

Renewable energy subsidies in 2021:¹

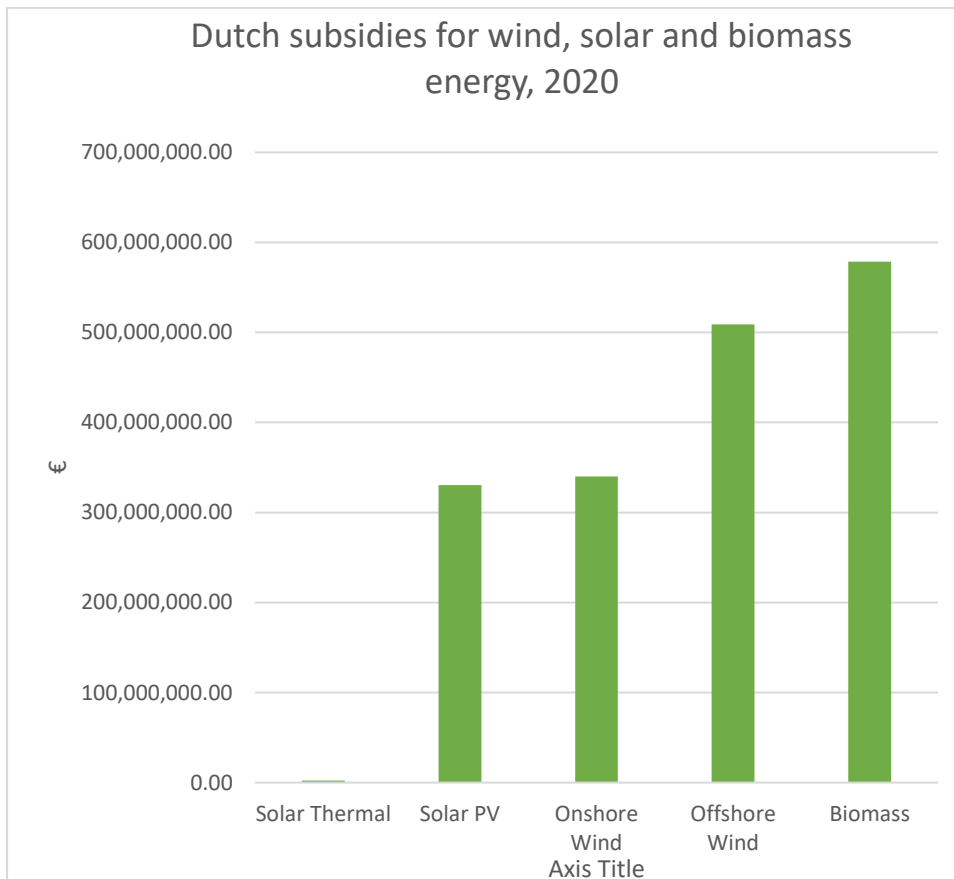
Solar PV: €330,526,476

Solar Thermal: €2,392,579.33

Offshore wind: €509,104,745.73

Onshore wind: €340,230,160.63

Biomass: €578,529,788.81



Per MWh cost at most recent subsidy rates:

Onshore wind: 1,749.40 MWh for €477,631 = €273.03/MWh

Offshore wind: 3,436,300.00 MWh for €2,251,753,376 = €655.28/MWh

Solar PV: 13,171.38 MWh for €8,309,783 = €630.90/MWh

Solar district heating: 1,391.11 MWh for €1,356,333 = €975/MWh

Biomass: 49,521.15 MWh for €3,824,392 = €77.23/MWh [Note that much of this is heat and a MWh heat is not equivalent to a MWh electricity!]

¹ <https://www.rvo.nl/subsidie-en-financieringswijzer/sde/feiten-en-cijfers-sde-algemeen>

Spending the extra €578,529,788.81 in biomass subsidies on alternatives would achieve the following:

Onshore wind: 2,118,957.97 MWh

Offshore wind: 882,868.41 MWh

Solar PV: 916,995.75 MWh

Solar thermal: 593,363.56 MWh

Offshore wind:

Average offshore turbine in NL: 8.7 MW², average load factor in the North Sea 40%.³

Average generation of one offshore wind turbine: 30,505.68 MWh.

Redirecting all current biomass subsidies to offshore wind would provide annual subsidies for 882,868.41 MWh extra offshore wind, which translates into 29 new offshore wind turbines.

Onshore wind:

Average onshore turbine in Europe: 2.2 MW, average load factor in Netherlands 24%

Average generation of one onshore wind turbine: 4,628.45 MWh

Redirecting all current biomass subsidies to onshore wind would provide annual subsidies for 2,118,957.97 MWh extra onshore wind, which translates into 458 new onshore wind turbines.

Solar PV:

Redirecting all current biomass subsidies to solar PV would provide 916,991.26 MWh additional energy.

According to assumptions in the 2019 and 2020 SDE+ and SDE++ rounds, the expected load factor of a solar PV panel is 10.84%

Size of average installed rooftop solar capacity in NL⁴: 3.68 kW = 0.00368 MW

Average output per installed solar rooftop: 3.49 MWh (0.00368 x 365 x 24 x 0.184)

² <https://windeurope.org/data-and-analysis/product/wind-energy-in-europe-in-2020-trends-and-statistics/>

³ <https://www.statista.com/statistics/555654/wind-electricity-load-factor-uk/>

⁴ <https://www.pv-magazine.com/2019/01/30/netherlands-pv-market-expanded-by-46-in-2018/>

Redirecting all biomass subsidies to rooftop solar would provide annual subsidies for 916,995.75 MWh of electricity from solar PV. This would translate into solar PV for an additional 262,234 homes.

Calculation run with approved annual biomass subsidies of €800 million⁵:

Onshore wind: 633 new wind turbines generating 2,930 Gigawatt hours of electricity a year

Offshore wind: 40 new wind turbines generating 1,221 Gigawatt hours of electricity a year

[Note that offshore wind turbines generate significantly more electricity than onshore wind turbines each.]

Rooftop solar PV: 362,621 houses with rooftop solar, providing 1,268 Gigawatt hours of electricity a year

Solar district heating plant: 820 Gigawatt hours of electricity a year.

⁵ <https://www.rvo.nl/subsidie-en-financieringswijzer/sde/feiten-en-cijfers-sde-algemeen>