Shaping Solar
PV business models under shifting regulatory regimes

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In 2012, PV installed capacity covered only 0.5% of total global electricity demand (IEA, 2013).

However, the market is growing exponentially with 96.5 GW installed by the end of 2012.
Market growth patterns vary substantially across countries (Timilsina et al., 2012).
How can we better understand PV market growth patterns and contribute to its further up scaling?
Case I: The Netherlands

Low level of support but exponential growth:

Based on Segaar, TSF, May 2013. * Estimates

Case II: Flanders

High level of support, but market collapse in 2012.

* jan-dec 2013    (VREG, 2013)
Business model types:

Influence of support and existing market regulation
Business models are shaped by existing forms of market support and regulation.
Three main types of business models:

1. **Customer owned (collective buying)**
   Net metering creates profitable business case from 2012 onwards (Van de Water, 2014).

2. **Community Shares**
   January 2014: tax deduction → no profitable business case! (Van de Water, 2014)

3. **Third party**
   → Net metering under discussion
   → since 2012: online crowd funding
Multiple support mechanisms available for small (<10 kWp), medium (10-250 kWp) and large systems (>250 kWp). → GSC mechanism most important.

Bottom-up business models (e.g. Collective Buying, Community Shares) less popular.

Decreasing support: Third party and large projects abandoned.
A PV business model is about cost and benefit allocation over the involved stakeholders and how to organize this.
PV business model dimensions

1. Who owns the system?
2. Who owns the location?
3. Who pays for the location?
4. Who gets the electricity?
5. Who pays for the electricity?
6. Who pays for maintenance and insurance?
7. Who pays for network use?
8. Who receives revenues from electricity sales?
9. Who receives revenues from financial support?
10. Who organizes the business model?
The PV niche has entered the next phase: Struggle over existing rules, actor roles and cost and benefit allocation in the energy market.
Discussion on virtual net metering for Energy Cooperatives (Community Shares business model).

January 2014: energy tax deduction implemented.

Paid for by increase in existing energy tax small users (<10,000 kWh per year).
Technology enabling Community Shares business model under current net metering regulations: full net metering for highest tariff possible.

www.zonnestroomverdeler.nl
Community Shares business model: new role for energy supplier and DSO.

- Administrative backup and measurement
- Supply license
  → Customer binding!
  → Discussion of rules for being an energy supplier: experiments announced.
Energiecollectieven: Samen energie opwekken

Energie opwekken kan individueel, maar u kunt het ook samen doen. Samen met uw buurt, wijk of stad kunt u een energiecollectief starten. En bijvoorbeeld gezamenlijk energie produceren en terugleveren met zonnepanelen of windmolens. Lees wat samen opwekken inhoudt, hoe je je bij een collectief kunt aansluiten en alles over organisatie- en rechtsvormen.

In dit stappenplan voor energiecollectieven komen de verschillende stappen aan bod om van uw energiecollectief een succes te maken en er zelfs geld mee te verdienen.

Cijfers en trends in samen duurzame energie opwekken door energiecollectieven

Met lokaal opgewekte duurzame energie kan zeker geld verdiend worden. Maar de terugverdientijden wisselen van project tot project.

MEER WITEN >

LEES MEER
GSC mechanism extremely costly: €1,5 billion for 2006-2013.

→ mostly paid for by residents and SMEs via energy bill.

→ Prosumers pay less: discussion leading to compensation via net tariff (January 2013).

→ Court case by PV Flanders: won in November 2011. Comparison to large scale producers made!
Costs and benefits allocation in the business model directly linked to broader costs and benefits allocation in energy markets and support in place!
III Concluding remarks and future role of Province of Brabant
Continued search for viable PV business models in the market, based on existing market support and regulations (now also influenced by PV actors!)

Decreased support levels (e.g. Flanders, Germany): initial stagnation of the market, but rise of new business models based on higher levels of self consumption and storage (smart grid, DSM technologies).
Role of province of Brabant

Building the future energy system:
Interplay between enabling technologies, new business models and shifting regulatory regimes and market roles.

Developing knowledge in a living lab environment with multiple regional, national and international partners (e.g. TU/e; S\E\R; EEI, Brainport Development, Solliance, SEAC, Energy Cooperatives, IEA).