europe Journal*, vol. 10, No. 1, pp. 1-20 (May).
- Kawai, Masahiro (2004). Regional economic integration and cooperation in East Asia. Paper presented at Experts' Seminar on the "Impact and Coherence of OECD Country Policies on Asian Developing Economies". Paris, 10-11 June.
- \_\_\_\_\_ (2007). Evolving economic architecture in East Asia. ADB Institute Discussion Paper, No. 84. Tokyo: ADB Institute.
- \_\_\_\_\_ (2013). Financing development cooperation in Northeast Asia. ADBI Working Paper, No 407. Tokyo: Asian Development Bank Institute.
- \_\_\_\_\_ and Ganeshan Wignaraja (2007). Multilateralizing regional trade arrangements in Asia. In *Multilateralising Regionalism: Challenges for the Global Trading System*. Cambridge: Cambridge University Press, pp. 495-549.
- \_\_\_\_\_ and Peter J. Morgan (2014) Regional Financial Regulation in Asia, ADB Institute Working Paper Series No. 460. Tokyo. ADB Institute
- Kim, C.H., and C.J. Lee (2015). Korea national monitoring activities in 2015. Paper presented at the 18th Expert Meeting on Long-range Transboundary Air Pollutants in Northeast Asia. Incheon, Republic of Korea, 18-20 November.



- Kimura, Fukunari, and Xunpeng Shi, eds. (2011). Deepen understanding and move forward: energy market integration in East Asia. ERIA Research Project Report, No. 2010-25. Jakarta: Economic Research Institute for ASEAN and East Asia, pp.1-18.
- Kitano, Naohiro (2016). Estimating China's foreign aid II: 2014 update. JICA-RI Working Paper, No. 131, Tokyo: JICA Research Institute
- \_\_\_\_\_ and Yukinori Harada (2014). Estimating China's foreign aid 2001-2013. JICA-RI Working Paper, No. 78. Tokyo: JICA Research Institute. Available from [http://jica-ri.jica.go.jp/publication/workingpaper/estimating\\_chinas\\_foreign\\_aid\\_2001-2013.html](http://jica-ri.jica.go.jp/publication/workingpaper/estimating_chinas_foreign_aid_2001-2013.html).
- Lee, Inhyung (2012). Ten years of the Asian Bond Markets Initiative (ABMI). *KCMI Capital Market Opinion*. Seoul: Korea Capital Market Institute. Available from [www.kcmi.re.kr/common/downloadw.asp?fid=2951&fgu=002001&fty=004003](http://www.kcmi.re.kr/common/downloadw.asp?fid=2951&fgu=002001&fty=004003).
- Lee, Jae-Seung (2010). Energy security and cooperation in Northeast Asia. *Korean Journal of Defense Analysis*, vol. 22, No. 2, pp. 217-233.
- \_\_\_\_\_ (2013). Towards green energy cooperation in Northeast Asia: implications from European experiences. *Asia Europe Journal*, vol. 11, No. 3 (September).
- Lee, Rensselaer (2013). Russia's Far East and Asia-Pacific integration. Foreign Policy Research Institute. Available from [www.fpri.org/news/2013/10/russias-far-east-and-asia-pacific-integration](http://www.fpri.org/news/2013/10/russias-far-east-and-asia-pacific-integration).
- Lee, Sook-jong (2000). Recent trend of Japanese foreign direct investment in Korea. *International Area Studies Review*. Seongnam, Republic of Korea: Sejong Institute (in Korean).
- Lipsky, Phillip Y. (2003). Japan's Asian monetary fund proposal. *Stanford Journal of East Asian Affairs*, vol. 3, No. 1, pp. 93-104.
- Lyou, Byung-Woon (2003). Building the Northeast Asian Community. *Indiana Journal of Global Legal Studies*, vol. 11, No. 2. Available from <http://ijgls.indiana.edu/volume-11/building-the-northeast-asian-community/>.
- McKay, Julie, Ulrich Volz and Wolfinger Regine (2011). Regional Financial Arrangements and the Stability of the International Monetary System. *Journal of Globalization and Development*, 2011, Vol.2, Issue 1, pp 1-33.
- McKinsey Global Institute (2013). Infrastructure productivity: How to save \$1 trillion a year. [http://www.mckinsey.com/~media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Infrastructure%20productivity/MGI%20Infrastructure\\_Full%20report\\_Jan%202013.ashx](http://www.mckinsey.com/~media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Infrastructure%20productivity/MGI%20Infrastructure_Full%20report_Jan%202013.ashx)
- \_\_\_\_\_ (2016) Bridging Global Infrastructure Gaps, [http://www.mckinsey.com/~media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Infrastructure%20productivity/MGI%20Infrastructure\\_Full%20report\\_Jan%202013.ashx](http://www.mckinsey.com/~media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Infrastructure%20productivity/MGI%20Infrastructure_Full%20report_Jan%202013.ashx)
- Mei, Wei and Shang-Ping Xie (2016). Intensification of landfalling typhoons over the Northwest Pacific since the late 1970s. *Nature Geoscience*, vol. 9, pp. 753-757.
- Musaev, D., and others (2010). Japan and Mongolia: "Rising Sun" looks for "Bluer Sky". Eurasia Capital Research Note. Available from [www.eurasiac.com/files/research\\_note/Japan\\_Mongolia\\_relation.pdf](http://www.eurasiac.com/files/research_note/Japan_Mongolia_relation.pdf).
- Nam, Sang Min (2008) Institutionalizing complex and ecological interdependence: subregional environmental governance in Asia and the Pacific, *Environmental Policy*, vol. 16, No. 3, pp. 5-30 (December).
- National Development and Reform Commission, Ministry of Foreign Affairs and Ministry of Commerce, China (2015). Vision and actions on jointly building Silk Road Economic Belt and 21st Century Maritime Silk Road. Available from <https://reconnectingasia.csis.org/filer/canonical/1474487909/374/>.
- North-East Asian Subregional Programme for Environmental Cooperation (NEASPEC) (2007). Saving the flagship species of North-East Asia: Nature conservation strategy of NEASPEC [http://www.neaspec.org/sites/default/files/Publication\\_SavingNatureConservation\\_2.pdf](http://www.neaspec.org/sites/default/files/Publication_SavingNatureConservation_2.pdf)
- Organisation for Economic Co-operation and Development (OECD) (2009). *OECD Territorial Reviews: Trans-border Urban Co-operation in the Pan Yellow Sea Region*, 2009. Paris: OECD Publishing.

- \_\_\_\_\_ (2011). *Tackling the Policy Changes of Migration: Regulation, Integration and Development*, Paris: OECD Publishing.
- \_\_\_\_\_ (2016). *International Migration Outlook 2016*, Paris: OECD Publishing.
- \_\_\_\_\_ and UNCTAD (2016). *Joint OECD-UNCTAD 15th Report on G-20 Investment Measures*. 21 June 2016. UNCTAD/OECD/2016/15, Available from [http://unctad.org/en/PublicationsLibrary/unctad\\_oecd2016d15\\_en.pdf](http://unctad.org/en/PublicationsLibrary/unctad_oecd2016d15_en.pdf).
- Oxford Business Group (2013). *The Report: Mongolia 2013*.
- Pempel, T.J. (2005). Introduction: emerging webs of regional connectedness. In *Remapping East Asia: The Construction of a Region*, T.J. Pempel, ed. Ithaca, New York: Cornell University Press, pp. 1-30.
- PricewaterhouseCoopers (PwC) (2014). Infrastructure development in Asia Pacific (APEC): The next 10 years. <https://www.pwc.com/gx/en/capital-projects-infrastructure/assets/infrastructure-development-in-asia-pacific.pdf>
- \_\_\_\_\_ (2015). *Banking and Finance in China: The Outlook for 2015*. Available from [www.pwccn.com/webmedia/doc/635585738589999909\\_bfic\\_2015.pdf](http://www.pwccn.com/webmedia/doc/635585738589999909_bfic_2015.pdf).
- PricewaterhouseCoopers Growth Markets Centre (2016). China's new silk route: the long and winding road. Available from [www.pwc.com/gx/en/growth-markets-center/assets/pdf/china-new-silk-route.pdf](http://www.pwc.com/gx/en/growth-markets-center/assets/pdf/china-new-silk-route.pdf).
- Renewable Energy Institute (2016), Realization of Energy Independence by Asia Super Grid opportunity for countries, Asia Super Grid Workshop in Seoul, 25 May 2016, Mika Ohbayashi Director, Renewable Energy Institute, [http://www.renewable-ei.org/en/images/pdf/20160525/Mika\\_Ohbayashi.pdf](http://www.renewable-ei.org/en/images/pdf/20160525/Mika_Ohbayashi.pdf)
- Rüland, Jürgen (2011). Southeast Asian regionalism and global governance: "multilateral utility" or "hedging utility"? *Contemporary Southeast Asia*, vol. 33, No. 1, pp. 83-112 (April).
- Ryazantsev, S. (2016). *The Role of Labour Migration in the Development of the Economy of the Russian Federation*. Facilitating Migration Management in North and Central Asia Working Paper, No. 1. Bangkok. Available from [www.unescap.org/resources/role-labour-migration-development-economy-russian-federation-english-russian](http://www.unescap.org/resources/role-labour-migration-development-economy-russian-federation-english-russian).
- Shepherd, Ben (2014). Estimating the benefits of cross-border paperless trade. Working Paper, No. DTC-2014-3. New York: Developing Trade Consultants. Available from <http://developing-trade.com/wp-content/uploads/2014/11/Working-Paper-DTC-2014-3.pdf>.
- Shepard, Wade (2016). China's one belt, one road plan covers more than half of the population, 75 per cent of energy resources and 40 per cent of world's GDP. South China Morning Post, 21 June. Available from [www.scmp.com/business/china-business/article/1978396/chinas-one-belt-one-road-plan-covers-more-half-population-75](http://www.scmp.com/business/china-business/article/1978396/chinas-one-belt-one-road-plan-covers-more-half-population-75).
- Shimizu, C., and others (2016). Analysis of policy options to address Japan's declining population, shrinking birth rate, and aging society. Grant-in-Aid for Scientific Research Real Estate Markets, Financial Crisis, and Economic Growth: An Integrated Economic Approach. Institute of Economic Research, Hitotsubashi University. Working Paper Series, No.33. Available from [www.ier.hit-u.ac.jp/hit-refined/wp-content/uploads/2013/12/wp.033.pdf](http://www.ier.hit-u.ac.jp/hit-refined/wp-content/uploads/2013/12/wp.033.pdf).
- Solingen, Etel L. (2005). East Asian regional institutions: characteristics, sources, distinctiveness. In *Remapping East Asia: The Construction of a Region*. Ithaca, New York: Cornell University Press, pp. 31-53.
- State Forestry Agency (SFA) China. (2011) Desertification combating in China. presentation to UNCCD COP- 10 Side Event, Subregional Cooperation on Combating Desertification and Land Degradation in North-East Asia, 11 October 2011, <http://www.neaspec.org/article/unccd-cop-10-side-event-subregional-cooperation-combating-desertification-and-land>
- Teng, S.K., and others (2005). *Global International Waters Assessment: Yellow Sea – GIWA regional assessment 34*. Kalmar, Sweden: University of Kalmar on behalf of United Nations Environment Programme. Available from [www.unep.org/dewa/giwa/areas/reports/r34/giwa\\_regional\\_assessment\\_34.pdf](http://www.unep.org/dewa/giwa/areas/reports/r34/giwa_regional_assessment_34.pdf).
- Timmermann, Martina (2008). Institutionalizing Northeast Asia: challenges and opportunities. In *Institutionalizing Northeast Asia: Regional Steps Towards Global Governance*, Martina Timmermann and Jitsuo Tsuchiyama, eds. Tokyo: United Nations University Press, pp. 1-21.

- Trilateral Cooperation Secretariat (2015a). 2014-2015 *Progress Report of the Trilateral Cooperation: The Republic of Korea, Japan and the People's Republic of China*. Seoul. Available from [www.tcs-asia.org/bbs/link.php?bo\\_table=publication&wr\\_id=36&no=1](http://www.tcs-asia.org/bbs/link.php?bo_table=publication&wr_id=36&no=1).
- \_\_\_\_\_ (2015b). 2015 *Trilateral Economic Report*. Seoul. Available from [http://file.tcs-asia.org/file\\_manager/files/tcs/publication/economics/\(2015\)%20Trilateral%20Economic%20Report--revised.pdf](http://file.tcs-asia.org/file_manager/files/tcs/publication/economics/(2015)%20Trilateral%20Economic%20Report--revised.pdf).
- \_\_\_\_\_ (2016). 2016 *Trilateral Economic Report*. Seoul. Available from [http://file.tcs-asia.org/file\\_manager/files/tcs/publication/economics/\(2016\)%202016%20Trilateral%20Economic%20Report.pdf](http://file.tcs-asia.org/file_manager/files/tcs/publication/economics/(2016)%202016%20Trilateral%20Economic%20Report.pdf).
- United Nations Conference on Trade and Development (UNCTAD) (2016). *World Investment Report 2016: Investor Nationality – policy challenges*. Sales No. E.16.II.D.4.
- United Nations, Department of Economic and Social Affairs (2006). *Multidimensional Issues in International Electric Power Grid Interconnections*. Available from <https://sustainabledevelopment.un.org/content/documents/interconnections.pdf>.
- \_\_\_\_\_ (2015). *Trends in International Migrant Stock: Migrants by Destination and Origin*. POP/DB/Stock/Rev.2015. December. CD-ROM.
- United Nations Commodity Trade Statistics Database (UN Comtrade) (2015). Country pages for China, Japan, Mongolia, Republic of Korea and Russian Federation, accessed from <https://comtrade.un.org/pb/CountryPagesNew.aspx?y=2015>
- United Nations Development Programme/Global Environment Facility (2007). *The Yellow Sea: Analysis of Environmental Status and Trends*. Ansan, Republic of Korea.
- United Nations, Economic and Social Commission for Africa (2004). *Assessing Regional Integration in Africa*.
- United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP) (2011). *Review of Developments in Transport in Asia and the Pacific 2011*. Sales No. E.12.II.F.8.
- \_\_\_\_\_ (2012). *Growing Together: Economic Integration for an Inclusive and Sustainable Asia-Pacific Century*, ST/ESCAP/2629.
- \_\_\_\_\_ (2015a). *Asia-Pacific Migration Report 2015: Migrants' Contribution to Development*. ST/ESCAP/2738. Bangkok.
- \_\_\_\_\_ (2015b). *Asia-Pacific Trade and Investment Report 2015: Supporting Participation in Value Chains*. Sales No. E.15.II.F.15.
- \_\_\_\_\_ (2015c). *Review of Developments in Transport in Asia and the Pacific 2015*. Bangkok.
- \_\_\_\_\_ and Korea Transport Institute (2006). *Integrated International Transport and Logistics System for North-East Asia*. ST/ESCAP/2434.
- United Nations, Economic Commission for Africa (ECA) (2004). *Assessing Regional Integration in Africa*. Sales No. E.04.II.K.3.
- United Nations Environment Programme (UNEP) (2015). *Indicators for a Resource Efficient and Green Asia and the Pacific: Measuring Progress of Sustainable Consumption and Production, Green Economy and Resource Efficiency Policies in the Asia-Pacific Region*, Bangkok.
- World Bank (2016a). *Live Long and Prosper: Aging in East Asia and Pacific*. Washington, D.C.: World Bank. Available from <https://openknowledge.worldbank.org/handle/10986/23133>.
- \_\_\_\_\_ (2016b) *Connecting to Compete 2016 Trade Logistics in the Global Economy*, Washington, D.C.: World Bank. Available from [https://wb-lpi-media.s3.amazonaws.com/LPI\\_Report\\_2016.pdf](https://wb-lpi-media.s3.amazonaws.com/LPI_Report_2016.pdf)
- \_\_\_\_\_ (2017a). *World Development Indicators, 2017*. Available from <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>.
- \_\_\_\_\_ (2017b). *Doing Business 2017: Equal Opportunity for All*. Washington, D.C.: World Bank. Available from <http://www.doingbusiness.org/~/-/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB17-Report.pdf>.
- World Economic Forum (2014) *Global Competitiveness Report 2014-2015*, [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2014-15.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf)

- \_\_\_\_\_ (2015). *Global Competitiveness Report 2015-2016*. Available from [http://www3.weforum.org/docs/gcr/2015-2016/Global\\_Competitiveness\\_Report\\_2015-2016.pdf](http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf)
- World Trade Organization (WTO) (2010) Trade Policy Review WT/TPR/S/230 26 April 2010 Accessed from [https://docs.wto.org/dol2fe/Pages/FE\\_Search/FE\\_S\\_S009-DP.aspx?language=E&CatalogueIdList=83884,84051,105258,101227,88311,84004,85577,82665,4064,82002&CurrentCatalogueIdIndex=3&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True](https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=83884,84051,105258,101227,88311,84004,85577,82665,4064,82002&CurrentCatalogueIdIndex=3&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True)
- \_\_\_\_\_ (2012) Trade Policy Review WT/TRP/S/264 8 May 2012 Accessed from [https://docs.wto.org/dol2fe/Pages/FE\\_Search/FE\\_S\\_S009-DP.aspx?language=E&CatalogueIdList=231791,229416,130052,127544,127372,124880,117621,115743,64045,103878&CurrentCatalogueIdIndex=9&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True](https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=231791,229416,130052,127544,127372,124880,117621,115743,64045,103878&CurrentCatalogueIdIndex=9&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True)
- \_\_\_\_\_ and UNCTAD (WTO) (2016). World Trade Statistical Review 2016 and UNCTAD (7 April 2016, accessed from <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1230>).
- Yahuda, Michael (2011). *The International Politics of the Asia-Pacific, 1945-95*. Abingdon, United Kingdom: RoutledgeCurzon.
- Yamamoto, Yoshinobu (2008). Institutionalization in Northeast Asia: is outside-in regionalization enough? In *Institutionalizing Northeast Asia: Regional Steps towards Global Governance*. Martina Timmermann and Jitsuo Tsuchiyama, eds. Tokyo: United Nations University Press, pp. 21-42.
- Yang, H. E., and J. Wang (2012). *The Change and Influence of Japanese FDI in China*. Beijing: Social Sciences Academic Press (in Chinese).



ISBN 978-92-1-120705-7



9 789211 207057