
NEW ENERGY
FORUM
19 juni 2025 | Groningen
Breaking Barriers

A Balanswijk*) with gas

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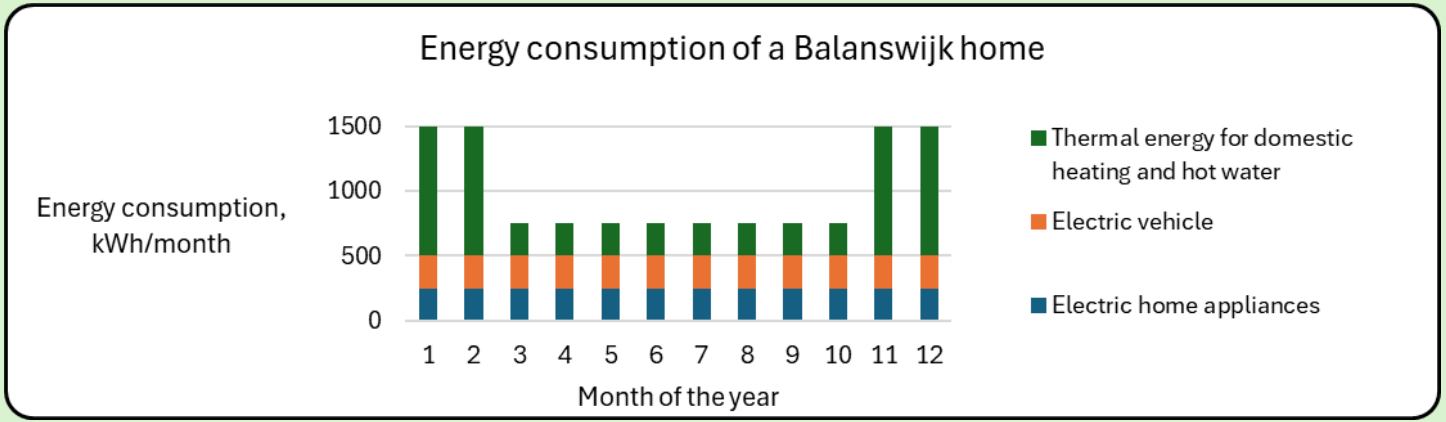
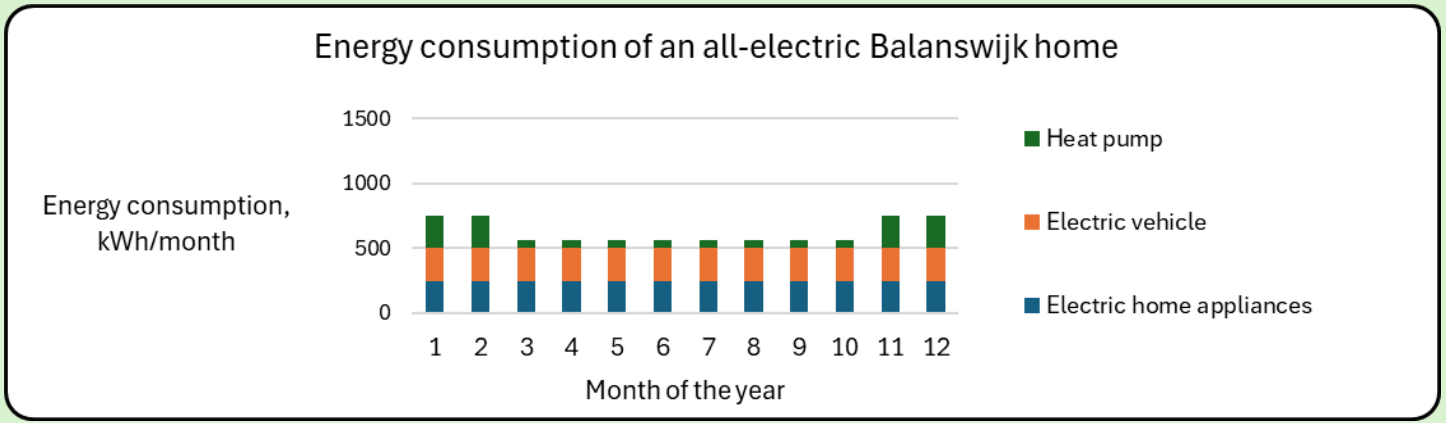
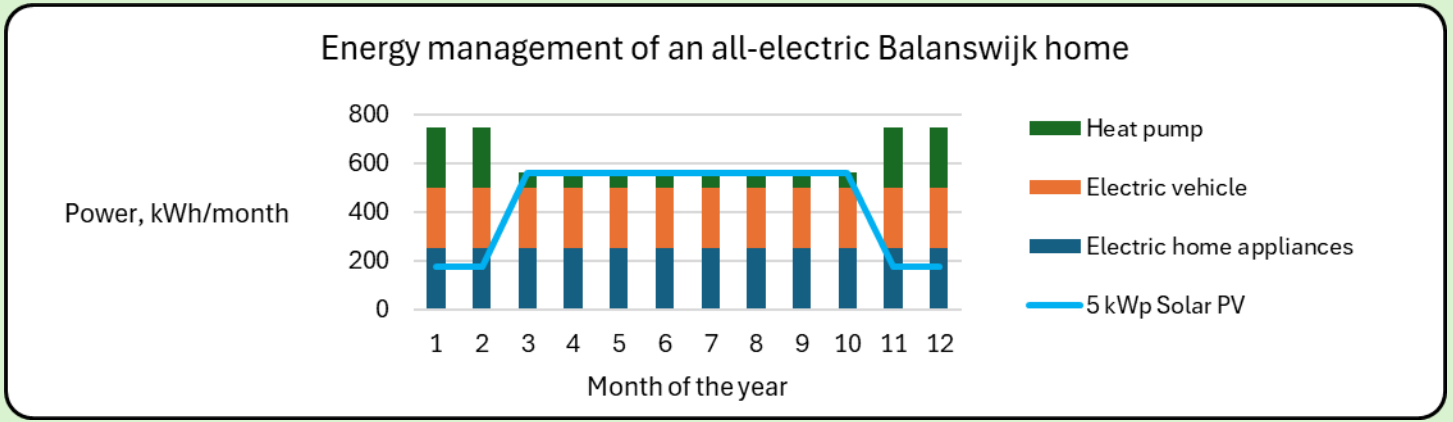
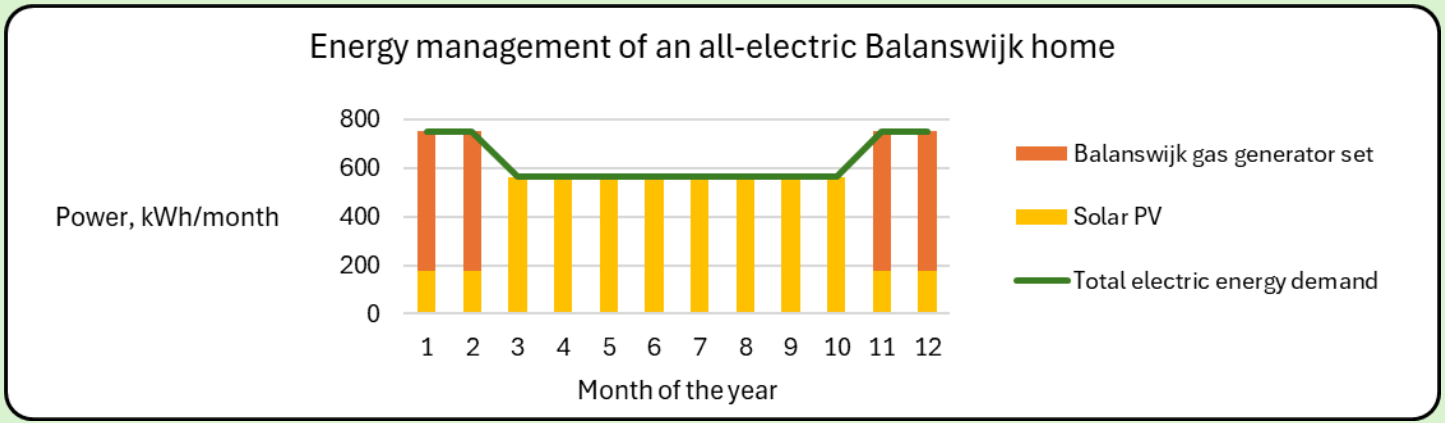
https://www.liander.nl/kijkt-vooruit/balanswijk









In the Balanswijk **with gas** the solar PV deficit during the winter months is filled in by a gas generator set

A Balanswijk **with gas**

- Balanswijk battery pack required
- Average power generation of the gas genset: 1 kW per Balanswijk home
- Gas consumption : 5 MWh/yr per home
- Yearly electric energy demand: 70% satisfied by Solar PV, 30% by gas genset
- **Future of the gas genset:**
  decommissioned when grid congestion has been resolved
  when not: natural gas to be replaced by green gas or hydrogen
- No taxes due on the electric energy supply to the Balanswijk homes
- No seasonal energy storage is required for the Balanswijk with gas

A Balanswijk **with gas**

Facility	Capacity per Balanswijk home
Balanswijk solar park	5 kW_p
Balanswijk battery	10 kWh
Balanswijk gas power generator set	2 x 1 kW
Balanswijk Ultra Low Heat (ULH) network	Water/water heat pump 5 kW_{th}
Balanswijk single connection to NL electricity grid	Back-up only
Balanswijk single connection to NL gas grid	Gas consumption rate 5 MWh/yr

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A Balanswijk **with gas**

- Average power generation of the gas generator set: 1 kW per Balanswijk home
- To satisfy the peak demand during extreme cold weather the design capacity of the gas generator set is 2 kW per Balanswijk home
- Gas consumption of 5 MWh/yr per home, 40% of the average consumption at present
- 70% of the yearly electric energy demand is satisfied by Solar PV, 30% by the gas generator set
- Gas generator set can be decommissioned when the national electricity grid has been sufficiently reinforced; when not: natural gas to be replaced by green gas or hydrogen
- Balanswijk battery pack required for diurnal balancing of supply and demand on the Balanswijk electricity grid
- No taxes due on the electric energy supply to the Balanswijk homes
- No seasonal energy storage is required for the Balanswijk with gas

A Balanswijk **with gas**

Facility		Capacity per Balanswijk home
Balanswijk solar park	Sufficient to satisfy power demand outside winter months	5 kW_p
Balanswijk battery	Diurnal balancing of power supply and demand	10 kWh
Balanswijk gas power generator set	Satisfying power supply during winter months; Double capacity installed as back-up and to satisfy peak demand during extreme cold weather	2 x 1 kW
Balanswijk Ultra Low Heat (ULH) network	Utilising thermal energy production by gen set and enabling application of individual water/water heat pumps	water/water heat pump 5 kW_{th}
Balanswijk single connection to NL electricity grid	Back-up only	PM
Balanswijk single connection to NL gas grid	Generator set gas feed	Gas consumption rate 5 MWh/yr

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