In the Late 1990s: the Dilemma of Cheap Fossil Fuels and Expensive Solar and Wind Energy Installations

Many specialists believed that through economies of scale electricity could someday be made by wind and even solar at a lower cost than from fossil fuels. This was and is much needed to minimize the risks of the more extreme climate change risks.

But both were much more expensive per kilowatt-hour than coal and natural gas power plants to produce electricity. How could the markets for wind and solar be grown rapidly so that the economies of large scale production be harnessed to drive down costs.

Japan, Germany, Denmark, and other European countries, and to a lesser degree the United States, incentivized wind and solar manufacturing and installations through government subsidies, guaranteed profitable markets, and renewable energy mandates.

These created a mass market for wind and solar farms. By around 2005 China also started incentives for mfg. and project development. The countries objectives were as much to bring jobs to their citizens as they were to create cleaner air, less water pollution, and to prevent climate change. The jobs objective was fulfilled: wind and solar together now account for more than half of all the world’s new electric power capacity installations since 2016.

But while China eventually became the world’s leading manufacturer and installer of wind and solar technologies, it also continued to build many coal plants so that today is per capita carbon emissions have risen to almost half those of the United States. But most of its rise in emissions was due to the moving of manufacturing from the United States to take advantage of low labor costs there, not internal consumption growth by the residents of China.

But back to wind/solar story, ***the global mass market for wind and solar boosted manufacturing and through economies of scale made wind and solar the cheapest way to produce electricity in many regions of the world. This could not have happened without the significant involvement of government.***