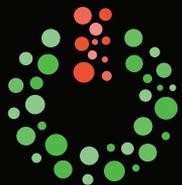


**Internet as an  
alternative financing model  
for renewable energy projects  
*example Solar Energy***

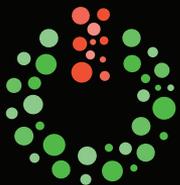


# Solar industry: Importance of the internet (I)

- **Hardware distribution** (exp.: [www.sologico.com](http://www.sologico.com))
  - Worldwide largest independent trade platform for PV modules and grid inverters
  - Purchasers: installers, project developers, investors, general contractors, roofers
  - Sellers: selected manufactures, distributors and wholesalers
  - Huge supplier network
  - More than 8.300 clients worldwide
- **Procurement of project rights & existing plants** ([www.projectforum.biz](http://www.projectforum.biz) or [www.milkthesun.com](http://www.milkthesun.com)):
  - Project developer: can find development partners or purchase PV projects
  - Owner of existing plants: can sell their plants
  - General contractors: can purchase project rights or sell turnkey plants
  - Investors can invest in turnkey or existing solar power plants
  - Owners of rooftop or free-standing plants: can offer their unused surfaces



Graphics from:  
<http://s3.kiva.org/img/w800/1134083.jpg>  
[http://blog.milkthesun.com/wp-content/uploads/2012/03/logo\\_milkthesun2.jpg](http://blog.milkthesun.com/wp-content/uploads/2012/03/logo_milkthesun2.jpg)

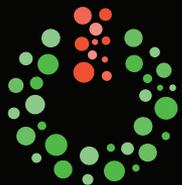


# Solar industry: Importance of the internet (II)

- **Solargroupsons** ([www.1bog.com](http://www.1bog.com))
  - American company offers rebates for solar installations
  - Solar deals available in different regions
- **PV-SOL Online** ([www.valentin.de](http://www.valentin.de))
  - Internet based program for revenue simulation from the company Valentin software
- **Google SketchUp** ([www.sketchup.google.com](http://www.sketchup.google.com))
  - 3D – construction program based on google earth
  - Optional tools for the construction of PV plants
- **PV-Kalk online** ([www.rw-c.de](http://www.rw-c.de))
  - Internet based program for the calculation of profitability for PV plants from the company RWC Software



Graphics from:  
<http://blog.heliopower.com/wp-content/uploads/2009/05/1bog-box.jpg>  
<http://www.valentin.de/sites/default/files/produkte/logos/pv-sol-online.png>  
<http://www.sketchup.com/images/gsu8-product-page.png>  
<http://www.rw-c.de/images/kalkonline.png>



# Turnaround in energy policy: Importance of

## Online Communities

- **Photovoltaic-Forum:**
  - In more than 500,000 blog entries exchange of more than 50,000 users
  - Contact point for wholesalers, traders, solar engineers, installers as well as for operators and interested people
  - In average more than 15,000 users daily traffic on the pages of PV Forum
- **Xing:**
  - Over 160,000 members in groups for the turnaround in energy policy, 90.000 in the group „Energie der Zukunft“
  - 20,000 interested individuals as members in 10 solar groups
- **LinkedIn:** over 100.000 members in solar groups
- **Organization s of platforms with information on the turnaround in energy policy** (<http://www.atomausstieg-selber-machen.de/>)
  - Alliance consisting of 23 organizations: environmental associations, consumer production organizations, anti atom initiatives
  - Since October 2006 more than 100,000 power customers changed to an independent, clean green power provider



Graphics from:  
[http://guene-jugend-hennef.de/wordpress/wp-content/uploads/2012/06/010\\_atomausstieg\\_selber\\_machen.jpg](http://guene-jugend-hennef.de/wordpress/wp-content/uploads/2012/06/010_atomausstieg_selber_machen.jpg)  
<https://encrypted-tbn1.gstatic.com/images?q=tbn:ANdQGCoydF4jmeuhFTzQWZSEFKD9vA49S7eUyK3F2d4d3g6pVQ>  
[https://s0.twimg.com/profile\\_images/83939358/xing\\_logo.png](https://s0.twimg.com/profile_images/83939358/xing_logo.png)  
[http://i10.gstatic.com/images?q=tbn:ANd9GCTHksSCLcIewg8p9zdo34TK3noKHbVvYbWxyCPKGFHt1pwwAMJF-o\\_e](http://i10.gstatic.com/images?q=tbn:ANd9GCTHksSCLcIewg8p9zdo34TK3noKHbVvYbWxyCPKGFHt1pwwAMJF-o_e)



# Turnaround in energy policy: Importance of

## Offline Communities

- To the end of 2012 energy cooperatives have **invested ca. 800 Mio. € in renewable energy projects** → fastest growing type of cooperatives
- 2012 United Nations International Year of Cooperatives
- Up to now more than 20. Mio. German citizens are already members of cooperatives = 5x more than in PLCs
- **Legal framework mostly harmonized** (see: 'European cooperatives') which facilitates a scalability abroad
- **Missing obligation to draw up a prospectus** will foster further investments in energy cooperatives
- **Smaller renewable energy projects** will be realized and operated as 'energy plants for citizens'



Source:  
Energiegenossenschaften –  
Bürger, Kommunen und lokale  
Wirtschaft in guter

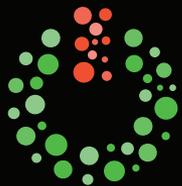
Gesellschaft (2011)  
<http://berlinagenda.de/bild2/solar.jpg>



## Trend: Community Renewable Energy Projects

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- Community Renewable Energy („CommRE“) developed worldwide to an important factor for EE-projects:
  - Reality in the USA, Canada, UK und Scandinavia
  - DOE (US) has developed it's own development-tool
  - DEEC (UK) has an own department and an own website
  - UK prognoses 3.5 GW CommRE until 2020
  - [www.microgenius.org](http://www.microgenius.org) was the first community-financing platform.
  - Energy cooperatives also exist in France, Italy, Spain, Swiss and Austria



# Financing applications

- **Smaller creative projects** get support with crowdfunding
- If **crowdfunding sum is reached**, there is an option for **capital contribution** through **institutional investors**

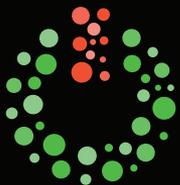


- Example **PV-Log**:
  - Development of a **smartphone-app** in order to monitor PV yields as part of the **founders competition** of the platform ‚Gründergarage‘
  - **Presentation** of the project at **crowdfunding platform** [www.indiegogo.de](http://www.indiegogo.de) and start of a crowdfunding campaign.
  - **Targeted** funding volume: 3,000 €
  - **Funded** capital: 10,845€
  - **Google doubled** the collected amounts

Graphics from:

<http://i1.createsend1.com/ei/j/7D/2E5/F17/csimport/Crowdfunding2.170424.PNG>

Source: [http://www.pv-log.com/Resources/Public/Upload/Press/Pressemitteilung\\_Top50-Solar\\_PV-Log\\_2012-09-19.pdf](http://www.pv-log.com/Resources/Public/Upload/Press/Pressemitteilung_Top50-Solar_PV-Log_2012-09-19.pdf)



# International Platform-examples

## solarmosaic.com

### Create Solar with Mosaic

Through Mosaic's online platform, people can come together to create solar energy projects.



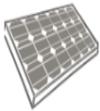
#### Do Well

Discover the true power of your capital, the power to create solar energy.



#### And Do Good

Create local jobs, reduce pollution and help build the clean energy economy.



#### Our Track Record

Solar Mosaic has raised more than \$350,000 from over 400 investors to create five rooftop solar power plants.



#### The Solar Forecast

Analysts estimate that more than \$50 billion will be invested into solar in the United States alone over the next three years.

- Active since 2013 after SEC-registration
- Bonds
- Crowdfunding?

## abundancegeneration.com

Investment 2

Pledge 4

### Investment Projects

List view

Map view BETA

Browse the list of projects currently open for investment. We are working with a range of wind, solar, anaerobic digestion and hydro projects at various stages of development, and aim to offer a new project for investment every 3-4 months.

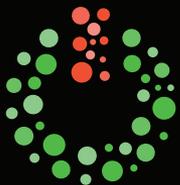
#### Padero South Downs

##### South Downs

 Developer	Padero Solar
 Technology	Solar
 Size	0.266MW – 1.5MW
 Target raise	£500,000 – £1,000,000
 Project status	Project being built
 Debt status	Open for investment



- UK platform
- Focuses upon Wind-projects
- Bonds
- Smaller tickets



## Invest in solar energy. Light up the world.

Over 2 billion people lack access to electricity. Put your money to work to make affordable solar energy available everywhere.



**1. Select & fund a project**  
Click on a project below to invest.



**2. Track your stats**  
Get updates about the project and its impact.



**3. Get repaid & earn points**  
Earn back money and points as payments are made.



**4. Repeat the cycle**  
Multiply your impact by investing in more projects.

[Get Started!](#)

### Select a project



#### Lighting up schools in Chadiza

Zambia

Finance over 750 solar lighting and mobile phone charging systems for students



81.8% Funded  
\$1,825 To go

[Invest!](#)



#### Solar village in Palawan

Philippines

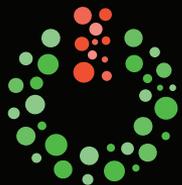
Finance solar lighting and cell phone charging for 500 people



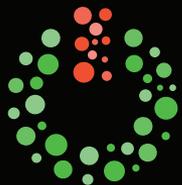
100% Funded  
\$0 To go

**Fully Funded!**

- Platform for social projects in undevelopped countries
- Funded projects intend repayment



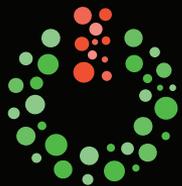
- Greenvesting
  - Project development and solar plant operators
  - Investment as an **profit participating loan** (Min. 250€)
- LeihDeinerUmweltGeld
  - platform und operator
  - Investment as **subordinated loan** (Min. 100€)
- Sunny Crowd
  - Crowdfunding-platform
  - No projects realized until now



# Legal issues

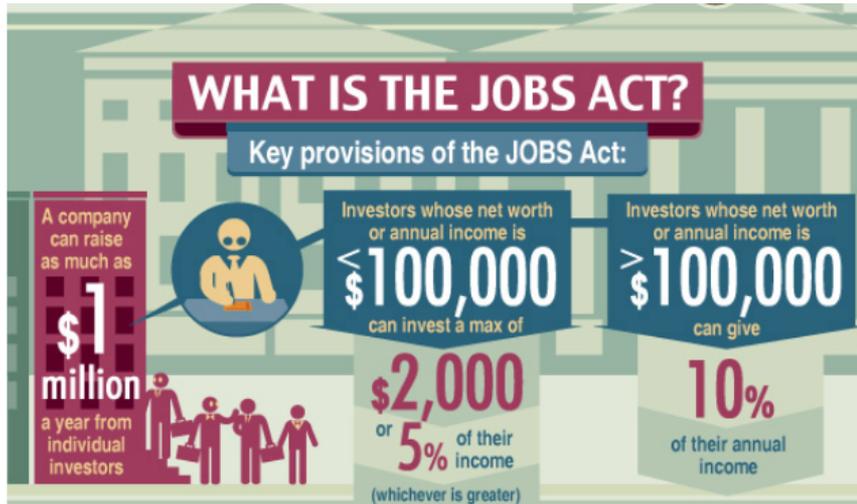
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- Crowdfunding platforms have to respect a lot of regulatory requirements:
  - Kreditwesengesetz (KWG) or Zahlungsdiensteaufsichtsgesetz (ZAG)
  - Wertpapierhandelsgesetzes (WpHG)
  - Vermögensanlagengesetz (VermAnlG) or Wertpapierprospektgesetz (WpPG)
  - §34c Gewerbeordnung (GewO) or §34f GewO from 01.01.2013
  - Kapitalanlagegesetz
- Several Energy-Crowdinvesting-sites use **Bond-Structure**

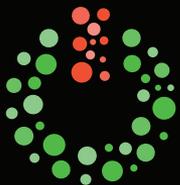


# JOBS Act - Jumpstart Our Business Startups

- Federal law in USA
  - **Goals:**
    - Improvement of the access to the American public capital market
    - Creation of new jobs
    - Increasing economic growth

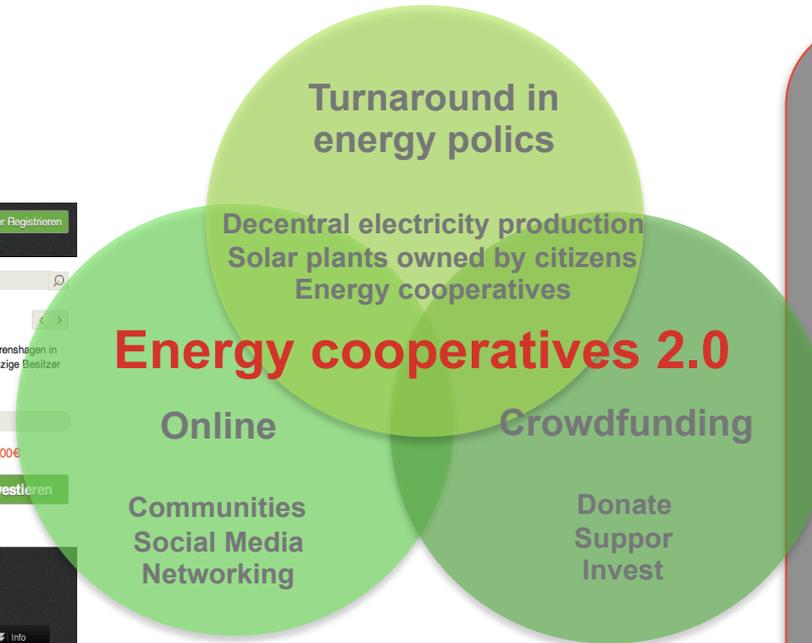


CROWDFUNDING TODAY			
Company	Industries served	Funding	Types of raises
<b>FUNDABLE</b>	Startup businesses.	\$5,000-\$25,000 typical amounts raised.	Reward and equity-based raises.
<b>KICKSTARTER</b>	Films, music, journalism, gaming.	\$241 million to date.	Rewards only; has publicly expressed that it will not offer equity
<b>RocketHub</b> <small>LAUNCH, FUND, AND FLY!</small>	Theater, film, fashion, business.	10,000 campaigns funded.	Currently rewards; looking to offer equity
<b>indiegogo</b>	Music, charity, small business, film.	100,000+ campaigns funded.	Currently rewards; may try to offer equity



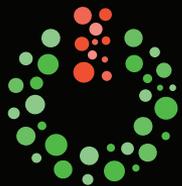
# The solution – Energy cooperatives 2.0

- **No limits** in funding volumes, Direct Investment
- The **first online platform** where citizens can develop, finance and realize energy projects



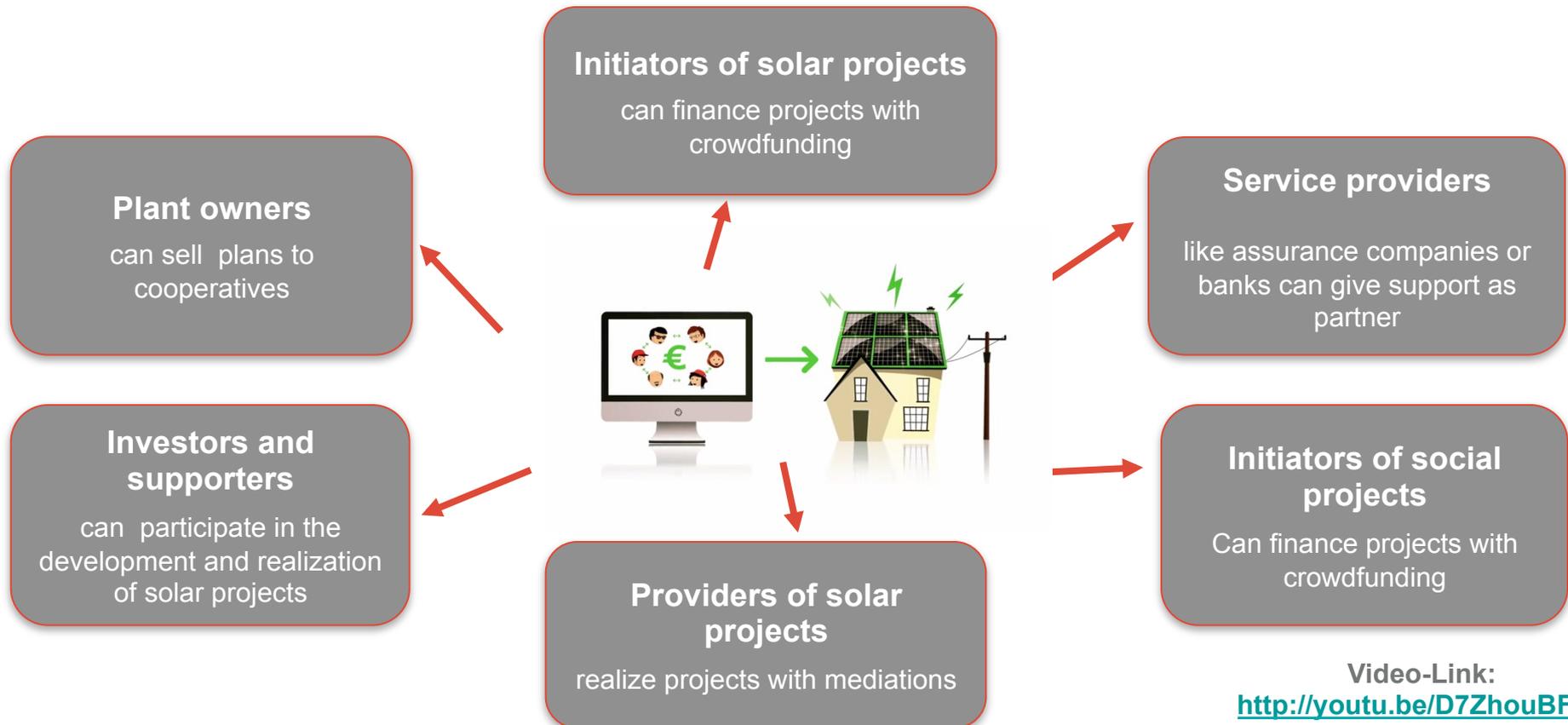
**Together energy means**

- Making knowledge available
- Developing projects together
- Financing projects together
- Realizing projects together
- Investing together in existing plants
- Operating plants together
- Realizing social projects together



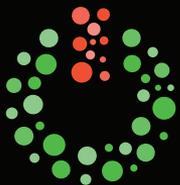
# Connection of all players

The first platform where citizens can develop, finance and realize energy projects together. Thereby the open platform provides transparency for all involved persons.



Video-Link:

<http://youtu.be/D7ZhouBFutl>



# the product



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## Ahrenshagen

Photovoltaik / Dachanlage / 93,96kWp

[Informationen](#) [Dokumente](#)



Bereits gefunden 23 000€

Noch 0 Tage Funding Volumen 23 000€

27 Investoren

Der Projektzeitraum ist abgelaufen. Es kann nicht mehr investiert werden.

Projektzeitraum ist abgelaufen

500 €

Unser erstes Projekt ist eine Solaranlage, die in Ahrenshagen in Mecklenburg-Vorpommern Strom produziert. Der jetzige Besitzer möchte die Anlage an uns verkaufen.

[Gefällt mir](#) 2

[Twittern](#) 0

### Projektinformationen

Projektbeschreibung

#### Beschreibung:

Unser erstes Projekt ist eine Solaranlage, die in Ahrenshagen in Mecklenburg-Vorpommern Strom produziert. Der jetzige Besitzer möchte die Anlage an uns verkaufen. Wir profitieren von einer hohen Rendite, weil der Solarpark im Dezember 2011 ans Stromnetz gegangen ist und deshalb noch bis zum Jahr 2031 eine garantierte hohe Einspeisevergütung von 27,79 Cent pro Kilowattstunde Strom erhält.



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## Wüstenezy

Photovoltaik / Dachanlage / 30kWp  
Die Dachanlage steht in Wüstenezy in der Nähe von Greifswald Mecklenburg-Vorpommern. Die 29,47 KW Anlage wurde im Mai 2011 errichtet und wird zu 100% mit Eigenkapital finanziert.

Bereits gefunden 6 000€

9 %

Noch 42 Tage Restlaufzeit, Funding Volumen 72 000€

[Details](#)  
[Alle Projekte](#)

[Jetzt investieren](#)

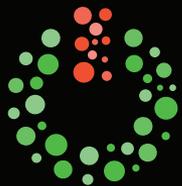
## Gemeinsam Energie.

Energiewende selber machen - Mit Crowdfunding Solarprojekte verwirklichen

CrowdEner.gy ist die erste Onlineplattform, mit der jeder Erneuerbare Energienprojekte verwirklichen kann - einfach und mit professioneller Beratung.

Die Menge macht's - die Crowd: Wenn viele Menschen kleine Beträge (ab 500 Euro) investieren, lässt sich im Handumdrehen eine Bürgersolaranlage finanzieren. Das ist Crowdfunding!

[Unsere Philosophie](#)



Especially the solar market will change with regard to the business model, because the riskless feed-in-compensation will be outdated in future. CrowdEner.gy will open itself for other business models beside solar plants, e. g. :

- own consumption
- Contracting
- direct marketing of electricity
- BHKW
- E-Mobility
- Cooperative biogas plant
- local heat network
- Citizen- wind park



**crowdEner.gy GmbH**

Torgauerstr. 12-15

D-10829 Berlin

**Dr. Peer Piske**

E-Mail: [peer.piske@crowdEner.gy](mailto:peer.piske@crowdEner.gy)

Tel: +49 (030) 789 500 370



**Thank you for  
your attention!**

