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Hydropower system in Norway: Results from EMPS/FanSi

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FlexBuild workshop 1.2, 09.03.21

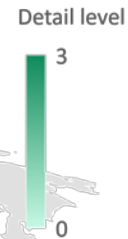
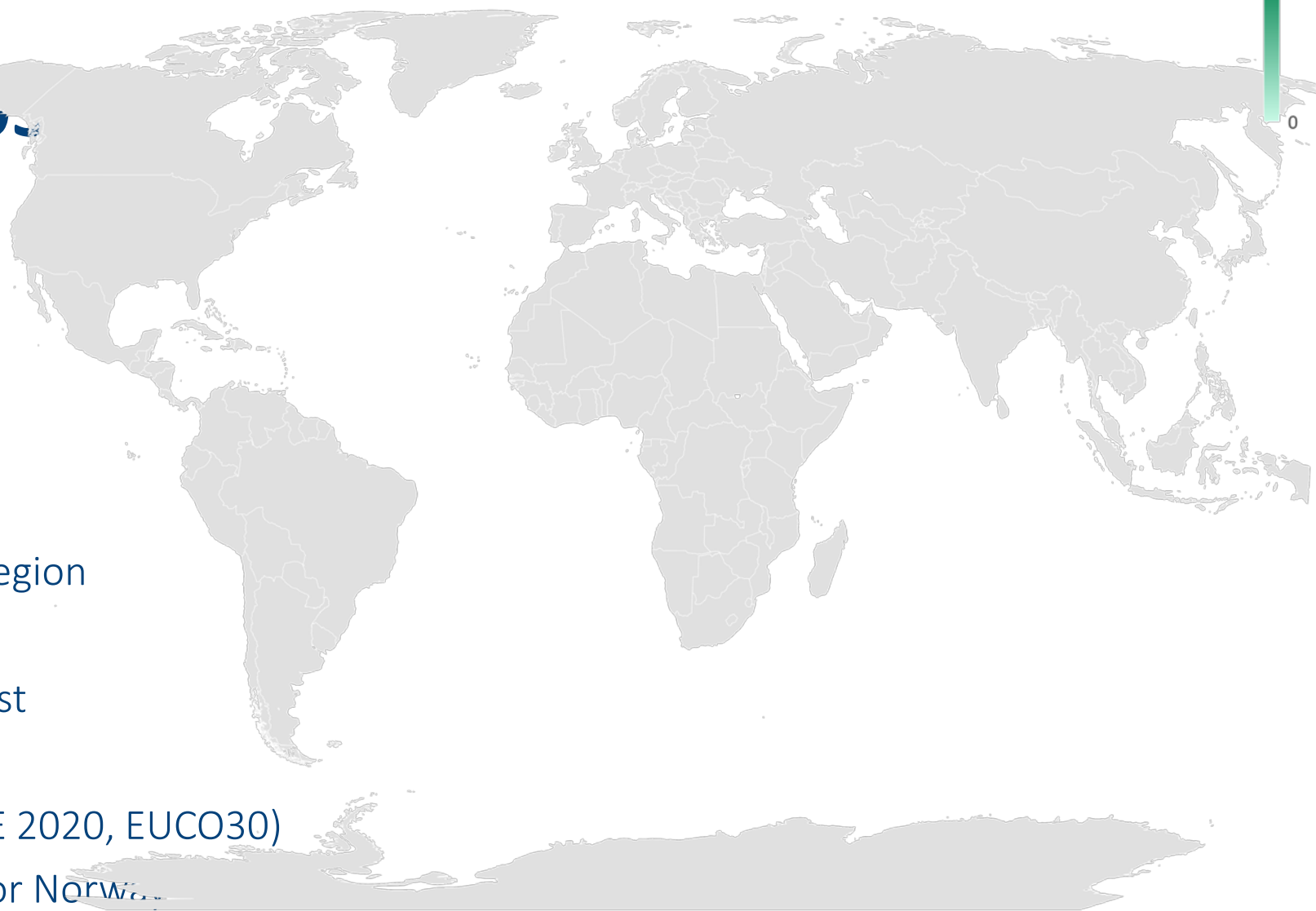




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Dataset 2020

- 57 areas, onshore and offshore
- 3h time steps (56 steps/week)
- 30 historical weather years
- Detailed hydro for the Nordic region
- Hourly wind and solar series
- Thermal power with startup cost
- Transmission capacities
- Based on previous studies (NVE 2020, EUCO30)
- Production and consumption for Norway
TIMES-NORGE (Energy Nation)

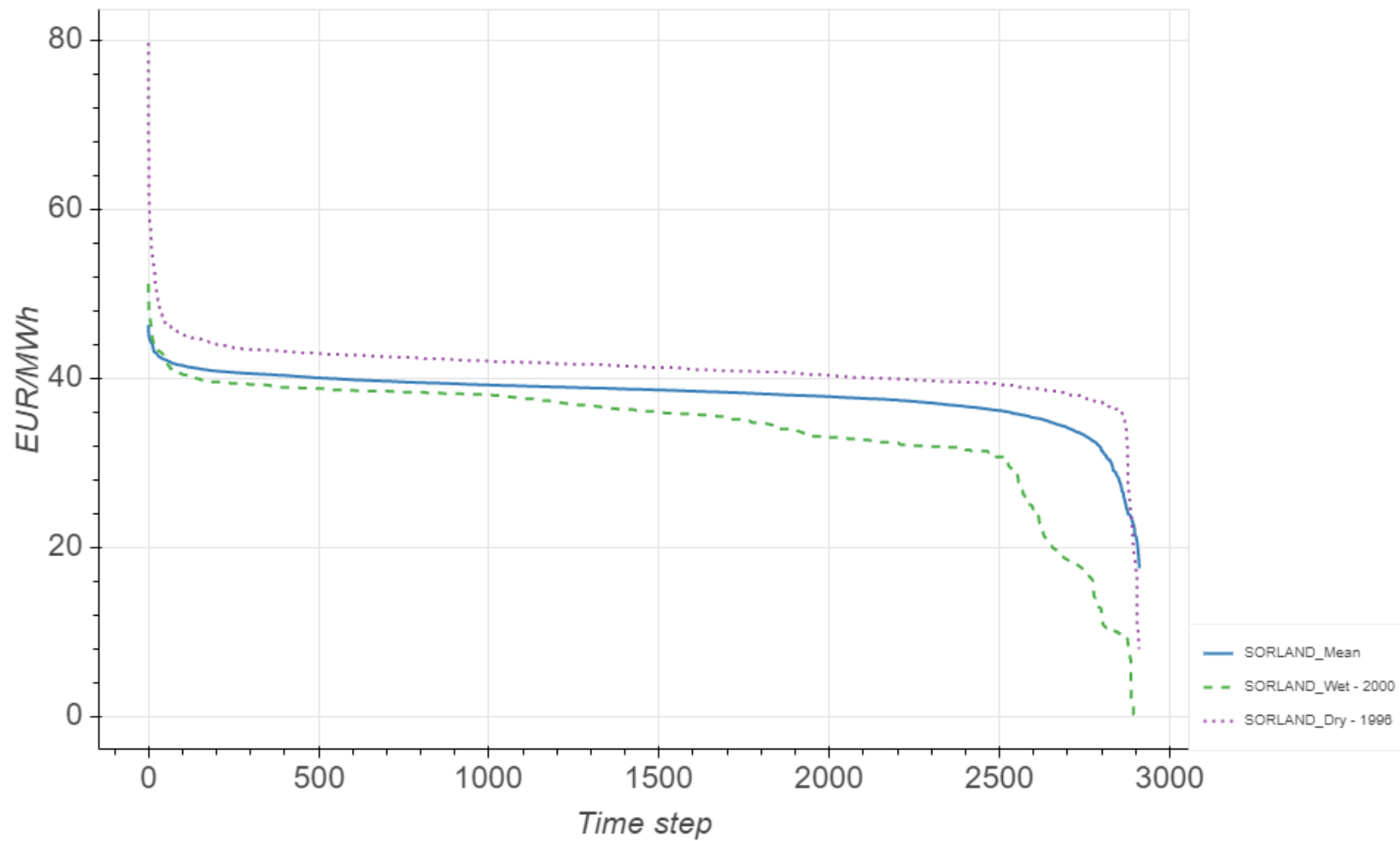


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Prices NO2





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The value of flexibility

Tonstad: 67 Mm³, 960 MW

	Total production [GWh]	Total income [MEUR]	Achieved price [EUR/MWh]
Mean	4462.5	176.1	39.46
Wet	5078.3	183.1	36.07
Dry	3246.6	137.7	42.43

Iveland: 10.4 Mm³, 87 MW

	Total production [GWh]	Total income [MEUR]	Achieved price [EUR/MWh]
Mean	507.8	19.5	38.40
Wet	627.5	21.3	33.89
Dry	388.5	16.3	41.88



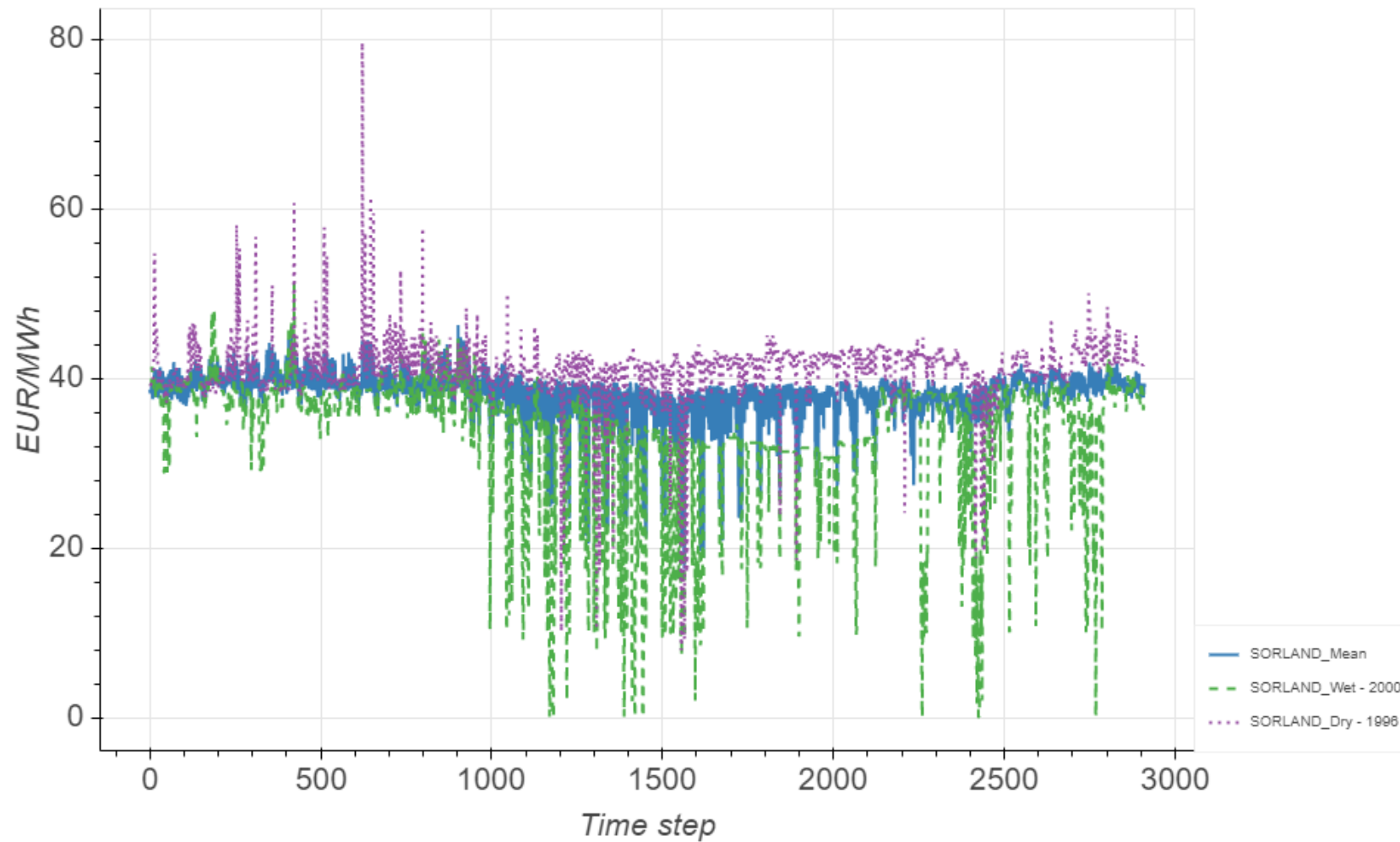
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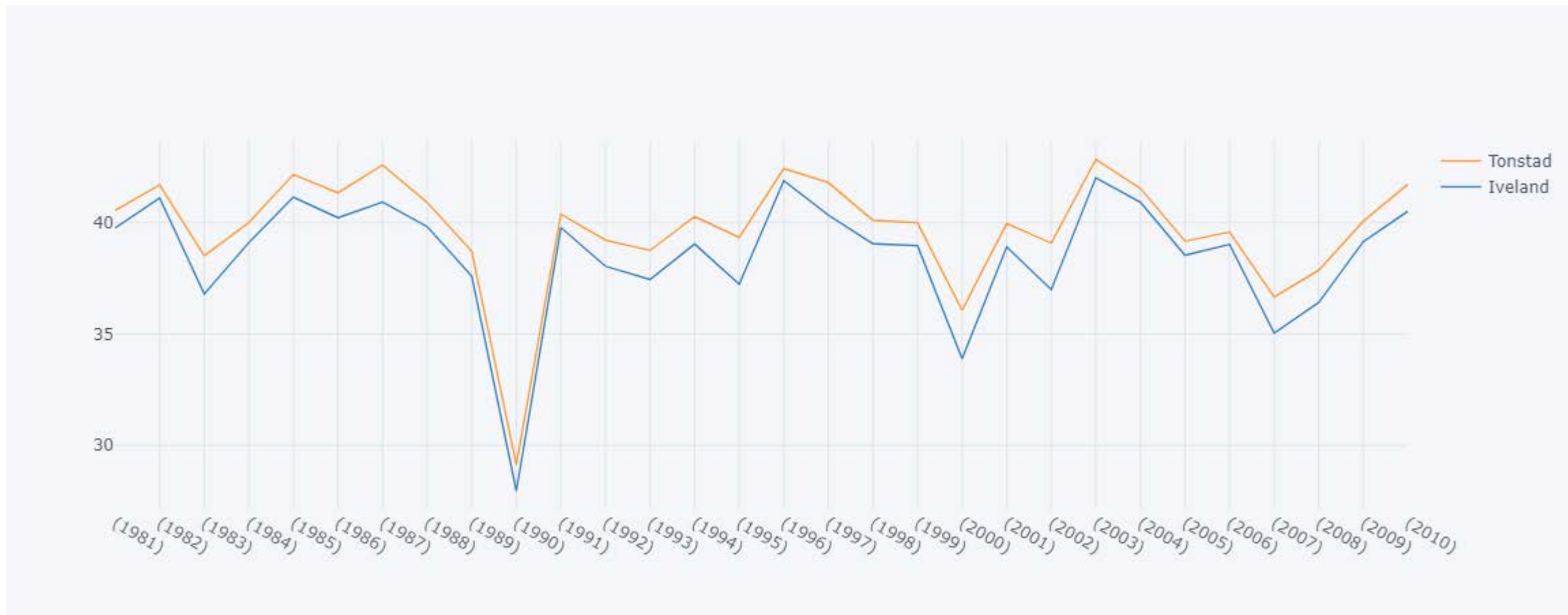
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Achieved price





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Normalized income

