

The 2019 REN21 report on the global status of renewables and consequences for NDC enhancements

This is a CAN summary of the most important findings of the new REN21 report on the latest global status of renewables in 2018, a comparison with wider energy-political trends and developments in 2018 and the CAN conclusions on the urgent demands for all governments to speed up significantly investments and deployment into both energy efficiency and renewables while reducing massively investments into the entire fossil fuel and nuclear supply chain to meet the SDG and the 1.5 C Paris Agreement objectives

The most important findings of the REN21 report about the 2018 renewable energy trends

- Renewables accounted for 64% of new electric capacity. This was led by solar (100 GW) and wind (51 GW). The contribution by hydropower was 20 GW and others like biomass, geothermal, concentrated solar power was together about 10 GW. 2018 confirmed the trend of the last 10 years that of the total investments with almost \$US 300 billion last year, the overwhelming majority went into solar and wind power. And the latter sees exponential growth in offshore wind investments. Overall last year, investments into renewable power had been three times as large as investments into coal and gas power.
- Renewables account now for 26% of all electricity produced in the power sector but with a share of only 17% of all energy used. The larger energy using sectors Transport (32%) and Heat and Cooling (51%) show a share of only 3% and 10% renewables, respectively. The growth rates for instance for solar heating are flattening. Excluding traditional biomass, all renewables provide about 11% of all final energy use.
- Because of their exponential growth rates in last years, solar and wind power together provided about 8% of all electricity globally but are still trailing hydro power with 16%. In terms of total share of new renewables (mainly wind and solar) of all energy used in the world, their share is about 2% - a quarter of traditional biomass which still used often highly inefficient in developing countries for cooking. However, led by Denmark (51%), Uruguay (35%), Ireland (30%) there are another seven countries by now that have 20% and more wind and solar of all annual electric supply (Germany, Portugal, Spain, Greece, UK, Honduras and Nicaragua). US and China, the globally largest investors in renewables are far behind.
- China and the US provided half of all global investments for renewables and run the highest renewable energy capacity of all countries. However, size of a country and respective total finance capacities does not say anything about the specific effort of a country. Overall investments into renewable electricity per unit GDP was led in 2018 by Palau, Djibouti, Morocco, Iceland and Serbia. And total per capita capacity of solar PV and wind was pretty much dominated by Europe, with Germany, Australia,

Japan, Belgium and Italy in the lead for solar PV and Denmark, Ireland, Germany, Sweden and Portugal championing wind power.

- The bias towards the power sector is reflected in the national renewable energy policy regulations with 162 countries having national targets for renewable power and 135 countries having legislation in the power sector, while 70 countries have legislation in the transport sector and only 20 countries in the heating and cooling sectors. This is reflected by the number of countries (65) that have targets for 100% renewable electricity and only one country with 100% renewable targets in transport and other sectors.
- By now, about 150 million people in developing countries benefit from energy access through off-grid solar systems. The leaders are Bangladesh and Mongolia with almost 10% of the population, followed by Nepal and Fiji, Rwanda and Uganda.
- REN21 concludes by a sobering analysis – stating that we are far away from a global Energy Transition. Though we have made some good progress in the power sector with variable renewables in particular, the progress in transport and other sector towards renewables is not visible. The overall commercial investment into renewables is less than the conventional consumer fossil subsidies by governments, not to mention commercial investments into fossil fuels, its gigantic externalities and the lack of ambitious energy efficiency investments in all sectors.

How does the REN21 report fits with other reports about the climate and energy situation in 2018

- Energy consumption grew by about 2-3% in 2018 and renewables provided only about a third to meet that enhanced demand. That had led to a growth of CO₂ emissions by about 2%¹. The highest CO₂ emission and the highest fossil fuel use ever. Almost half of the demand growth originated from fossil gas.
- Globally, production (p) and consumption (c) of all fossil fuels grew significantly in 2018:
Oil by 2.2% (p) and 1.5% (c), fossil gas by 5.3% (p) and 5.2% (c), coal by 4.3% (p) and 1.4% (c). China, US and India were responsible for about 70% of the increased demand and enhanced emissions. While coal starts to grow again particularly in Asia, mainly China, India, Indonesia and Vietnam, the US is now by far the single largest oil and fossil gas producer globally thanks to the domestic boom of shale oil and shale gas. Production of gas and oil in the US grew by almost 12% and 17% respectively last year, and allowing the US to possess the globally largest share of gas and oil production of almost 22% and 15%, respectively and leaving other fossil fuel exporting nations like Saudi Arabia, Russia, Iran etc. well behind².

¹ IEA 2019 <https://www.iea.org/geco/>

² BP 2019 <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2019-full-report.pdf>

- Renewable energy investment stagnated at about \$US 300 billion in 2018 since a few years, and so did investments into energy efficiency of about \$US 250 billion. That is much smaller than the stabilized investments into fossil fuels supply chain in all sectors of almost twice as much. Nuclear investments moved around \$US 40 billion last year. Overall networks including grid development required \$US 300 billion while investment into storage capacities was still marginal³.
- In 2018, resulting from increased oil prices, fossil fuel consumption subsidies grew by a third to about \$US 400 billion⁴. The highest level since 2014 and higher than all investments into renewable energies.

CAN conclusions and demands to governments based on the recent energy trends

- In order to meet the objectives of the Paris Agreement to not exceed 1.5 C global temperature increase eventually compared to the average of the years 1850 to 1900 (“preindustrial”), all countries need to jointly reduce their emissions by about 50% by 2030 compared to today. They need to significantly ramp up their climate targets (NDC) by 2020 latest for 2030. These new NDC in particular those of the large and wealthy emitters and because fossil fuels cause almost 80% of all GHG emissions need to contain significantly enhanced domestic targets for renewables and energy efficiency. These targets shall on average result in at least 40% renewables and a tripling in efforts for energy efficiency in all economic sectors by 2030. This will keep the option open for meeting the required cuts of all emissions towards net zero and 100% renewables by 2050 latest.
- As a precise start, all OECD and industrialised nations must retire all coal power and all coal mines by 2030 latest and developing countries must stop to build new coal power immediately while phasing out coal by 2050 latest.
- Legislation towards enhanced electrification based on renewables for light duty vehicles and trains in particular must be strongly accelerated. Infrastructure development to accommodate more renewables like storage facilities for excess renewables from weather dependent renewables and grid extension both high voltage and distributed low voltage needs to expand. Successful policies like preferred grid access for renewables and smart metering should be legislated in all countries
- Governments need to legislate bold incentives, sectoral targets and structural interventions to enhance renewables significantly not only in power sector but foremost in other sectors including transport, industry and buildings. That need to be paired with strongly increased energy efficiency targets such as minimum energy

³ IEA 2019 <https://www.iea.org/wei2019/overview/>

⁴ IEA 2019 <https://www.iea.org/newsroom/news/2019/june/fossil-fuel-consumption-subsidies-bounced-back-strongly-in-2018.html>

efficiency standards in industry and all demand sectors including buildings, transport and modal shift towards public transport on road and rail.

- Significant efforts must be undertaken with research, development and deployment of new super-efficient products, new low and zero carbon materials in industrial manufacturing and energy intensive industries like steel, chemicals and cement. This all must be part of a move to a circular economy for high general resource efficiency.
- The financial sector must be reformed and serve the people. Incentives must be given to finance primarily clean energy and abandon investments into fossil fuels and nuclear. All public financial institutions must stop investing in fossil fuels or giving export guarantees. Developing banks must shift investments from fossil fuels into renewable based energy access for the poor and energy efficiency. Similarly, all fossil fuel subsidies need to be removed and energy should be priced according to its externalities.
- Countries need to start planning to leave fossil fuels in the ground. This should first happen with rich countries and fossil fuel assets that are extracted in risky and vulnerable ecoregions and environments like deep sea oil or coal mining in forests.
- All countries must begin to plan for a national, regional or even local process under participation of all stakeholders for a Just Transition towards a much more sustainable economy for a truly zero-carbon development in all societal sectors to be able to meet the 1.5 C challenge and the SDG in parallel.