



Regional Trends Report on Energy for Sustainable Development in Asia and the Pacific 2015



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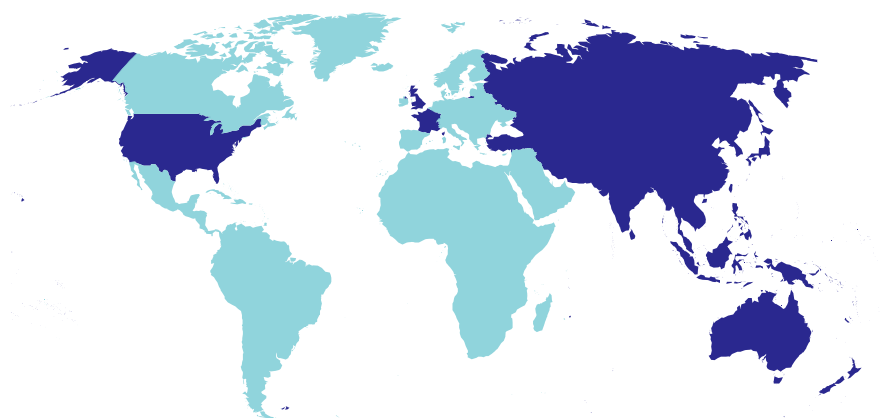
**Regional Trends Report on Energy for Sustainable
Development in Asia and the Pacific**

2015 edition



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Preface

Energy is a global priority — both as a foundation for sustainable development and a fundamental requirement of the post-2015 development agenda. The *Plan of Action on Regional Cooperation for Enhanced Energy Security and the Sustainable Use of Energy in Asia and the Pacific 2014-2018*, adopted by Ministers at the first Asian and Pacific Energy Forum (APEF) in 2013, underscores the importance of energy security at all levels, from regional to household.

The *Regional Trends Report on Energy for Sustainable Development in Asia and the Pacific* provides perspectives on a range of issues to advance implementation of the APEF Ministerial Declaration and the Plan of Action. It identifies key challenges and presents selected case studies, offering these as a basis for further regional energy cooperation initiatives.

In the context of sustainable development, calls have been made to ensure both wider accessibility to cost-efficient energy for all, and its diversification, with support for newer technological solutions to promote cleaner and carbon-neutral alternatives. Our report focuses on offering perspectives in these critical areas, with two main topics selected, in consultation with member States at the annual policy dialogues: (a) integration of renewable energy in the power system; and (b) high-efficiency, low-emission coal technologies. Renewable energy sources are abundant, but need to be harnessed and resolved through effective resolution of the technical challenges to fully unlocking this potential. Despite the drop in the cost of these technologies, renewable energy remains an only intermittent source, which makes it difficult to integrate into grid system. Some countries have addressed this intermittency by integrating large renewable energy sources into the power system at both the policy and technical levels. There is great potential for further integration of renewable energy into power grids for regional connectivity, in support of accelerated regional economic integration.

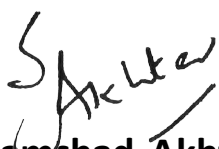
Given the abundance of coal in the region, and recent increases in the use of these

resources, it is likely to remain a major source of energy for the foreseeable future. However, its negative environmental impact is of major concern. There are technologies to abate these impacts, but the promotion of such technologies has been hindered by high up-front capital investment requirements. ESCAP's research has compared the cost of different coal-fired power plants and it is apparent that ultra-super critical coal technologies are more cost-efficient in the long-run.

There is a need to improve the quality of regional growth to provide the foundations for improved social welfare and environmental protection – this is the essence of the post-2015 development agenda. A long-term perspective on establishing energy sector sustainability is a key requirement, and the work that has been done on these two topics provides support to this endeavour.

The Report has been developed on the basis of the outcomes of the Policy Dialogue on Energy for Sustainable Development for Asia and the Pacific held in November 2015. Case studies presented at the Dialogue are contained in the publication. Future editions will contain additional case studies relevant to energy policymakers across the region.

I would like to take this opportunity to express our appreciation to those who have contributed to the publication, in particular, the Government of the Russian Federation, for supporting implementation of Commission resolution 70/9, Implementation of the outcomes of the first Asian and the Pacific Energy Forum. This is one of the three pillars of the APEF Implementation Support Mechanism, assisting our member States to implement the Declaration and Plan of Action This work also makes an important contribution to advancing the Decade of Sustainable Energy for All 2014–2024.



Shamshad Akhtar

Under-Secretary-General of the United Nations and
Executive Secretary of ESCAP

Acknowledgements

The Regional Trends Report on Energy for Sustainable Development in Asia and the Pacific (2014 Edition) is based, in part, on the outcomes of the *2014 Policy Dialogue on Energy for Sustainable Development in Asia and the Pacific* held last 26 to 28 November 2014 in Bangkok, Thailand.

Participants of the 2014 Policy Dialogue include Tigran Melkonyan (Armenia), Selim Uddin (Bangladesh), Karma Penjor Dorji (Bhutan), Jona Victor (Cambodia), Zhongying Wang (China), Brajesh Kumar Srivastava (India), Masoud Gharanfoli (Islamic Republic of Iran), Ali Gholampour (Islamic Republic of Iran), Rystay Tuleubayeva (Kazakhstan), Khamso Kouphokham (Lao People's Democratic Republic), Hussain Asif (Maldives), Bayarbat Sangajav (Mongolia), Sameer Ratna Shakya (Nepal), Alexander Smirnov (Russian Federation), Evgeniy Nadezhdin (Russian Federation), Vladimir Krasnogorsky (Russian Federation), Taras Pronin (Russian Federation), Konstantin Kozlov (Russian Federation), Ilya Andreev (Russian Federation), Tile Leia Tuimalealiifano (Samoa), Mohamed Rafeek Mohamed Ismail (Sri Lanka), Chidchanok Choompalee (Thailand), Tatafu Moeaki (Tonga), Nadira Berdimuratova (Uzbekistan), Christopher Simelum (Vanuatu), Kevin Lai (Vanuatu), Keiji Makino (Japan Coal Energy Center), German Genadievich Trofimov (Almaty University of Power and Telecommunications), Mikhail Saparov (G.M. Krzhizhanovsky Energy Institute), Viktor Badaker (United Nations Economic Commission for Europe), Danilo Padilla (UNESCO), Beni Suryadi (ASEAN Centre for Energy), Benjamin Heinrich Anton Mohr (Regional Environment Centre for Central Asia), Steivan Defilla (Energy Charter Secretariat), Kingsley Leung (Energy Charter Secretariat), Solomon Fifita (Secretariat of the Pacific Community), Shahzada Khalid Akhlaq Anjum (SAARC Energy Centre), Amit Kumar (The Energy Resources Institute), Thierry Lafuze (Centre for Energy Environment

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