Energy Production and Reserves: *Present and Future*

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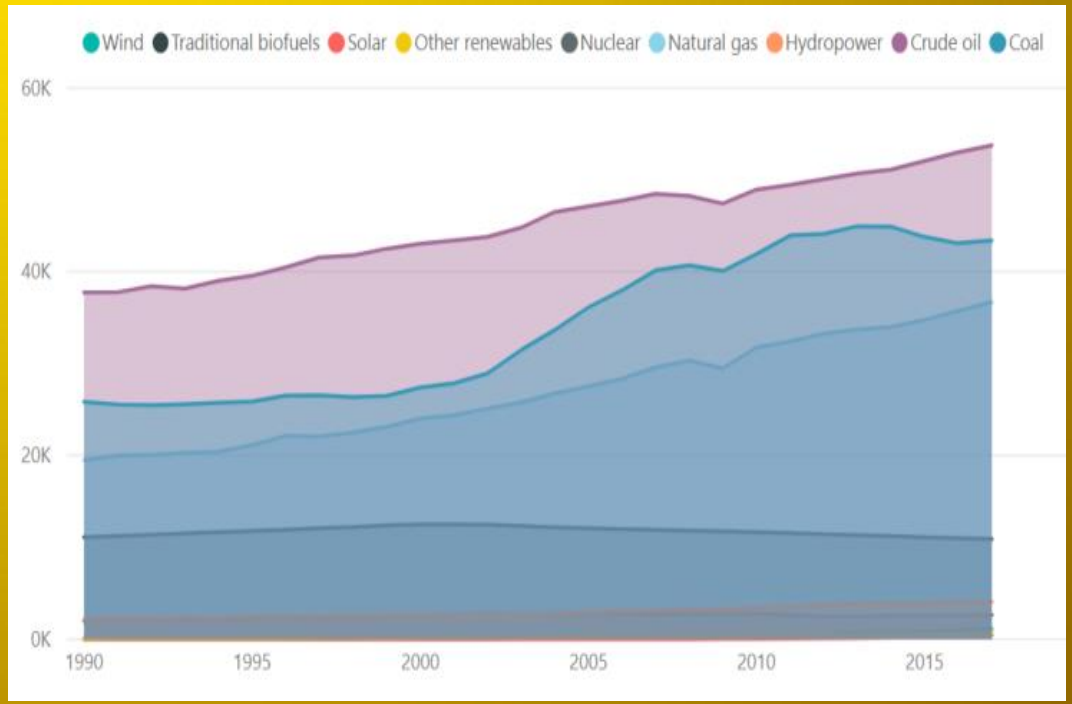
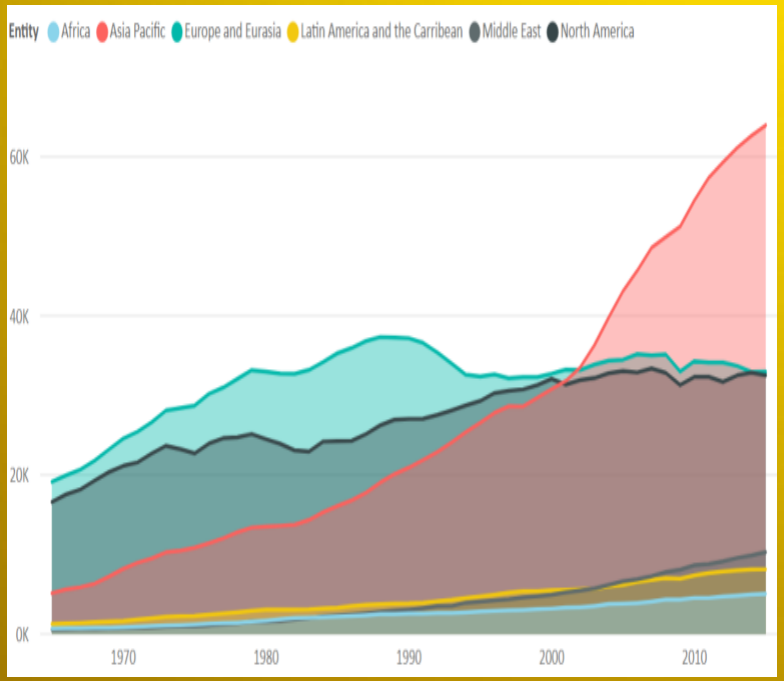
Energy Production

- Energy Production refers to forms of primary energy - Petroleum (crude oil, natural gas liquids, and oil from non conventional sources), Natural Gas, Solid Fuels (Coal, Lignite, and Other derived fuels), and combustible renewables and waste
- All converted into tonnes of oil equivalents (toe).

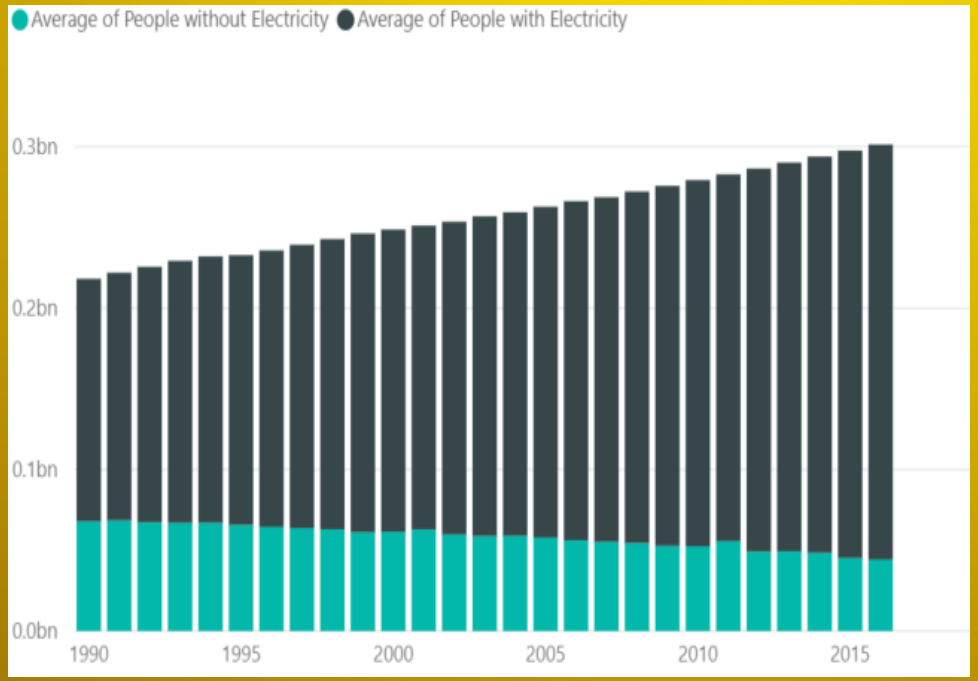


Energy Consumption Per Region



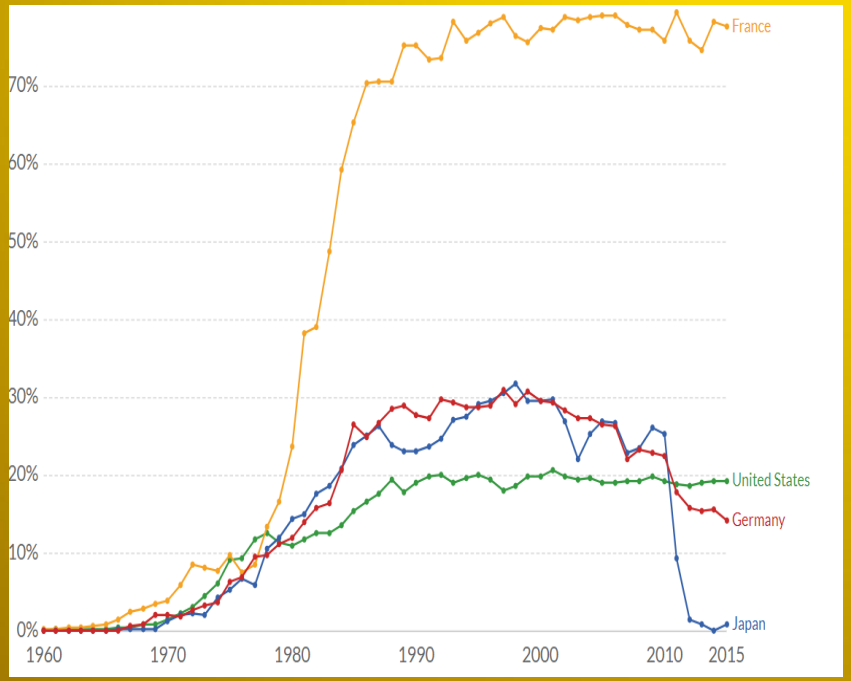
- Asia Pacific is the largest consumer 43%
- North America and Europe 16% each
- Middle East, Latin America and Africa 7 % each

People with access to Electricity



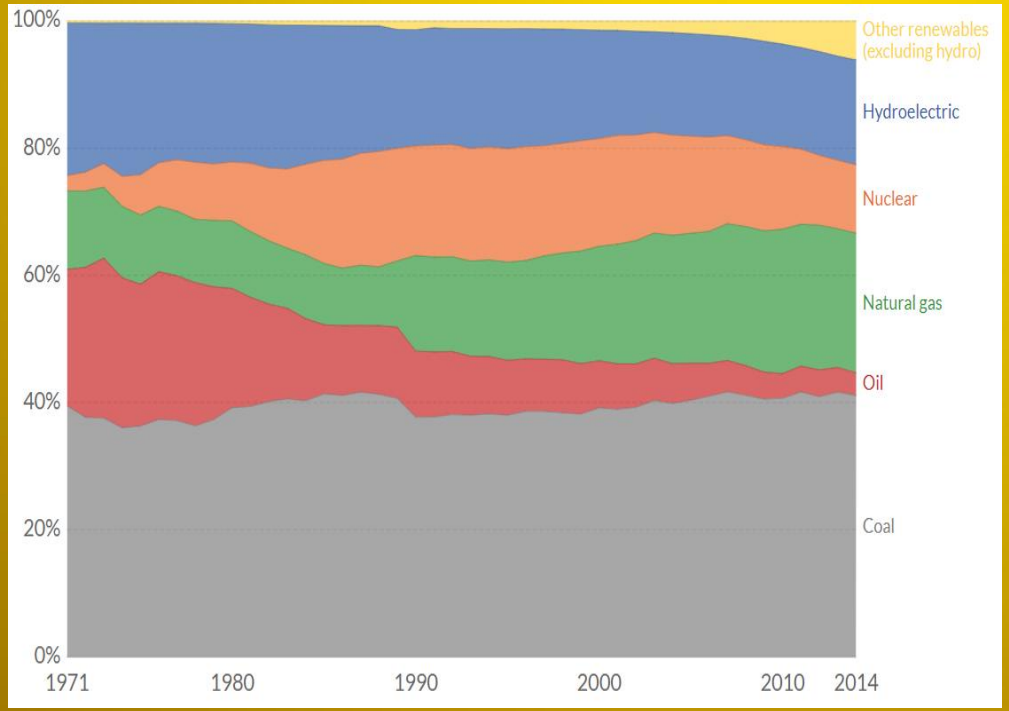
- With increasing Population, number of people without electricity has declined
- Number of People with access to electricity has increased to 2.7 billion

Nuclear EnergyProduction



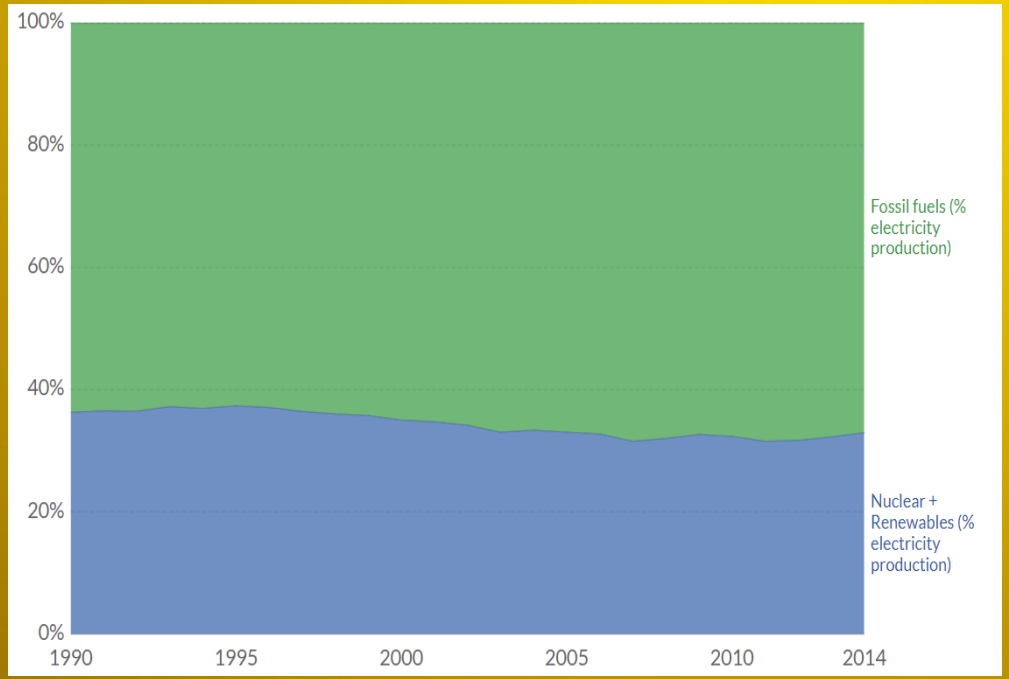
- The Share of Nuclear Production has decreased by more than 6 %
- Almost every country has reduced production of Nuclear Energy as it is very dangerous to human beings.

Energy Generation by Source



- The Share of Renewable source of energy has increased by more than 6 %
- The Share of Nuclear Production has decreased by the same amount (6 %)
- Contribution from oil has declined by 10%
- There is almost no change in total share of coal energy

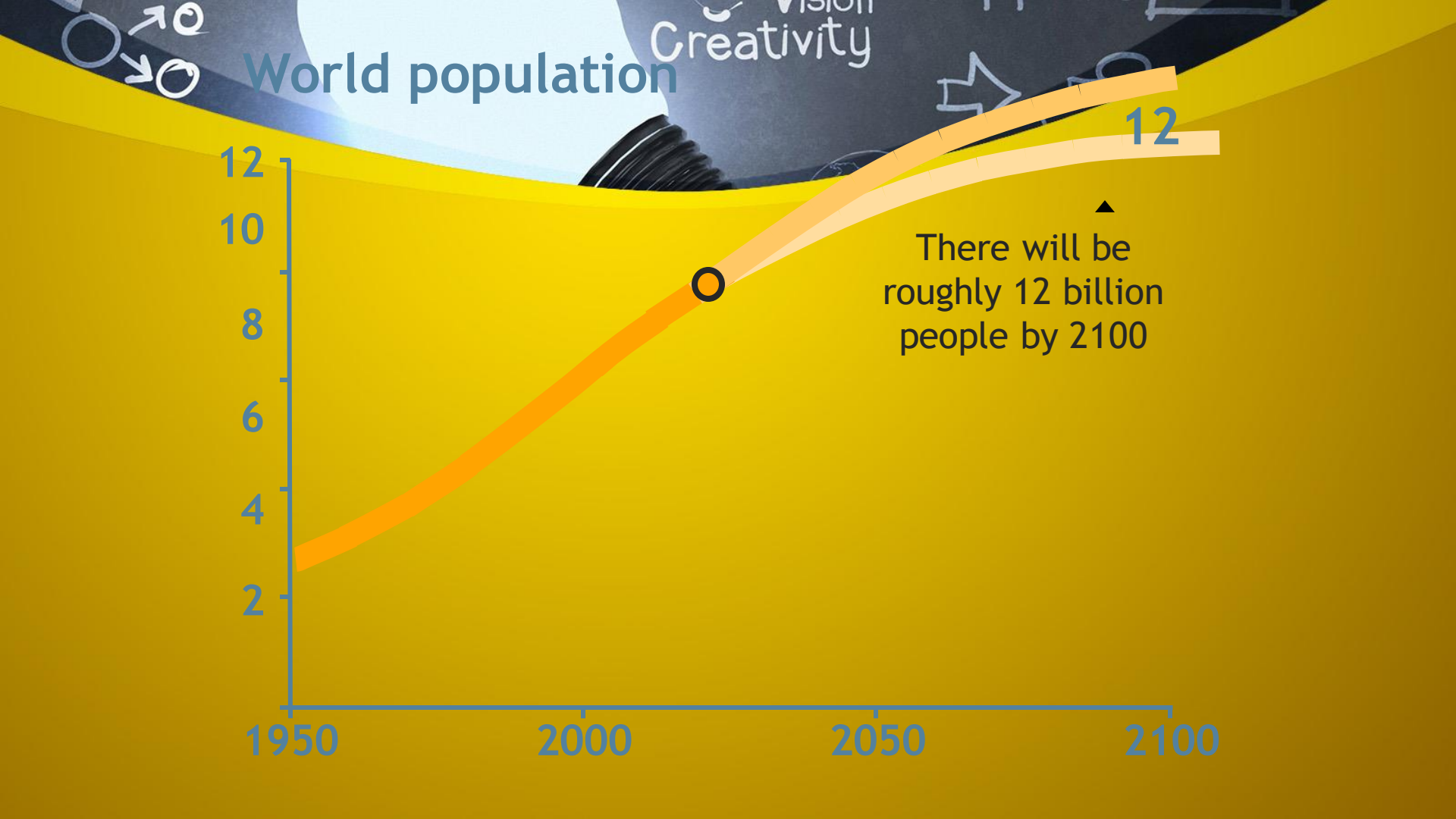
Fossil fuels & low-carbon sources



- Total share of low-carbon electricity production is almost exactly the same as a decade ago

Conclusion

- If we want to reduce our global greenhouse gas emissions, the world has to transition from an energy system dominated by fossil fuels to a low-carbon one
- We have two options to achieve this: ***Renewable technologies*** (including bioenergy, hydropower, solar, wind, geothermal, and marine energy) and ***Nuclear energy***.
- Both of these options produce very low CO2 emissions per unit of energy compared with fossil fuels. This is called '***Decarbonisation***'


Creativity
World population
12
12
10
8
6
4
2
1950
2000
2050
2100
There will be roughly 12 billion people by 2100