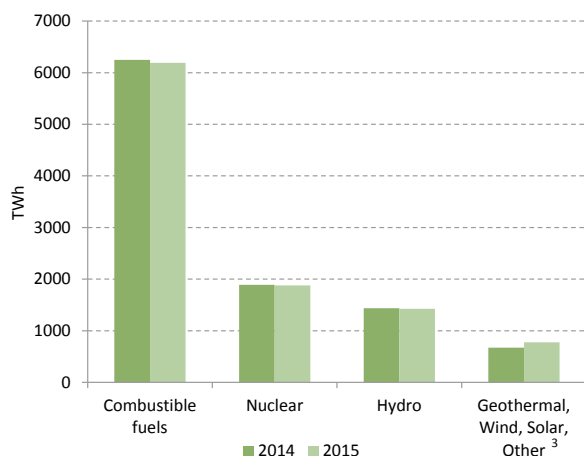


KEY ELECTRICITY TRENDS 2015 – BASED ON MONTHLY DATA¹

ELECTRICITY PRODUCTION²

An assessment of monthly data shows that in 2015, OECD net electricity production grew by 0.3% compared to 2014. Within this small overall change there was a large increase, 16%, in Geothermal, Solar, Wind, Other renewables³ generation and falls of around 1% in combustible fuels (coal, gas, oil, combustible renewables, wastes, and other combustible fuels), nuclear and hydro.

Figure 1: Total OECD electricity production by fuel



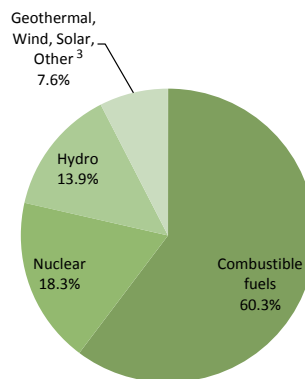
In the OECD, non-combustible renewables accounted for 21.5% of all generation compared to 20.6% in 2014. The share of production from combustible fuels (including combustible renewables) fell by 0.7 ppt to 60.3%, with the remainder made up from nuclear – which was broadly unchanged.

1. All annual comparisons are based on monthly for data in 2015 compared to monthly data for 2014.

2. For details about the monthly data, methodology, as well as definitions of OECD regions and other terminology throughout this document, please refer to the December 2015 edition of the [Monthly Electricity Statistics](#).

3. Geothermal, Solar, Wind, Other renewables include generation from geothermal, solar photovoltaic, solar thermal, wind, tide, wave, ocean and other non-combustible renewable sources

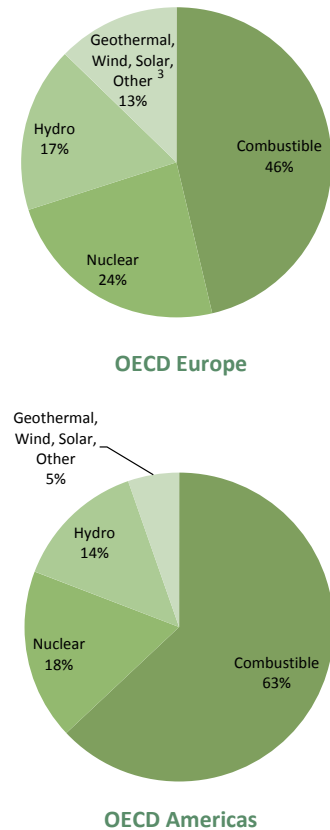
Figure 2: Shares of generation by source in OECD



Each OECD region experienced individual changes in generation totals and production shares by fuel type during 2015. In OECD Americas, production fell marginally, 0.2%, with lower hydro, 2%, combustibles, 0.8%, but Geothermal, Solar, Wind and Other renewables were 8.4% higher. Production also fell in OECD Asia/Oceania by 1.2% driven in particular by the electricity savings policies in Japan, with a 3.5% fall in combustibles, but increases in nuclear, with the restart of operations in Japan and growth in Korea, and non-combustible renewables. In contrast, overall electricity production grew in OECD Europe by 1.8% with growth in combustibles and nearly 20% growth in Geothermal, Solar, Wind and Other renewables, with falls in nuclear and hydro.

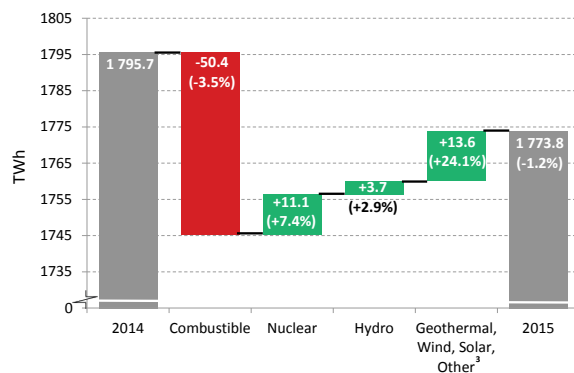
In terms of shares of generation in OECD Europe, non-combustible renewables accounted for almost 30% of generation compared to 19% in OECD Americas and 12% in OECD Asia/Oceania. Combustible fuel remains the main source of electricity and accounts for 63% in OECD Americas, 79% in Asia and 46% in Europe and remaining nuclear accounting for 18% in OECD Americas, 9.0% in OECD Asia/Oceania and 24% in OECD Europe.

Figure 3: Shares of generation by source in OECD Europe and OECD Americas



When considering the annual changes it is important to reflect on the different scale of production, so growth in renewables from a lower base will show as a higher percentage change than an equivalent volume reduction in combustibles. Figure 4 below illustrates this by showing the changes in generation for the main fuel groups in 2015.

Figure 4: Electricity production variations by generation source for OECD Asia/Oceania

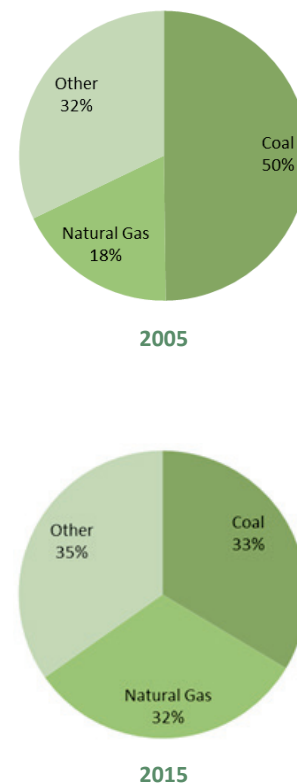


COMBUSTIBLE FUEL

Total OECD cumulative production of electricity from combustible fuels in 2015 was 6 189.6 TWh, which was lower by 56.3 TWh compared to 2014, or 0.9%.

One of the major drivers of the reduction of electricity generation from combustible fuels was the United States, which generates 40% of the OECD's total electricity production. While there was only a slight decrease of electricity production from combustible fuels of 0.8% representing 21.6 TWh, there has been a substantial shift in the fuel mix which began as a result of low natural gas prices in the U.S. during the shale revolution. Comparing the fuel mix before and after the shale revolution, we can see that coal-fired power plants are being phased out in favor of natural gas-fired plants (see Fig. 5), with monthly production of electricity from natural gas surpassing coal each month since October 2015 for the first time ever.

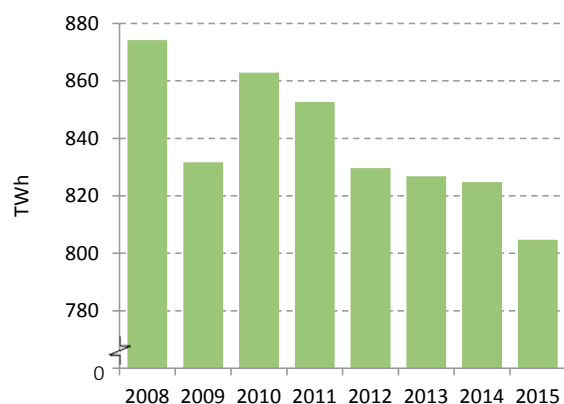
Figure 5: Percentage of electricity generation by source in the United States



NUCLEAR ELECTRICITY

Total OECD cumulative production of nuclear electricity in 2015 was 1 878.9 TWh, which was lower by 9.4 TWh, or 0.5%. However, OECD Europe was the only region which decreased its production of nuclear electricity, by 20.7 TWh or 2.5%, to 810 TWh due to a phase out of nuclear electricity in Germany, Belgium and Switzerland and operational outages which occurred in Finland, Czech Republic and Slovenia in 2015.

Figure 6: Nuclear electricity generation in OECD Europe



HYDRO ELECTRICITY

Total OECD production of hydroelectricity in 2015 was 1 424.8 TWh, which was lower by 12 TWh compared to 2014, or 0.8%. Hydroelectric production remained relatively flat throughout each OECD region. It has been almost constant for the OECD for the past 15 years, with an average growth rate of 0.8%. This very slow growth is because most of the available potential in OECD countries is already being used.

One of the unusual cases was Turkey, which produced 65% more electricity from hydro in 2015 than in 2014, which was a dry year. This allowed Turkey to decrease its annual import of natural gas in 2015.

GEOHERMAL, SOLAR, WIND AND OTHER OTHER RENEWABLES

Total OECD production of electricity from Geothermal, Solar, Wind and Other renewables was 776 TWh in 2015, which was higher by 105 TWh, or 16%. Increases in electricity production from Geothermal, Solar, Wind

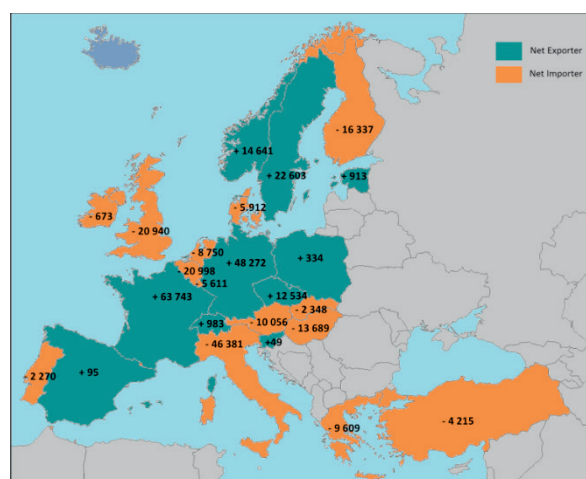
and Other renewables were seen in all OECD regions last year. OECD Asia/Oceania had the smallest volume increase of 13.6 TWh to 70 TWh, but this was a growth of 24% higher. OECD Americas fell in the middle with an increase of 21 TWh, or 8.4%, to 273 TWh. OECD Europe saw the largest volume increase of Geothermal, Solar, Wind and Other renewables of 70.2 TWh, or 19%, to a total of 434 TWh.

Throughout the OECD, the production of Geothermal, Solar, Wind and Other renewables is mainly composed of generation from solar PV and wind. In 2015, electricity generation from wind in OECD countries showed its largest increase since our data begins, with an additional 77 TWh from the previous year. The majority of this increase occurred in the OECD Europe region (61 TWh). Solar PV grew by 27 TWh in the OECD with the largest growth in OECD Americas with an increase of 10.4 TWh.

ELECTRICITY TRADE

In OECD Europe, imported electricity in 2015 reached 422 TWh (and a similar amount was exported) as shown on Figure 9. Trade has increased strongly in the last 15 years due to the liberalization of the electricity markets. The trade of electricity also increased in OECD America at a rate of 3% per year on average over the same period to reach a total imported amount of 86 TWh in 2015. Due to geographical constraints, the countries in OECD Asia/Oceania do not trade electricity.

Figure 7: OECD Europe Electricity trade balance 2015 (MWh)



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