



# Climate Action Network

## G20 Issue Brief

### Renewable Energy and Energy Efficiency

#### *Suggested G20 Leaders' Communique language*

*We recognize that new domestic actions and legislation particularly on rapid expansion of renewable energy and enhancement of energy efficiency will be necessary to meet the challenges of the SDGs, the Paris Agreement and other international and national commitments of G20 countries, and will have multiple benefits for climate protection, reduced air pollution, technological development, reduced energy costs for the consumers and new jobs. We commit to doubling our domestic renewable energy consumption by 2030, with a view on further growing solar and wind, as the likely most cost-effective renewables. We commit to enhancing our domestic legislation to cover up to 90% of all energy use with modern and best-available efficiency standards, and will strive to lead the world in becoming the most energy-efficient economies globally and double our annual rate of energy intensity improvement by 2020 and maintain that level throughout 2030.*

*We acknowledge the importance of strengthening and coordinating international collaboration in the field of energy efficiency, avoiding duplication of work, by providing a hub to share knowledge and experience in collecting and using energy efficiency data.*

The G20 hosts about 64% of global population, but its total energy and electricity consumption is about 80% and 84% of all, respectively. Fossil fuel-based CO<sub>2</sub> emissions in G20 countries amount to about 84% of the global total, while G20 consumes 95% of all coal<sup>1</sup>. This illustrates the significant role of the G20 for a move to an eventual decarbonized world energy economy and supported by high levels of energy efficiency. Zero carbon emissions by mid-century latest from the energy sector is a crucial precondition for meeting the Paris Agreement goals. While we have seen an amelioration of the global energy efficiency improvement rate in recent years, it is still well below what is needed to meet SDG 7 target 3 (doubling the annual energy intensity improvement rate by 2030).

Opportunities for greater energy efficiency are vast, and avoiding energy waste will harness social and economic benefits such as creating jobs, improving air pollution, reducing energy supply investment needs and electricity bills, and increasing energy security. Raising efficiency standards of appliances and lighting in G20 countries alone could reduce global GHG emission by 1.8-2.9 Gt CO<sub>2</sub>/year by 2030. Taking advantage of the Montreal Protocol's mandate to replace HFCs in cooling appliances with greener refrigerants in parallel to improve the energy efficiency of appliances will unlock a 100 Gt opportunity if financing mechanisms are aligned with policies.

While having a share of about 6% of electricity demand currently, only about 2% of all global energy use is derived from solar, wind and geothermal, considered the most sustainable modern energy sources. Overall, despite its strong growth since 2004 of almost 5% annually, modern renewables share of total energy is still very low because the consumption of fossil fuels also grew by almost 2% annually<sup>2</sup>.

With about US\$500 billion annually, the combined investments into renewables and energy efficiency are still only about half of that into fossil fuels on average in last three years<sup>3</sup>. Solar and wind in particular have large cost-effective potential to reduce global CO<sub>2</sub> emissions by 6-10 Gt CO<sub>2</sub> annually<sup>4</sup> by 2030, equivalent to 20% of current global GHG emissions. Energy efficiency provides similar options, where new legislation for strengthened energy consumption standards could fully harness the cost-effective potentials in various sectors and reduce CO<sub>2</sub> emissions by 9-13 Gt CO<sub>2</sub> annually, particularly in industry, new and existing buildings and transport<sup>5</sup> also by 2030.

#### **In 2018, CAN calls on the G20 countries to:**

- **Commit to ensuring energy policies are aligned with long-term, low-GHG emission development strategies.** This should include defining, in 2018, low-emission options and technologies that are consistent with the long-term strategy, including identifying timelines for new and existing assets to be deployed and/or phased out, in line with OECD recommendations.<sup>6</sup>
- **Commit to putting in place national policies to ensure an average doubling of the renewable share of the energy mix across G20 countries by 2030;**
- **Initiate policies to achieve SDG 7.3 target to double the annual rate of energy intensity improvement within G20 countries by 2020.**

<sup>1</sup> Perspectives For Energy Transition, IEA/IRENA, 2017: [https://www.energiewende2017.com/wp-content/uploads/2017/03/Perspectives-for-the-Energy-Transition\\_WEB.pdf](https://www.energiewende2017.com/wp-content/uploads/2017/03/Perspectives-for-the-Energy-Transition_WEB.pdf)

<sup>2</sup> Global Status Report Renewables, REN21, 2017: <http://www.ren21.net/status-of-renewables/global-status-report/>

<sup>3</sup> World Energy Outlook 2016 & 2017, IEA, 2016 & 2017; not available on the web.

<sup>4</sup> The Emissions Gap Report, 2017, UNEP; [https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR\\_2017.pdf](https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR_2017.pdf)

<sup>5</sup> UNEP, 2017

<sup>6</sup> OECD, *Investing in Climate, Investing in Growth*, 2017, p.114

