



## **The European International Model United Nations 2016**

### **General Assembly**



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*Ensuring Energy Security in Least Developed Countries*

## **Welcome Letter**

Dear Delegates,

We are pleased to welcome you to the 2016 edition of The European International Model United Nations (TEIMUN). We are delighted that you are joining us to discuss the topic of energy security in least developed countries. We look forward to intense and practical debates on the issues at hand, and expect all delegates to work together in search of a resolution. We hope you that throughout this week, we can strike a balance between productivity, diplomacy, and fun.

The General Assembly plays a unique role within the United Nations as a primary entity tasked with overseeing a wide range of issues. In addressing the issues, the GA works to gain consensus through its universal membership and acts closely with the other councils. We hope you will find this Background Paper useful as it serves as an introduction this topic; however, it is not meant to replace further research. We highly encourage you to explore your Member State's policies in full detail in preparation for the council discussions.

Your chairs,

Nariswari K. Nurjaman  
Joost Kielstra

## Introduction

The United Nations (UN) and its international partners have been in pursuit of energy security for decades. Energy, by leading to progress, is the key to the advancement of civilisation.<sup>1</sup> Access to energy is vital for securing economic growth, productivity and food security. For example, lighting can prolong the number of productive hours available for work or domestic activities, and the energy required to cook food properly is a key part of cutting malnutrition and poor health.<sup>2</sup> Increasing ready access to energy supplies reduces the amount of time poor families need to spend collecting fuel such as wood, and as this task disproportionately falls upon women and girls, it can help bring about greater gender equality.<sup>3</sup>

Energy issues have gained particular importance in the twenty-first century, especially due to the various difficulties occurring within the energy market – limited energy supplies, high energy demand among global actors, energy dependency of States, increasing fuel prices, instability of energy-producing regions, global warming and the increasing use of energy as a political tool against consumer countries. Energy has therefore become a growing global concern.<sup>4</sup>

Overall, one-quarter of the human race does not have access to electricity,<sup>5</sup> and 2.7 billion people depend upon unclean energy sources such as wood, charcoal and biomass for heating and cooking.<sup>6</sup> Women and girls are disproportionately affected by the health problems created by burning these low-quality fuel sources in domestic settings, an issue which claims 4 million lives a year.<sup>7</sup> But despite the importance of energy security, developing States who are net energy importers are finding their energy import dependency expanding.<sup>8</sup> Kenya and Senegal, for example, spend more than half of the money they earn from exports on importing energy.<sup>9</sup>

Developing States and emerging economies face a two-fold energy challenge: meeting the needs of billions of people who still lack access to basic energy services while simultaneously participating in a global transition to clean, low-carbon energy systems. To a significant extent, the goal of reducing greenhouse gas emissions may be aligned with the pursuit of other energy-related objectives, such as developing local renewable resources and reducing local forms of pollution. In the near term, however, there will be tensions as energy security and environmental degradation are inevitably linked.

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<sup>1</sup> Williams, J.C. (2006) *The History of Energy*. The Franklin Institute Resources for Science Learning.

<sup>2</sup> *Energy, Development and Security*, UNIDO (2008). p.9.

<sup>3</sup> Ibid.

<sup>4</sup> Özcan, S. (2013). Securitization of Energy through the lenses of Copenhagen School. *West East Journal of Social Sciences*, August 2013, Volume 2 Number 2. Orlando: p.64.

<sup>5</sup> *Energy, Development and Security*, UNIDO (2008). p.4.

<sup>6</sup> *Energising Development (EnDev) – Programme for Energy Access*, Deutsche Gesellschaft für Internationale Zusammenarbeit. <https://www.giz.de/en/worldwide/29563.html>

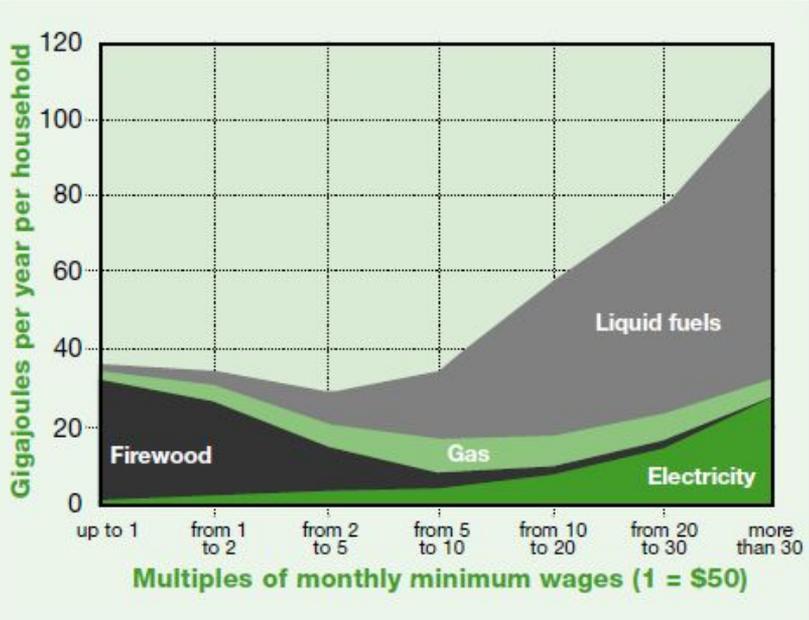
<sup>7</sup> *Energy in Developing Countries*, Oxford Energy. <http://www.energy.ox.ac.uk/energy-in-developing-countries/>

<sup>8</sup> *Achieving Energy Security in Developing Countries*, GNESD Policy Brief (2010). p.4.

<sup>9</sup> Ibid.

While the exploitation of fossil fuel, especially coal, might lead to serious environmental damage later on, an instant conversion to renewable energy without vigilant preparation might disrupt the stability of least developed States.

The nature of energy security is very different for least-developed States than it is for thriving, diversified economies. This is because domestic energy consumption is far more significant for these States than commercial or industrial consumption. However, this focus on domestic energy consumption does not necessarily relate to better access or lower proportional spending. In Kenya, for example, less than 8% of the population has access to electricity at home.<sup>10</sup> Low-income Kenyans spend more than 20% of their income securing energy.<sup>11</sup>



**Figure 1:** Average Energy Demand by Income Segment, Brazil (1988). *Energy and Social Issues*, Amulya K.N. Reddy (2000). p.45.

**Concepts & Definitions**

Least-developed countries (LDCs) are States which exhibit the lowest indicators of socioeconomic development, with the lowest Human Development Index ratings of all states in the world<sup>12</sup>. The focus while classifying States therefore lies on poverty, human resource weakness and economic vulnerability.

The European Commission defines energy security as the ‘uninterrupted physical availability of energy products on the market at an affordable price for all consumers’.<sup>13</sup> Issues involved include the availability of resources, decreasing dependence on imports, decreasing pressures on the environment, competition and market efficiency, reliance on indigenous resources that are environmentally clean, and energy services that are affordable and equitably shared. Of course, for developing countries, energy security is simply about meeting basic human needs at the household level where per-capita consumption levels and the quality of energy supplies are far lower than in developed countries.

<sup>10</sup> Ibid.  
<sup>11</sup> Ibid.  
<sup>12</sup> [http://www.un.org/en/development/desa/policy/cdp/ldc/ldc\\_criteria.shtml](http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_criteria.shtml)  
<sup>13</sup> Quoted in Olz, S., Sims R. and Kirchner, N. (2007) *Contributions of Renewable Energy Security: International Energy Agency Information Paper*. Paris: OECD, April: p.13

Energy diversification can be seen in a broader understanding that shifts emphasis from supply- to demand-side policies. Energy diversification should be thought of to extend well beyond the goal of multiple gas suppliers to multiple routes of supply, to a significantly diversified, 'green' and efficient mix.<sup>14</sup>

With non-renewable energy one can think of fossil fuels: coal, petroleum, and gas. Technically speaking fossil fuels are biomass that has accumulated and transformed by heat, pressure and time. Oil and gas collectively account for more than half of the world's supply at the beginning of the 21<sup>st</sup> century and are seen as the most essential fossil fuels.<sup>15</sup> Renewable energy is the other of the two categories energy sources are commonly divided into, although 'renewable' does not mean unlimited – such energy sources can be constrained by the relative availability of solar, wind and wave and run-off river hydropower.

**Figure 2:**  
Least-Developed  
Countries as  
Defined by the  
United Nations  
Department of  
Economic and  
Social Affairs.

**List of Least Developed Countries (as of May 2016)\*, \*\***

Afghanistan (1971)	Madagascar (1991)
Angola <sup>1</sup> (1994)	Malawi (1971)
Bangladesh (1975)	Mali (1971)
Benin (1971)	Mauritania (1986)
Bhutan (1971)	Mozambique (1988)
Burkina Faso (1971)	Myanmar (1987)
Burundi (1971)	Nepal (1971)
Cambodia (1991)	Niger (1971)
Central African Republic (1975)	Rwanda (1971)
Chad (1971)	Sao Tome And Principe (1982)
Comoros (1977)	Senegal (2000)
Dem. Rep Of The Congo (1991)	Sierra Leone (1982)
Djibouti (1982)	Solomon Islands (1991)
Equatorial Guinea <sup>2</sup> (1982)	Somalia (1971)
Eritrea (1994)	South Sudan (2012)
Ethiopia (1971)	Sudan (1971)
Gambia (1975)	Timor-Leste (2003)
Guinea (1971)	Togo (1982)
Guinea-Bissau (1981)	Tuvalu (1986)
Haiti (1971)	Uganda (1971)
Kiribati (1986)	United Rep. Of Tanzania (1971)
Lao People's Dem. Republic (1971)	Vanuatu <sup>3</sup> (1985)
Lesotho (1971)	Yemen (1971)
Liberia (1990)	Zambia (1991)

\* The list will be updated when new decisions become available.

\*\* Year of inclusion on the list in brackets.

<sup>14</sup> Proedrou, F. (2016) EU Energy Security beyond Ukraine: Towards Holistic Diversification. *European Foreign Affairs Review* 21.1, 57-73: p.58.

<sup>15</sup> Müller-Kraenner, S. (2007) *Energy Security: Re-Measuring the World*. (München: Taylor & Francis): p. xi.

## History of the Problem

The net high oil price over the last 15 years has been a contributing factor in energy poverty within LDCs. At the same time, the global economic crash in the late 2000s led to a sharp decline in foreign investment in developing States' energy infrastructure even as it made oil more affordable.<sup>16</sup> Inadequate infrastructure is one of the most significant limiting factors for less-developed States, and the collapse in investment prevented such States from benefitting from the brief dip in global oil prices.

Although the global economy is recovering and oil prices have rapidly declined recently, there remain long-term concerns over relying on fossil fuels. These energy resources have proven to be historically volatile, and as supplies run out, prices may begin to rise again. Moreover, States which rely on importing a large proportion of their energy are particularly vulnerable to changes in economic or geopolitical fortunes.

The United Nations has long been aware of the need to promote energy security in least-developed States. In 2011, the UN Secretary-General launched the Sustainable Energy for All initiative, which aims to ensure universal energy security, double the rate of improvement in energy efficiency and double the percentage of renewable energy by 2030.<sup>17</sup> The General Assembly has also declared 2014-2024 the Decade of Sustainable Energy for All.<sup>18</sup> Most significantly, access to affordable and clean energy was highlighted as a Sustainable Development Goal in 2015. This SDG set out the following targets:

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.

7.3 By 2030, double the global rate of improvement in energy efficiency.

7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.

7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.<sup>19</sup>

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<sup>16</sup> *Energy, Development and Security*, UNIDO (2008). p.6.

<sup>17</sup> *Our Objectives*, Sustainable Energy for All. [http://www.se4all.org/our-vision\\_our-objectives](http://www.se4all.org/our-vision_our-objectives)

<sup>18</sup> *Ibid.*

<sup>19</sup> *Goal Seven*, Sustainable Development Knowledge Platform. <https://sustainabledevelopment.un.org/sdg7>

The emphasis of these targets is on increasing access specifically to renewable energy sources, as well increasing energy efficiency, but that was not a new theme: in 1992, the UN held an 'Earth Summit' in Rio de Janeiro, and developed Agenda 21, which stated the problem thus:

Energy is essential to economic and social development and improved quality of life. Much of the world's energy, however, is currently produced and consumed in ways that could not be sustained if technology were to remain constant and if overall quantities were to increase substantially. The need to control atmospheric emissions of greenhouse and other gases and substances will increasingly need to be based on efficiency in energy production, transmission, distribution and consumption, and on growing reliance on environmentally sound energy systems, particularly new and renewable sources of energy. All energy sources will need to be used in ways that respect the atmosphere, human health and the environment as a whole.<sup>20</sup>

Unfortunately, despite these efforts, annual growth rates for access to electricity and non-solid (cleaner) fuels are actually falling in many poor States, as the table below shows. For renewable energy, the picture is thankfully more positive.

## **Infrastructure**

Many under developed States suffer from poor investment in energy infrastructure, a tendency to overly rely on a single energy source, or an inability to provide sufficient energy for peak times.<sup>21</sup> Although energy may be available and affordable in the capital, poor infrastructure means that little or no energy reaches rural areas, in turn affecting business, entrepreneurship, health and well-being for rural communities.<sup>22</sup>

It's a significant problem. Low-income African States currently face an annual funding shortfall of \$19 billion if they hope to close the infrastructure 'gap' within 10 years. \$7.5 billion of that would need to be spent on energy infrastructure.<sup>23</sup> Globally, and when taking into account all States, that gap is \$1 trillion a year.<sup>24</sup>

Of course, developing and less-developed States are quite aware of the need to increase infrastructure spending. Côte d'Ivoire has increased its spending from 2% to 6% of GDP, in part to expand electricity coverage from current levels, at

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<sup>20</sup> *Agenda 21*, United Nations Sustainable Development (1993). 9.9.

<sup>21</sup> *Achieving Energy Security in Developing Countries*, GNESD Policy Brief (2010). p.5.

<sup>22</sup> *Transforming Growth for Least Developed Countries*, International Institute for Environment and Development. <http://www.iied.org/transforming-growth-for-least-developed-countries>

<sup>23</sup> *Addressing the LDC infrastructure and investment gaps: Is there a role for GATS commitments?*, International Centre for Trade and Sustainable Development (2012).

<http://www.ictsd.org/bridges-news/bridges-africa/news/addressing-the-ldc-infrastructure-and-investment-gaps-is-there-a>

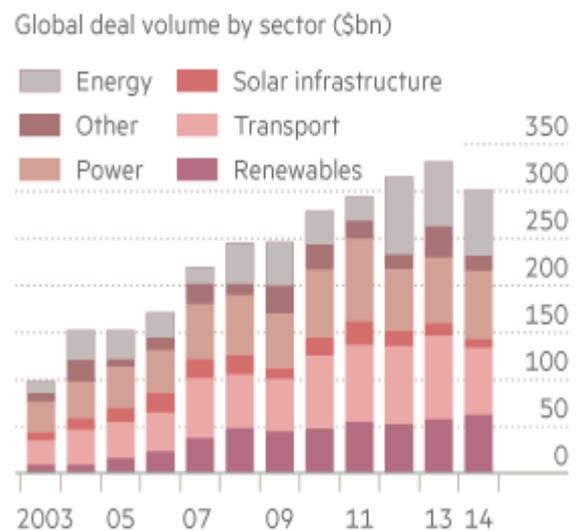
<sup>24</sup> *Infrastructure: Bridging the gap*, Financial Times (2015).

<http://www.ft.com/cms/s/0/0ac1a45e-86c8-11e5-90de-f44762bf9896.html#axzz4BSJUKdkX>

43%.<sup>25</sup> But in reality, efforts must be made by a combination of non-governmental organisations (NGOs), foreign direct investment (FDI), domestic investment, foreign aid and development investment banks as well if LDCs are going to make sufficient improvements in energy infrastructure on a national or local level. One difficulty is that involvement by private corporations usually drives up costs for the consumer; as Nialé Kaba, economy and finance minister for Côte d'Ivoire, has said: 'Inviting the private sector in is important, but we must be able to cover the cost of these projects with a good pricing structure.'<sup>26</sup> As infrastructure projects are by their nature long-term investments, it can also be difficult to persuade FDIs to invest in politically unstable States.<sup>27</sup> However, energy infrastructure has proven comparatively appealing for FDI investment, accounting for 35% of all FDI infrastructure investment in LDCs.<sup>28</sup>

Lacking infrastructure within developing communities consequently results in energy inefficiency. For example, small businesses and enterprises who are unable to increase energy productivity will face the long term financial consequences of undercutting profits due to the inefficient energy costs of production<sup>29</sup>. For example, refrigerating units based on thermos-flask technology are being used in areas with no electricity to keep vaccines cool.<sup>30</sup> So although vaccines are being produced for the public, lacking infrastructure and energy inefficient storage methods will result in the unrefrigerated vaccines and a loss of product. The UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS) is in the process of launching a 'Technology Bank' for LDCs, which has the potential to drive focus on energy efficiency through strengthening infrastructures.<sup>31</sup> This program will be a collaborative initiative between scientists to produce research and technological advancements for energy efficiency in developing regions.

### Where infrastructure investment has flowed



**Figure 3: Infrastructure Investment by Sector, Globally. Infrastructure: Bridging the gap, Financial Times (2015).**

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> Boosting infrastructure in developing countries: Foreign investment helps -- if planning is effective, United Nations Conference on Trade and Development (2008).

<http://unctad.org/en/pages/PressReleaseArchive.aspx?ReferenceDocId=10501>

<sup>29</sup> Ibid.

<sup>30</sup> *Bill Gates and John Green Discuss Progress*, vlogbrothers [Video].

<https://www.youtube.com/watch?v=uMLy-SCa0zc>

<sup>31</sup> *Technology Bank*, UN-OHRLLS. <http://unohrlls.org/technologybank/>

## Renewable Energy

The need for a profound transformation of the world's energy production has been widely recognised because of the mounting concern about global climate change. Numerous reports have been written on sustainable energy, though it is not analysed extensively in relation with LDCs. In States where a significant portion of the population still lacks access to basic energy services, the worry about long-term environmental sustainability is often overshadowed by more immediate concerns about energy access and affordability.

Yet it would do not to ignore the need for clean energy production in LDCs. Energy use from unclean energy sources is a significant and immediate cause of high levels of air pollution and other forms of environmental degradation in many developing States. Moreover, although developed States have historically been the main drivers of climate change, developing States are forecasted to account for three-quarters of the world's increase in CO<sub>2</sub> emissions between 2004 and 2030.<sup>32</sup> It is expected that in the longer-term, climate change that is caused by energy-related emissions will pose disproportionate risks to developing States, even though emissions in developed States are overwhelmingly responsible for current levels greenhouse gasses. This is because developing States are likely to be more sensitive to impacts such as effects on water resources and agricultural productivity. They are also more likely to lack the financial and institutional means to implement effective adaptation measures.

As the cost of green energy falls in comparison with traditional energy, it is therefore increasingly preferable for LDCs to invest in green energy sources. One benefit of renewable energy sources is their potential for working on a local level. Instead of a few large, infrastructure-heavy plants, States and other investors can instead build a greater number of small-scale projects within the communities where this energy is most needed. This can be particularly effective because of the domestic focus of energy consumption in developing States.<sup>33</sup> One potential model is Costa Rica, which has invested significantly in hydro, wind and geothermal resources and now generates an impressive 98% of its energy from renewable sources.<sup>34</sup> The Costa Rican government hopes to retire its remaining oil plant by 2017.<sup>35</sup> Such projects require less large-scale infrastructure.

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<sup>32</sup> Energy, Development and Security, UNIDO (2008). p.4.

<sup>33</sup> Race to renewable: five developing countries ditching fossil fuels, The Guardian (2015).  
<http://www.theguardian.com/global-development-professionals-network/2015/sep/15/five-developing-countries-ditching-fossil-fuels-china-india-costa-rica-afghanistan-albania>

<sup>34</sup> Race to renewable: five developing countries ditching fossil fuels, The Guardian (2015).  
<http://www.theguardian.com/global-development-professionals-network/2015/sep/15/five-developing-countries-ditching-fossil-fuels-china-india-costa-rica-afghanistan-albania>

<sup>35</sup> Ibid.

## Questions a Resolution Must Answers (QARMAs)

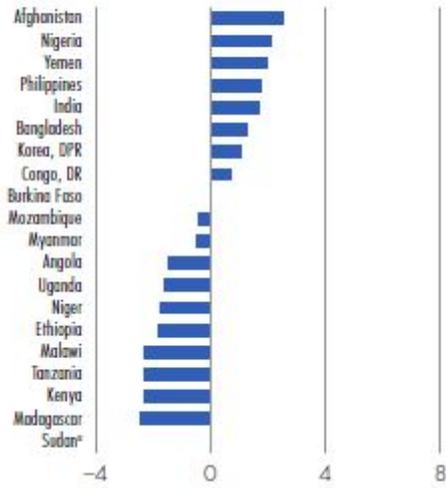
1. How can the international community reduce the amount of unclean fuels used by the world's poorest citizens without destroying local economies?
2. What measures could be taken to mitigate the disproportional consequences of energy pollution experienced by women and girls?
3. How can LDCs balance the need for energy security with the financial burden of investing into clean energy sources?
4. How can LDCs strengthen their energy infrastructure? What role should foreign investors, non-governmental organizations, and private industries play in these efforts?
5. What balance should there be between investing in large-scale infrastructure projects, and small-scale, local energy production methods?
6. How can LDCs ensure healthy energy diversification?
7. What clean energy sources should LDCs invest in?
8. What role, if any, do regional organizations play in securing energy security for LDCs in their region?

## Appendix

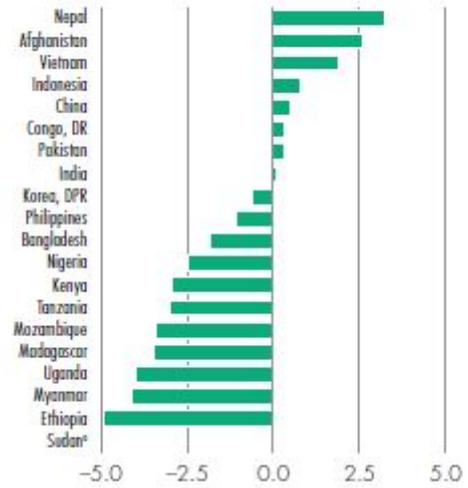
Power Plant Type	Cost \$/kW-hr
Coal	\$0.095-0.15
Natural Gas	\$0.07-0.14
Nuclear	\$0.095
Wind	\$0.07-0.20
Solar PV	\$0.125
Solar Thermal	\$0.24
Geothermal	\$0.05
Biomass	\$0.10
Hydro	\$0.08

**Figure 4:** Cost of Energy by Source, Why Alternatives are Important, *Your Guide to Renewable Energy*.

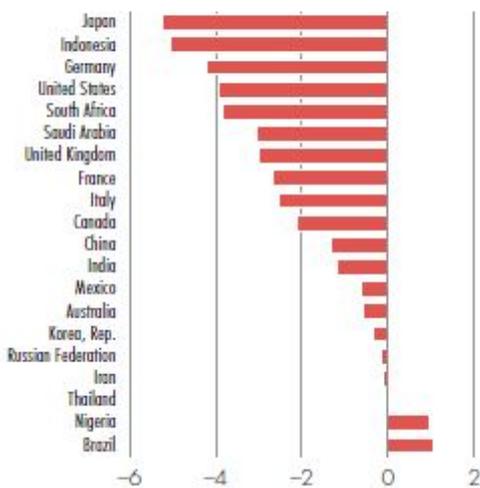
a. Access to electricity, average annual growth rate (%)



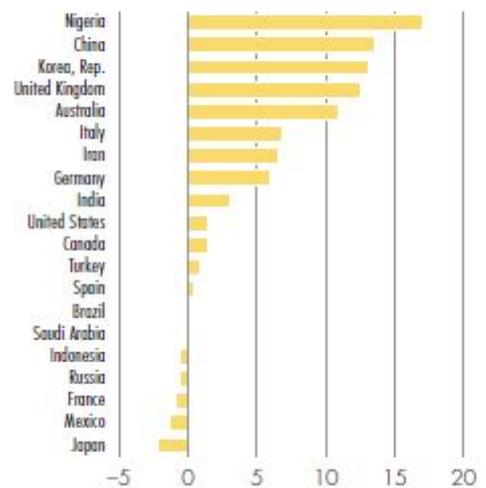
b. Access to non-solid fuels, average annual growth rate (%)



c. Energy intensity, compound annual growth rate (%)



d. Modern renewable energy, compound annual growth rate (%)



**Figure 5:** Tables showing progress towards increased energy access in several States. *Progress toward Sustainable Energy, Sustainable Energy for All (2015). P.4.*

Authors: Peter Swallow, Under Secretary-General; Joost Kielstra.