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Connecting Communities

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Energy communities in NL/UK

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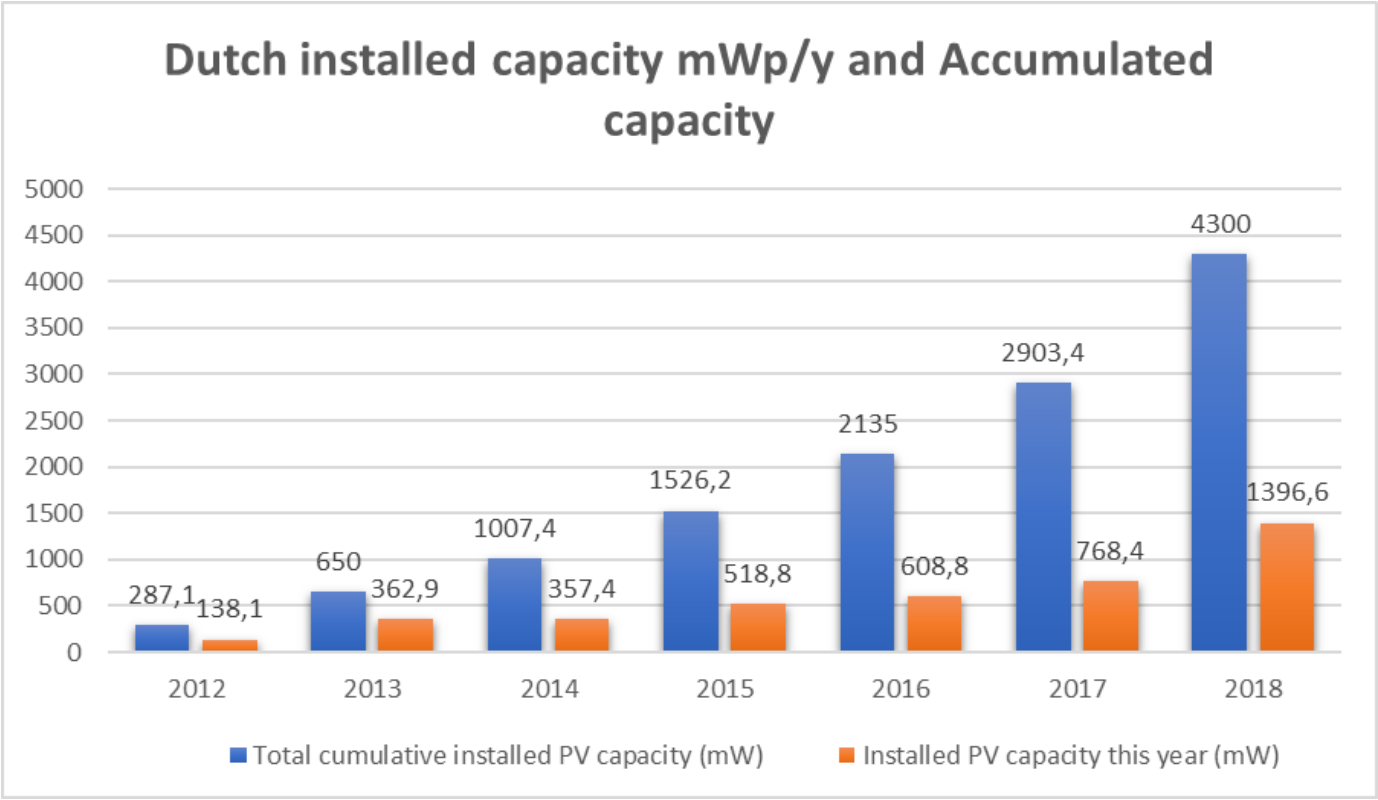
Vilnius, Lithuania

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 764805

Overview Solar in the Netherlands

In 2018 some 1.400 MWp installed capacity (source CBS 1th of March 2019).

Figure is from Netherlands Annual Report 2019 IEA PVPS.



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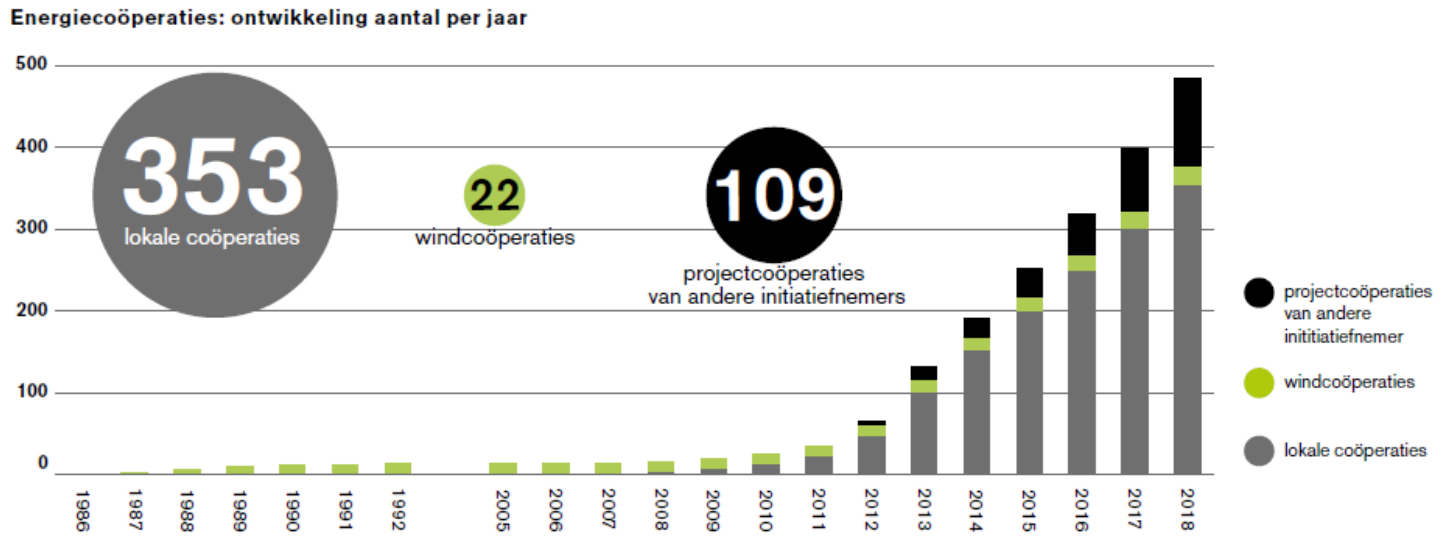
Overview of solar in the Netherlands

- The national Climate Goals are set on 16% renewable energy sources (RES) in 2023 and almost no emissions in 2050.
- In 2018 decision were taken to replace natural gas as the main energy source in the Netherlands and increased electrification is part of that trajectory.
- Local energy initiatives, 75% Solar, 74.5 MWp or 2% of total (Hier Opgewekt):



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Overview of solar in the Netherlands

Incentives:

- Net metering (retail price if grid connected)
- Postal Code Rose (“Postcoderoos”) (tax reduction)
- SDE+ subsidy scheme (exploitation subsidy, inverted auction system)
- Experimental Room (dispensation of electricity law)
- VAT on solar panels is also deductible (ROI around 6 years roof top system)

- Discussion in the Netherlands shifts to “integration” of the technology in the energy system, land scape and society or the division of the costs & benefits and the value of solar energy.
- Specific for the Netherland is the high population density and land prices to keep in mind.

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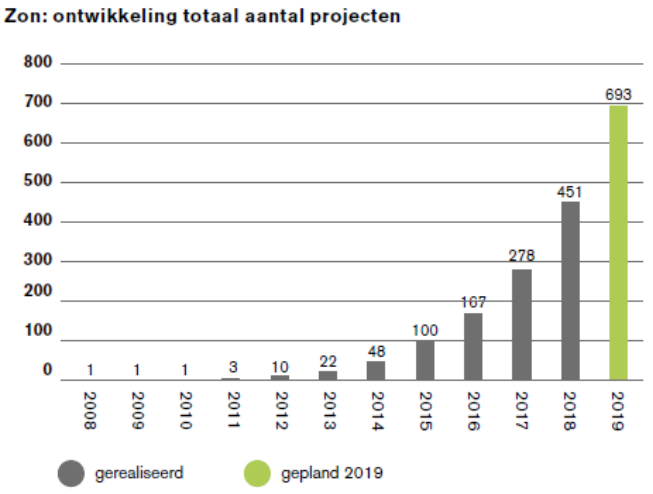
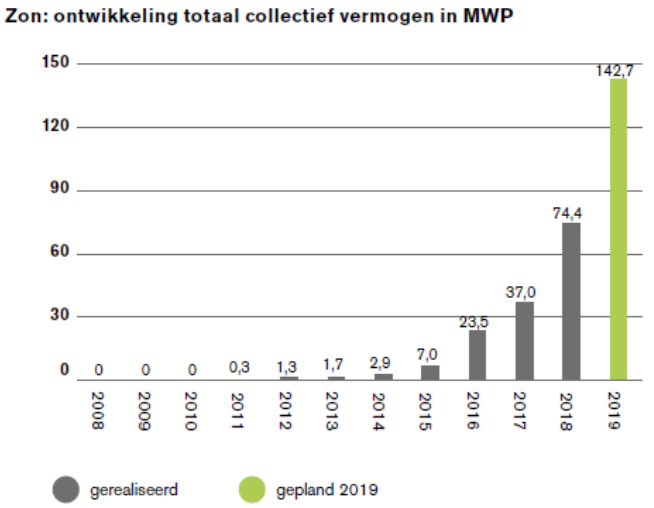
Overview of solar in the Netherlands

Future Role of Solar Communities:

- Local initiatives are expected to grow (see below, source Hier Opgewekt)
- Focus is on self consumption and thereby saving on grid transport costs.
- Cost & Benefits fall into the local community.
- Steep learning curve, law & regulation, maintenance and organisation.





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Net metering (grid connected)

- Only for small-scale connections (max. 3x80A) and production behind the meter.
- Net feed-in electricity is subtracted from consumption on a yearly base, energy tax included.
- If feed-in exceeds consumption, the surplus is refunded (about 70% supply tariff, no energy tax)
- Evaluation of this scheme done, extension guaranteed until 2020, new alternatives will be developed as societal cost rise of this scheme and are not evenly spread.

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Postal code (Rose)

- Energy cooperations and “owner-occupiers' associations can get an energy tax reduction for their members with a small-scale connection.
- For the yearly assigned share of united produced electricity, each member is dispensed for the energy tax.
- Each disposition is limited to a set of postal codes, i.e. all postal codes adjacent to a chosen central one (Postalcode Rose).

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SDE plus

- The SDE plus scheme is basically a reversed auction system.
- All renewable options are competing!
- Current call € 5 billion each.
- The SDE plus will be widened next years.
- R&D Subsidy HE (renewable energy call) = saving on SDE plus in 2023.

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Experimental Room

- Grid operators and energy suppliers are strictly separated.
- For cooperation and owner-occupiers' associations an experimental exemption is regulated for small decentral renewable energy-projects.
- They may operate a small grid (up to 500 household-connections) called project grid or
- Perform system operations in a public grid to avoid congestion (up to 10.000 connections) called big experiment.
- And get a license to deliver to their members, which involves balanced responsibility.

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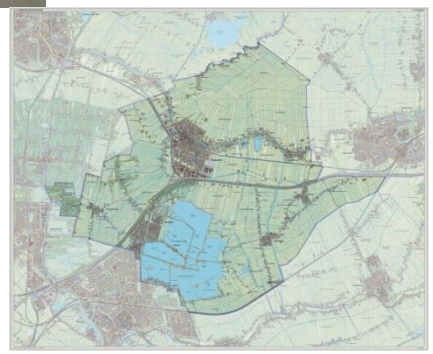
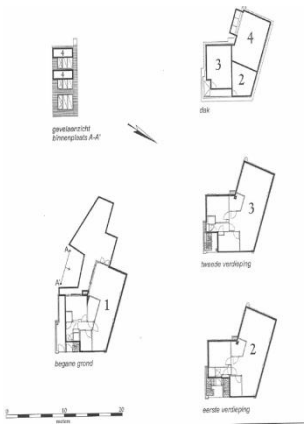
Granted experiments 2016:

- Vereniging Schoonschip, Amsterdam
- Energiecoöperatie Villa de Verademing, Den Haag
- Coöperatieve vereniging De Windvogel, Bodegraven-Reeuwijk
- VvE Noordstraat 111, Tilburg
- VvE Aardehuizen, Olst





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Conclusions:

1. Integration of solar resources into the energy system, the land use and society become more the focal point of discussion as prices have sharply fallen since 2012. Solar communities provide additional value along these focal points.

2. Self-consumption (including storage, heating & cooling) is key to getting the best financial and electrical performance from solar installations and should be planned (GIS?).

3. Grid-operators sometimes do not have the flexibility needed as partner. So far not a barrier in most projects.

4. The business case is hard to find, especially for smaller initiatives, but feasible. General factors seem to be energy saving, maintenance costs and tax reductions.

5. Good communication and engagement with service providers and aggregators is essential and offer possibilities for growth.

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