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Subsidies for renewable and classic electricity

In the debate about wind and solar electricity, the amount of subsidies received by political decision is a hot topic. Usually the pushers of this type of electricity (correctly) insist that non-renewable electricity production is also subsidized, and that objecting subsidies for renewables is a moot point.

In this blog I will use concrete data available from the EIA, as well as a few illustrations from the "At the crossroads: Climate and Energy" meeting by the Texas Policy Foundation. All data refer to the USA, 2013.

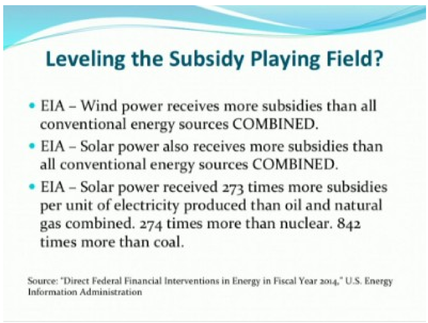
Let us start with the EIA table which gives the different subsi the fiscal year 2013, in million of (2013) US$.

Beneficiary	Direct Expenditures	Tax Expenditures	Research & Development	Guarantee Program	RUS Electricity	Total	ARRA Related
2013	Subsidies USA 2013, million US$ (EIA)						
Coal	74	769	202	-	30	1,075	129
Refined coal	-	10	-	-	-	10	-
Natural Gas and Petroleum Liquids	62	2,250	34	-	-	2,346	4
Nuclear	37	1,109	406	-	109	1,660	29
Renewables	**8,363**	**5,453**	**1,051**	**-**	**176**	**15,043**	**8,603**
Biomass	332	46	251	-	-	629	369
Geothermal	312	31	2	-	-	345	312
Hydropower	197	17	10	-	171	395	216
Solar	2,969	2,076	284	-	-	5,328	3,137
Wind	4,274	1,614	49	-	-	5,936	4,334
Other	209	-	380	-	5	594	229
Subtotal	**8,291**	**3,783**	**977**	**-**	**176**	**13,227**	**8,597**

Total fossil and nuclear = 5081

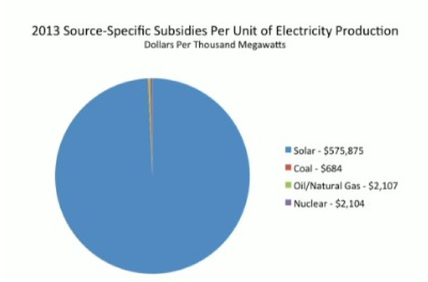
The "classical" electricity production by coal, natural gas, petroleum and nuclear receive 5081 million$, the renewables 15043 million$.

The next slide of a presentation by James M. Taylor from the Heartland Institute gives a good textual overview:



The last point is especially instructive: coal, NG, petroleum and nuclear receive 5081 million$ as subsidies, but produce 86.6% of the total electricity; wind and solar receive 11264 million$ as subsidies and produce 4.4% ! This means that the **wind & solar combined receive 43.6 times more subsidy per unit of electricity produced than the traditional producers**!

If you just picture solar subsidies per 1000 MWh produced with the traditional producers, you get that nice pie-diagram (by Taylor):



Per unit of electrical energy subsidies to traditional producers become nearly invisible compared to those of solar electricity!

The official EIA numbers in the table should close the debate: yes, renewables get really high subsidies for their very low overall contribution! The situation in Europe probably is similar to the USA, with renewable subsidies possibly still higher.

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