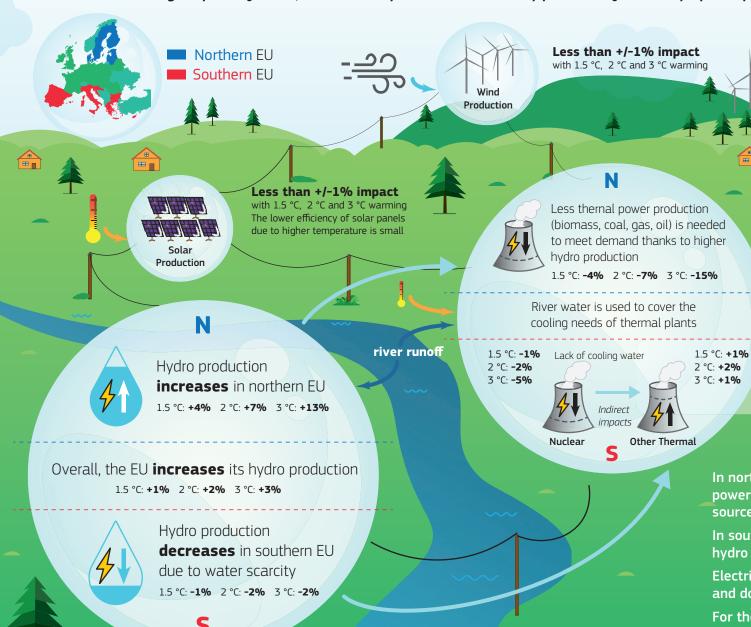
Electricity production in a changing climate

Potential climate change impacts of water, wind and temperatures on electricity production from today's power plants



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Electricity production costs



More hydropower resource means lower production costs

1.5 °C: -1% 2 °C: -2% 3 °C: -4%



More fuels needed to compensate lower hydro production, leading to slightly more expensive production costs

1.5 °C: +0% 2 °C: +1% 3 °C: +1%

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Spill-over effects from the rest of the world

Despite lower availability of cooling water, excess capacities of biomass, coal, gas and oil, are used to compensate the lower hydro and nuclear production to meet demand.



KEY MESSAGES

In northern EU, increasing water availability leads to more power production by hydro and less by other thermal sources through substitution.

In southern EU, reduced water availability leads to less hydro and nuclear power production.

Electricity production costs are pushed up in southern EU and down in northern EU.

For the EU & UK as a whole, wind and solar are not significantly impacted.

