

**Economic Commission for Europe**

**Committee on Sustainable Energy**

**Group of Experts on Cleaner Electricity Production from Fossil Fuels**

**Thirteenth session**

Geneva, 26 and 27 October 2017

Item 4 of the provisional agenda

**Workshop: Sustainable Management of Fossil Fuels in Electricity Generation**

**Carbon Management Considerations for New Coal Projects**

**Illustrative Considerations for Financing New Coal Projects**

**Note by Heather Lauren Greenley, USEA**

**Introduction**

1. The global energy industry is expected to more than double its service by 2050, due largely in part to population increase of over 2 billion people, providing 1.2 billion people currently living with no electricity, as well as providing energy to the 1.3 underserved people. Meeting these needs must be done through increase production, distribution and utilization while at the same time enhancing safety, maintaining affordability, and ensuring reliability and environmental stewardship relating to the UN Sustainable Development Goal 7. At the same time, the global community is faced with an overarching task of controlling current greenhouse emissions in order to mitigate the most drastic consequences of climate change. This task will only increase in difficulty as more and more of the global population gain energy access. In short, the world will need to nearly double energy services to consumers while finding a way to simultaneously decarbonizing the global energy sector in support of the UN Sustainable Development Goal 13.

2. Meeting the future needs of energy consumers and mitigating climate change cannot be done by simply excluding coal from the energy mix. While this is a challenge of great magnitude, this is also an opportunity for the world leaders to provide mechanisms that encourage cleaner electricity production. With strict coal project financing of many major financial institutions supported by developed nations, countries attempting to provide their populations with electricity access have very few options. This situation leaves many countries with limited avenues to enhance energy security, grid stability, and the ability to diversify their energy mix all at the expense of electricity access being a lesser priority than emissions. However, there exists an opportunity to bring together these often opposing goals by supporting the enhancement of high efficiency and low emission (HELE) technologies.

3. Since 2011, nearly 50 percent of new coal-fired power plants were built using HELE technologies. Although the growth of HELE has been substantial, there are still many units being built today that are sub-

critical, and furthermore nearly three quarters of operating coal plants are non-HELE.<sup>1</sup> These technologies have become so sophisticated that if deployed they could represent nearly a 20 percent reduction of greenhouse gas emission from the global power sector.<sup>2</sup> It is important to note that HELE technology are available now, are commercial and economic, and are necessary for a sustainable and energy secure future.

4. According to the International Energy Agency, coal is the largest source of power in the world and will continue to remain at the top for the foreseeable future, largely as a result of the widespread availability and low cost.<sup>3</sup> Despite slow growth in coal demand globally, the fuel is still expected to be a large part of the fuel mix as illustrate by Figure 1, owing largely to growth in India and SE Asian countries, Figure 2.

Figure 1

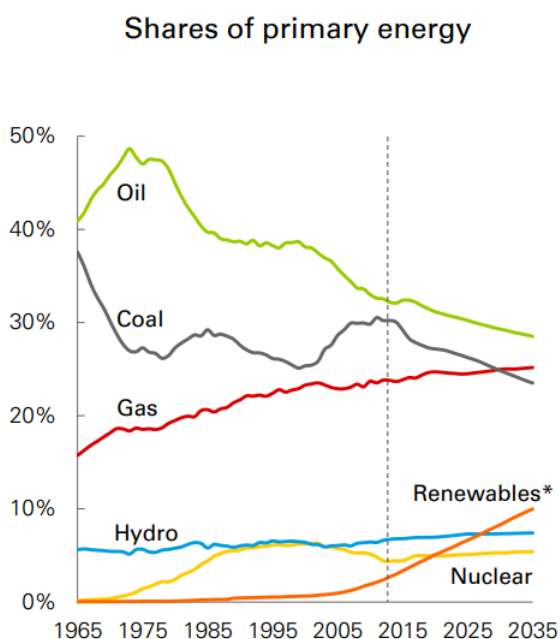
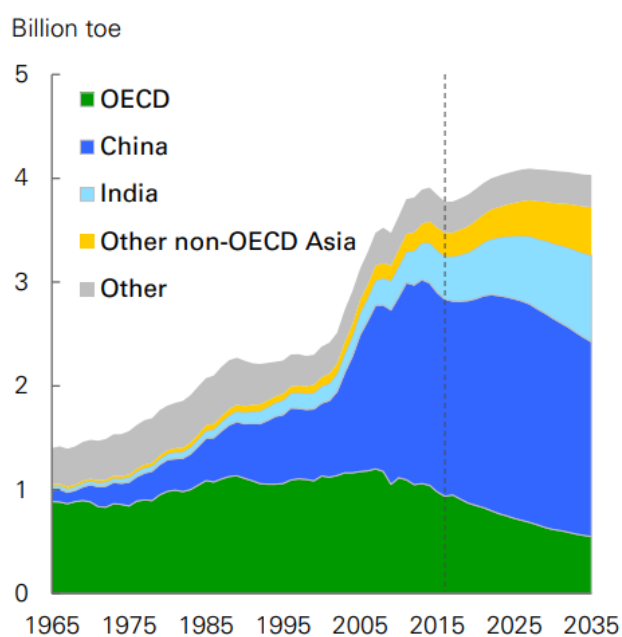


Figure 2

Coal consumption by region



Source: <https://www.bp.com/content/dam/bp/pdf/energy-economics/energy-outlook-2017/bp-energy-outlook-2017.pdf>

5. The Committee on Sustainable Energy at its twenty-sixth session, 26-28 September 2017, considered the potential role for the United Nations Economic Commission for Europe (ECE) in providing an illustrative list of considerations when financing new coal projects, particularly those that could provide electricity services to those currently without or severely underserved. The Committee moved to include this discussion in the 13<sup>th</sup> session of the Group of Experts on Cleaner Electricity Production from Fossil Fuels in Geneva, 26-27 October 2017.

6. Following the Committee’s request, the Group of Experts on Cleaner Electricity Production from Fossil Fuels accepted to participate in the preparation of a report on possibly considerations for financing new coal projects. The Group’s contribution to the document will to a large extent draw from discussions

<sup>1</sup> [https://www.iea.org/publications/freepublications/publication/HELE\\_Foldout\\_A3\\_2ndProofs.pdf](https://www.iea.org/publications/freepublications/publication/HELE_Foldout_A3_2ndProofs.pdf)

<sup>2</sup> <https://www.worldcoal.org/reducing-co2-emissions/high-efficiency-low-emission-coal>

<sup>3</sup> <https://www.iea.org/publications/freepublications/publication/technology-roadmap-high-efficiency-low-emissions-coal-fired-power-generation.html>

---

held by internal meetings with the U.S. Department of Energy, the International Energy Agency Clean Coal Centre, and coal industry representatives.

7. In order to facilitate this important work, the secretariat submits the following illustrative list of considerations for the Group of Experts' review and comments. Notwithstanding a prescriptive tone of the List, its primary role is to provide a point of departure for discussions among the experts.

## **II. List of Considerations**

8. Governments could cooperate with respective financial institutions on creating less exclusive criteria and reduce the caveats associated with the case-by-case determinations for power generation. In that, the criteria could not be based on generating fuel types, but could be based on emissions standards or minimum efficiencies, embracing the all of the above energy strategy and not unduly burdening any one industry, or country.

9. Governments and respective financial institutions could carefully assess the net carbon and pollutant impact of replacing traditional solid biomass with new coal generating HELE technologies in developing countries.

10. Governments and respective financial institutions could consider the need to provide funding for associated infrastructure. Of note, while specific mining techniques may be off limits there could be consideration for the benefit of bringing infrastructure to the local population, including rail and network grid investments.

11. Operators and owners of coal infrastructure could observe existing standards on carbon emissions, safety, and environmental impact along the value chain. Best practices and new common methodologies could be discussed, exchanged and implemented in a timely manner.

12. Governments could engage and cooperate with the coal industry and key stakeholders in the process of continuous improvement of technologies that increase a plant's efficiencies and lower emissions.

13. Major financial institutions and their stakeholders could utilize their influence by developing a standard that could be more reasonably adhered to, such that new coal plants could all hold the same minimum standard of technological sophistication, and that would be adopted by other major lending institutions.

14. Governments and respective financial institutions could consider streamlining their rules (including those associated with size and class) for financing new coal plants and provide a holistic approach to the social benefit of such a plant with special consideration for countries where at least 10 percent of the population lack access to electricity.

15. Governments and respective financial institutions could consider formally adhering to the UN list of 159 'developing' nations.

16. Financial institutions could recognize the net reduction of carbon emissions and the net social benefit of replacing old inefficient biomass plants and direct traditional biomass utilization with new HELE coal plants increasing the reliability and populations served providing consistent electricity and associated benefits, including reliability, affordability, and sustainability.

17. Governments recognizing that those providing finance ultimately have leverage over the technology and equipment used on new projects, could consider the added benefit of exporting such equipment for new projects.

18. Governments could reconsider certain fossil technologies eligible for climate bonds especially if the project would result in a significant net reduction of emissions, as these and zero emission projects are all interconnected.

19. OECD governments could prioritize the need for electricity access and associated infrastructure.

### **III. Options**

#### **A.Acknowledgments and definitions**

20. This illustrative list of considerations provide governments, financial institutions and industry a means to reconsider the current state of coal-fired power plant technology and to recognize that this technology can provide net cleaner burning electricity generation and taking into account their existing regulatory frameworks, as well as scientific and technical developments, different countries may apply different policies, measures and methodologies to achieve this goal.

---