The Challenge of Energy Security in the 21st Century
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The Challenge of Energy Security in the 21st Century

TRENDS OF SIGNIFICANCE

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National University of Singapore

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Singapore
To my son, Justin
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List of Acronyms

ASEAN Association of Southeast Asian Nations
ASEF Asia-Europe Foundation
ASEM Asia Europe Meeting
BB billion barrels
bcm billion cubic metres
bpd barrels per day
CCS carbon capture and storage
CO$_2$ carbon dioxide
CSP concentrating solar power
EAEF EC-ASEAN Energy Facility Programme
EC European Community
EEP Energy and Environmental Programme
EIA Energy Information Administration
ENVforum Asia-Europe Environment Forum
EPIA European Photovoltaic Industry Association
EU European Union
FAO Food and Agriculture Organization of the United Nations
G-20 The Group of Twenty Finance Ministers and Central Bank Governors
GECF Gas Exporting Countries Forum
GW gigawatt
GWh gigawatt-hours
GWI Global Water Intelligence
HHI Hirschman-Herfindahl Index
IDA International Desalination Association
IEA International Energy Agency
IGCC Integrated Gasification Combined Cycle
### List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>IPEEC</td>
<td>International Partnership for Energy Efficiency Cooperation</td>
</tr>
<tr>
<td>IRENA</td>
<td>International Renewable Energy Agency</td>
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<tr>
<td>ITER</td>
<td>International Thermonuclear Experimental Reactor</td>
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<tr>
<td>kW</td>
<td>kilowatt</td>
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<tr>
<td>kWh</td>
<td>kilowatt-hours</td>
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<tr>
<td>LNG</td>
<td>liquefied natural gas</td>
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<tr>
<td>m bpd</td>
<td>million barrels per day</td>
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<tr>
<td>MED</td>
<td>multi-effect distillation</td>
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<tr>
<td>MIT</td>
<td>Massachusetts Institute of Technology</td>
</tr>
<tr>
<td>MMT</td>
<td>million metric tones</td>
</tr>
<tr>
<td>MSF</td>
<td>multistage flash distillation</td>
</tr>
<tr>
<td>MW</td>
<td>megawatt</td>
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<tr>
<td>MWh</td>
<td>megawatt-hours</td>
</tr>
<tr>
<td>MWp</td>
<td>megawatt peak</td>
</tr>
<tr>
<td>NDRC</td>
<td>National Development and Reform Commission</td>
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<tr>
<td>NGCC</td>
<td>National Gas Combined Cycle</td>
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<tr>
<td>OAPEC</td>
<td>Organization of Arab Petroleum Exporting Countries</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OPEC</td>
<td>Organization of the Petroleum Exporting Countries</td>
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<tr>
<td>PNG</td>
<td>piped natural gas</td>
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<tr>
<td>PV</td>
<td>photovoltaics</td>
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<tr>
<td>REN21</td>
<td>Renewable Energy Policy Network for the 21st Century</td>
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<tr>
<td>RO</td>
<td>reverse osmosis</td>
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<tr>
<td>R/P</td>
<td>reserves-to-production</td>
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<tr>
<td>SEB</td>
<td>state electricity board</td>
</tr>
<tr>
<td>STRACO2</td>
<td>Support to Regulatory Activities for Carbon Capture and Storage</td>
</tr>
<tr>
<td>TCM</td>
<td>trillion cubic metres</td>
</tr>
<tr>
<td>TW</td>
<td>terawatt</td>
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<tr>
<td>TWh</td>
<td>terawatt-hours</td>
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<tr>
<td>U.A.E.</td>
<td>United Arab Emirates</td>
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<tr>
<td>U.K.</td>
<td>United Kingdom</td>
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<tr>
<td>U.N.</td>
<td>United Nations</td>
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<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>United States of America</td>
</tr>
<tr>
<td>U.S.S.R.</td>
<td>Union of Soviet Socialist Republics</td>
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<tr>
<td>VC</td>
<td>vapour compression</td>
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