

Electricity Market:

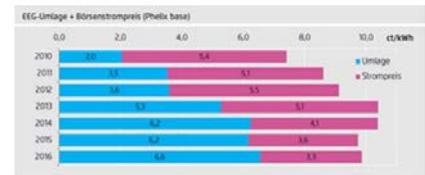
Consumer Prices and Wholesale Prices Move Apart

Consequences of the increasing gap between consumer prices and wholesale prices.

The newsletter from Agora Energiewende¹ from 15 September 2015 deals with the falling wholesale prices in the electricity market and the subsidies for renewable energy sources ("Umlage"), which must increase correspondingly in order to feed the Energiewende. The message is that this trend is without significant consequences to electricity consumers in 2016, "if electricity traders calculate honestly":

Börsenstrompreis fällt, EEG-Umlage steigt – jeweils um 0,3 Cent pro Kilowattstunde

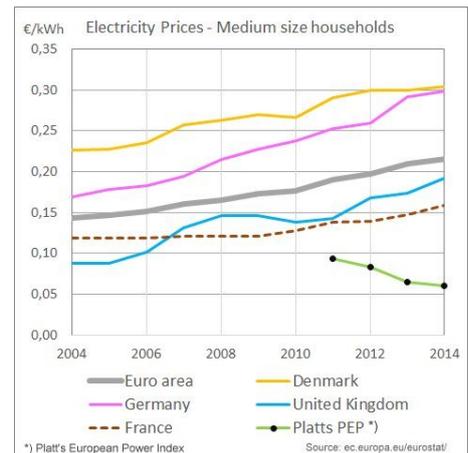
Stromrechnung 2016 ändert sich dadurch nicht, wenn Stromvertriebe ehrlich rechnen



The chart seems to confirm the message, at least for the years after 2013.

A view at a longer period indicates that steadily increasing consumer prices are typical in Europe.

According to Eurostat, the average annual growth of German consumer prices from 2004 to 2014 was about 6%. The average annual growth for the Euro countries was 4%. Germany seems to be about to overtake Denmark as the most expensive EU country.



Thus, declining wholesale prices have not been able to neutralize increases of other price elements, as suggested by Agora Energiewende.

No matter how the statistical evidence has been presented, the result is a growing gap between consumer prices and wholesale prices.

In Denmark, the increasing gap has some consequences:

- Thermal power plants are closing down.
The electricity spot market is the essential source of income to the thermal power plants. Many power plants are losing money. Several power plant owners have chosen to close down or mothball power plants before the end of their economic and technical lifetime.
- Backup for wind power and PV must be imported.
Fluctuating renewable energy, such as wind power and solar cells, needs dispatchable backup capacity. The thermal units could provide this backup, but a

¹ <http://www.agora-energiewende.de/>

capacity payment is needed in order to keep them available at short notice. Danish energy authorities are reluctant to introduce a capacity arrangement because they expect international trade combined with reinforced interconnections to be cheaper.

- The use of CHP is declining.
Combined Heat and Power (CHP) covers nearly half the Danish demand for space heating. This method saves energy and it has been an essential element of Danish energy policy. The decommissioning of thermal power plants reduces the potential use of CHP.
- The incentives for flexible demand will decline.
Electricity consumers are supposed to contribute to the balance of the power system by "Smart Grid" measures. Price sensitive demand should provide the necessary flexibility, but if the market prices are only about 25% of the consumer prices, the incentives at consumer level could be reduced correspondingly. This could become a barrier for changing consumers into prosumers.

The European electricity market is a complex system. Any intended change may have unintended consequences. It can be rather difficult to predict such consequences. Advanced system analyses might help to identify some of the consequences.