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News & Highlights

Clean Energy Perspective

Lance A. Davis

Senior Advisor, US National Academy of Engineering

The International Energy Agency has recently published a report assessing the status of a wide range of actions necessary for energy technologies/energy consumers/energy intensive industries to be on track by 2025 toward meeting the goal of minimizing global temperature rise to 2 °C by 2100 relative to pre industrial levels. The report, titled *Tracking Clean Energy Progress 2017*, is available on the web in complete form[†] and in the form of a dashboard.[‡] The report is extensive and the interested reader is advised to refer to it for in-depth information, but there are a number of highlights worth noting here.

Most frequently, energy discussions focus on consumption of fossil fuels/emissions for automobiles and/or renewables vs. non renewables for electricity generation. Progress in these areas is critical but by no means sufficient to meet the 2 °C scenario. The report details progress that is necessary for other areas and profiles 26 different sectors encompassing energy supply, buildings, industry, and transport. Of the 26 sectors, only three, electric vehicles, energy storage, and solar PV and onshore wind, are considered presently to be on track toward the goal of 2 °C, although it is indicated that sustained deployment and policies are still required. Some 15 others, ranging from aluminum to trucks and heavy duty vehicles are rated “improvement, but more efforts needed,” while the final eight sectors are listed as “not on track.”

Among the latter are buildings and carbon capture and storage (CCS). Energy consumption in buildings globally has remained constant at 5 MW·h per person per year since 1990 and needs to decrease by 10% by 2025 to be on track toward the 2 °C goal. CCS is more deficient yet; projected capacity for existing projects is about 30 million tonnes of CO₂ (MtCO₂) per year, whereas by 2025 this would need to be 400 MtCO₂ per year to track toward the goal. Industrial heat is an outsized factor in the energy scenario, representing about 50% of final energy consumption. Direct generation of heat by renewables—biomass, solar thermal, and geothermal—has received much less attention than renewable electricity and has evidenced slow growth. Use of renewables for heat would need to increase 32% from 2014 to 2025 to meet the 2 °C scenario and most of that gain would need to come from solar thermal installations.

Even a casual reading of the *Tracking Clean Energy Progress 2017* report leaves one with a clear impression of the enormity of the task of meeting the 2 °C scenario, compounded even further by the caveat that achieving all the goals outlined for the various sectors promises only a 50% chance of overall success. Some goals play a larger role than others in the total energy/emissions mix; some goals will likely not be met and poor outcomes in one area will require still better outcomes in others. Assessments such as provided in the report are essential to track overall progress and the progress toward individual goals.

[†] <http://www.iea.org/publications/freepublications/publication/TrackingCleanEnergyProgress2017.pdf>.

[‡] http://www.iea.org/etp/tracking2017/?utm_content=bufferb7619&utm_medium=social&utm_source=twitter-ieabirol&utm_campaign=buffer.