CLEAN ENERGY SOLUTIONS CENTER
ASSISTING COUNTRIES WITH CLEAN ENERGY POLICY

INTERNATIONAL SOLAR ALLIANCE

Community Solar

In partnership with the Clean Energy Solutions Center (CESC)

Hugo Lucas Porta

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Supporters of this Expert Training Series

Overview of the expert

Factor is an international group, specialized in providing global, innovative and sustainable solutions in areas such as climate change, energy, sustainability, trading and innovation.

Our key value is our people. We have offices in six countries, where our interdisciplinary team works for public and private stakeholders, international organizations and non-profit entities.

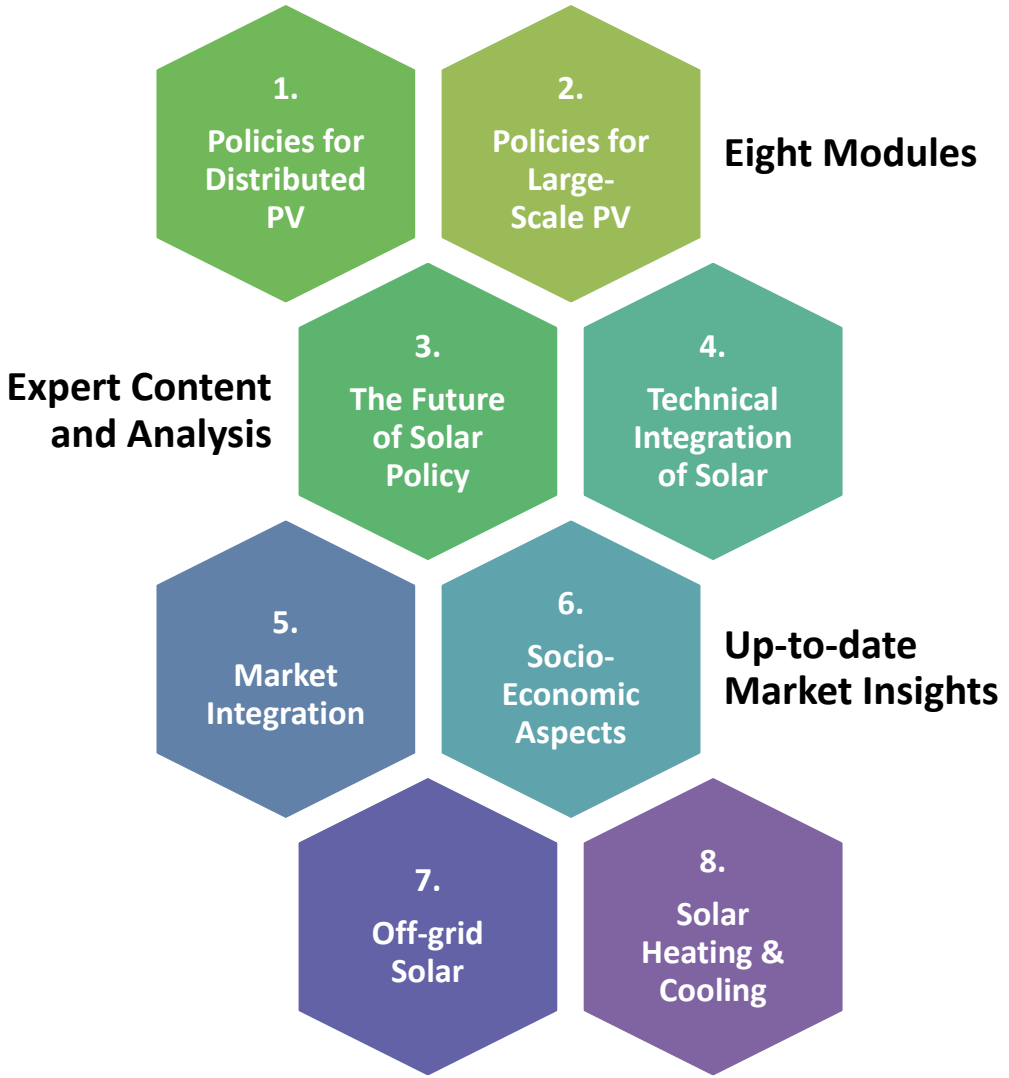
Our own history and experiences are based on constant innovation. This helps us target our services, by combining academic knowledge, technology and practical experience.

Factor
Ideas for change

Hugo Lucas Porta
Head of Energy Dept, Factor
20 years in RE Sector
- Worked for governments and private sector on energy transition strategies

Training Course Material

This Training is part of Module 6, and focuses on solar projects driven by communities of citizens



Overview of the Training

1. Introduction: Learning Objective
2. Understanding the value chain
3. Main body of presentation
4. Concluding Remarks
5. Further Reading
6. Knowledge Check: Multiple-Choice Questions

1. Introduction: Learning Objective

Learning Objective

This lecture provides:

1. Knowledge on community power.

2. Characteristics, status and trends of community solar projects.

3. Policy recommendations to foster the role of citizens in the solar revolution.

2. Community solar: the role of citizens in the solar revolution

The role of citizens

- NIMBY
- **Consultation**
- **Benefit Sharing (taxes, benefit sharing plan, dedicated funds, equity)**
- **Proactive Participation (consuming, financing; producing)**
- BANANA

3. Main Body of Presentation

Main Body of Presentation

1 Community (solar) power

2 Status and trends of community solar projects

3 Policy recommendations

Community (solar) power

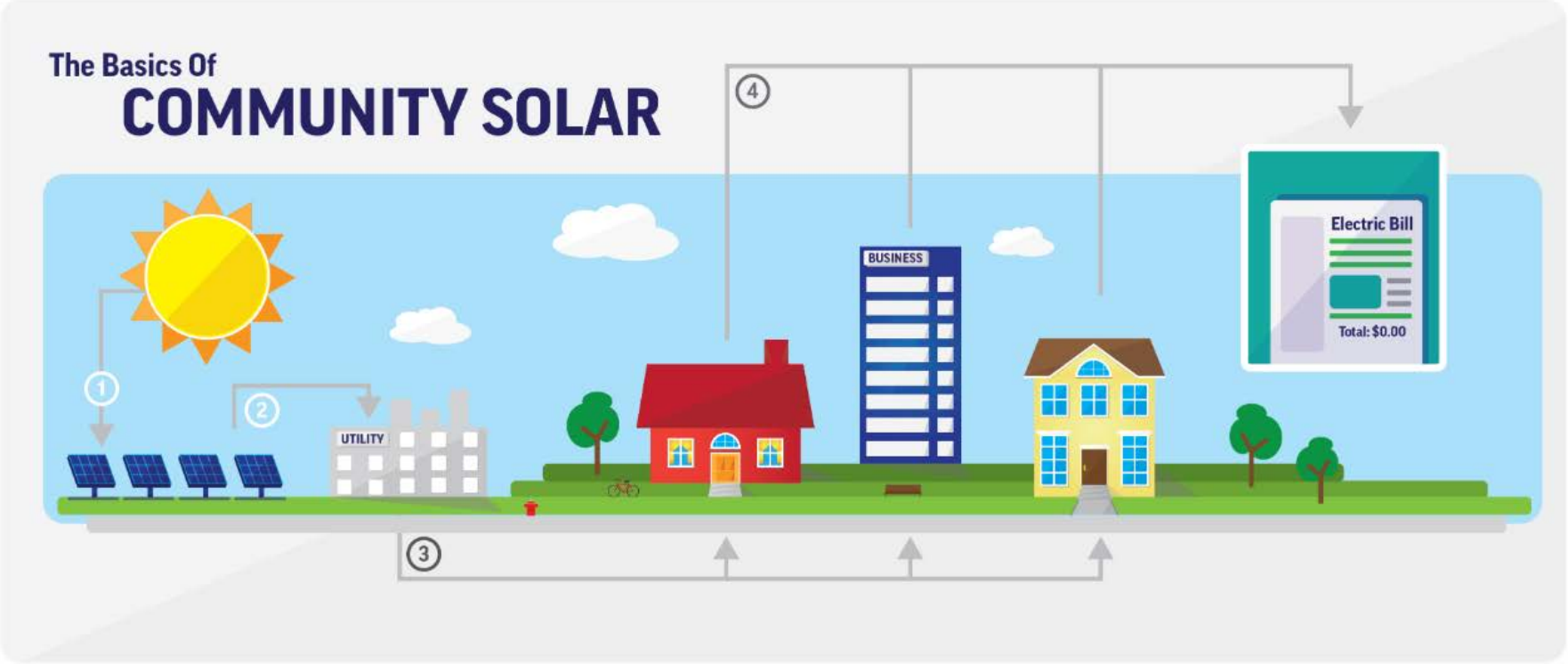
- Community energy is any combination of at least two of the following elements:
  - **Local stakeholders** own the majority or all of a renewable energy project
  - **Voting control** rests with a community-based organization
  - The majority of social and economic **benefits are distributed locally**

COMMUNITY ENERGY:

BROADENING THE OWNERSHIP
OF RENEWABLES

Source: IRENA (2017)

Community (solar) power



Source: SolectEnergy

Community (solar) power

Benefits of community driven projects

- **Employmen**t and income impact tenfold additional employment and income impact compared with non-community-driven projects.
- Increase **social acceptance**.
- Increased **economic resilience** of community members through diversified sources of income.
- Creating a **common identity**, as well increased feeling of self-worth among people involved.

Community (solar) power

Benefits of community driven projects

- **Increased transparency** in planning and construction.
- Broader **distribution of assets and influence** within the energy system.
- An **opportunity for indigenous people**.
- **Diversity of actors**, implementation of projects that might not be developed by major actors.
- Local **energy needs are more likely to be met**.
- **Increased pool of funders**: local ownership increases the number of people and available funds for investment.

Community (solar) power

Implementation Challenges

- Regulatory challenges.
- Financial challenges.
- Unclear legal definition and lack of awareness.
- Cultural barriers.

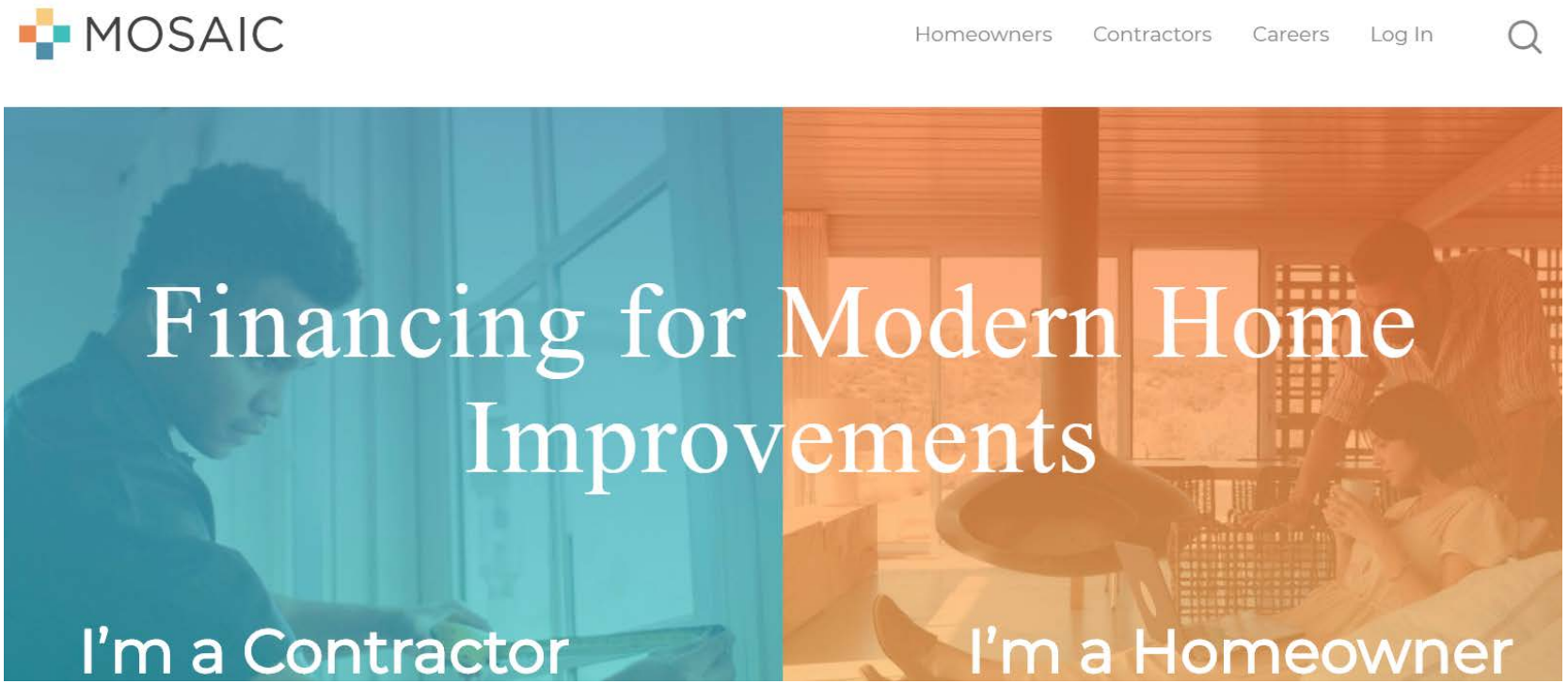
Community (solar) power

Common forms of community (solar) projects

- Partnerships.
- Co-operatives.
- Community trusts and foundations.
- Non-profit customer-owned enterprises.
- Housing associations.
- Third party owned.
- Local governments.

Community (solar) power

New Business Models



Source: Mosaic

Community (solar) power

New Business Models

COMMUNITY SOLAR HUB™

Log In | Register

HOME LEARN MORE PROJECTS RESOURCES BLOG

Recently Added Projects

SORT BY	Project Name	Utility	Size	Status	
	Good Shepherd Solar Garden Colorado Springs, CO	Pending	500,000 W	Sold Out	View More
	Garfield County Airport	Holy	858,000	Sold Out	View

Source: Community Solar Hub

Main Body of Presentation

1 Community (solar) power

2 Status and trends of community solar projects

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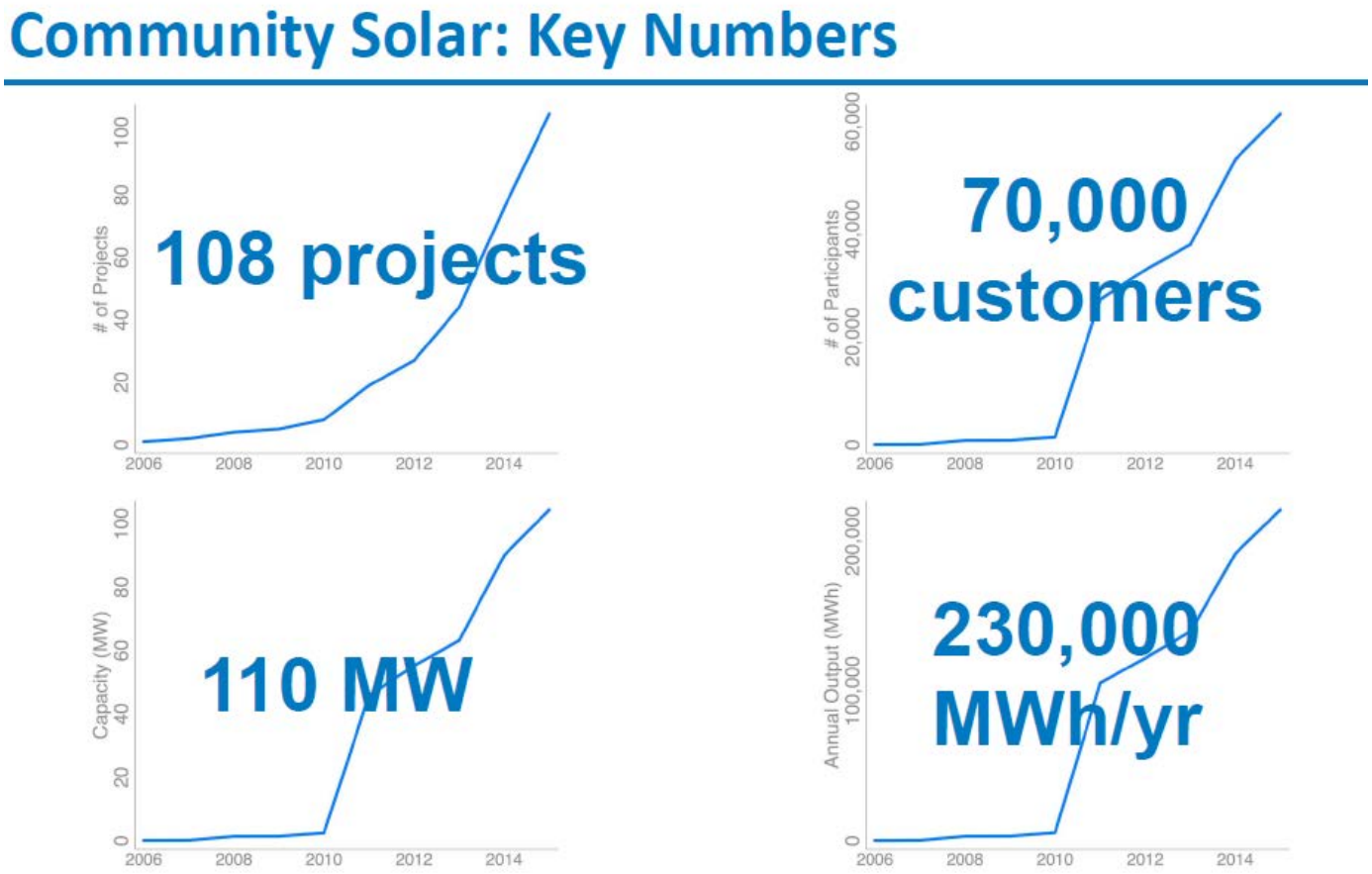
Status and Trends

Difficulties to track Community solar initiatives

- Definition.
- Behind the counter.
- Small.
- No registered.
- Net-metering and net billing programmes.

Status and Trends - USA

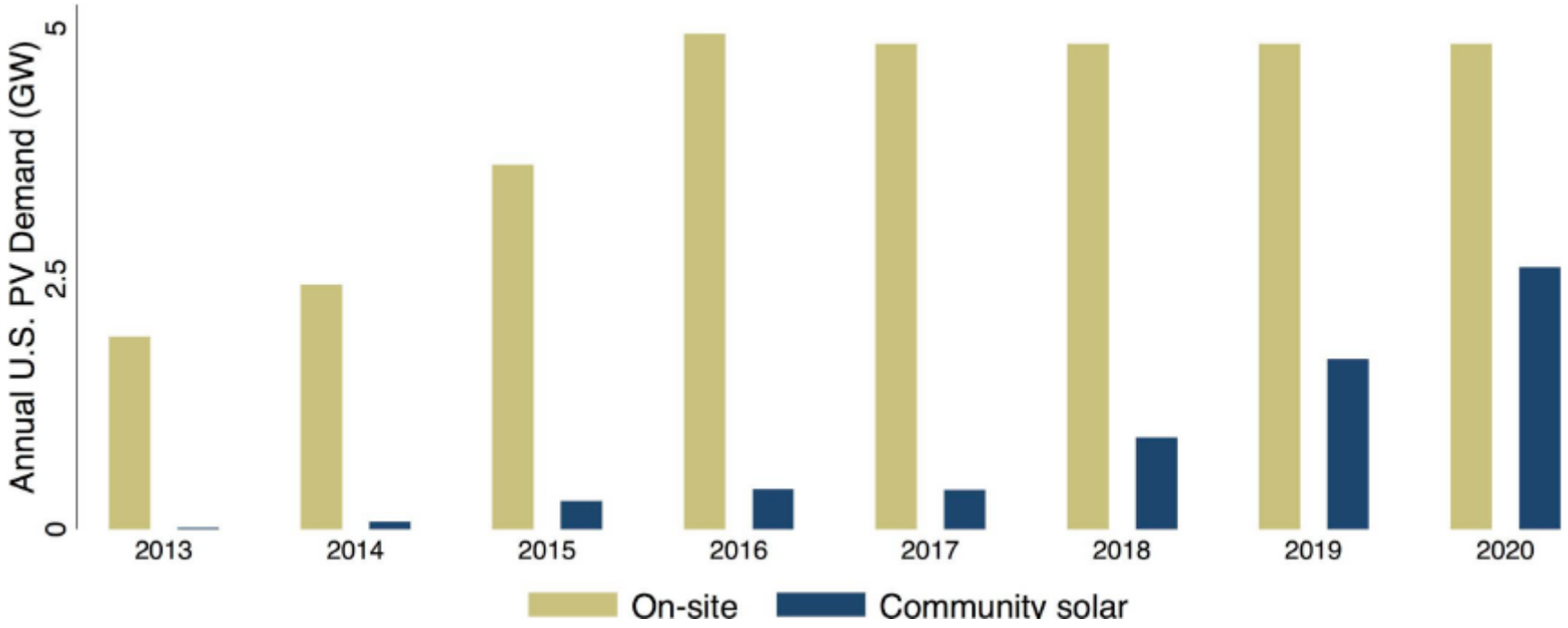
Solar Community in USA



Source: NREL (2016)

Status and Trends - USA

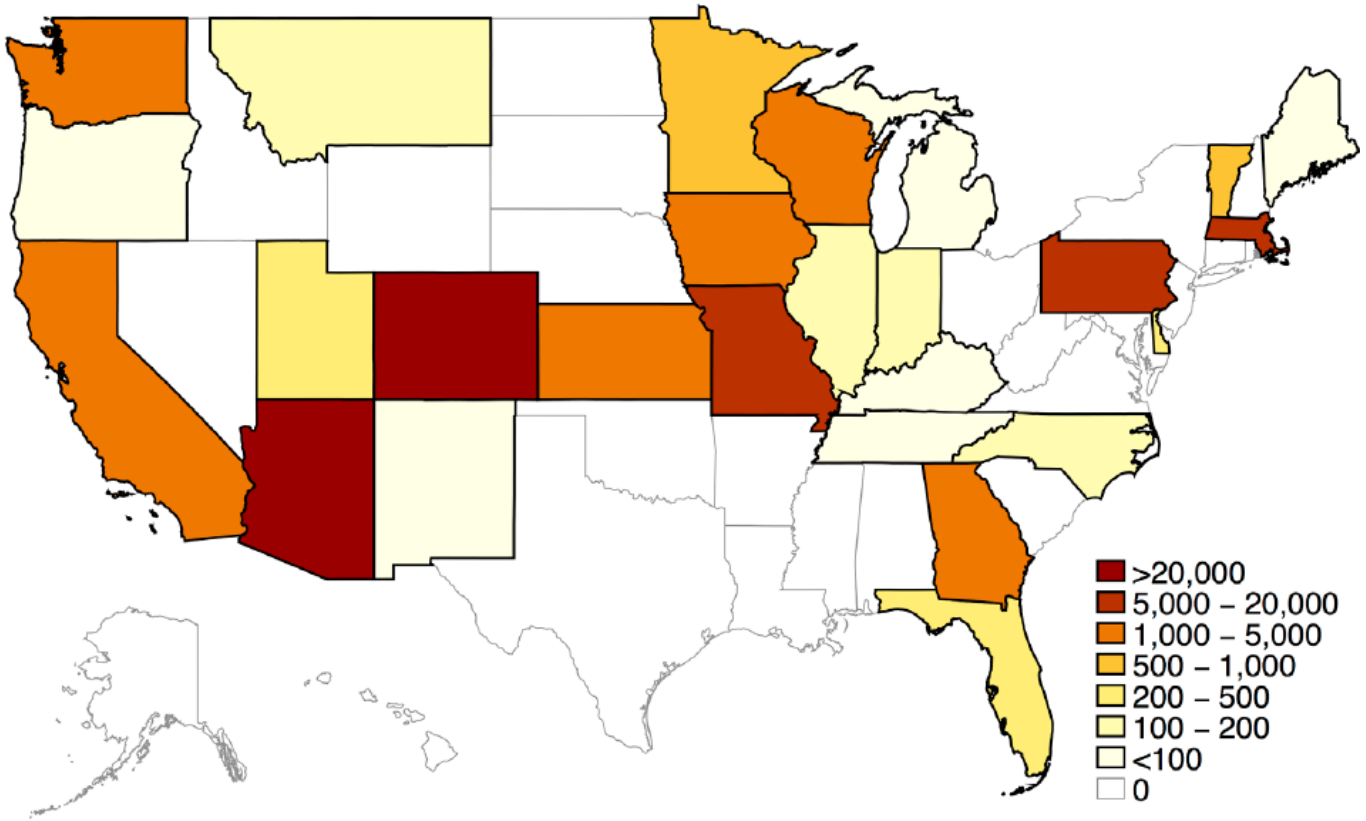
Solar Community in USA



Source: NREL (2016)

Status and Trends - USA

Solar Community in USA

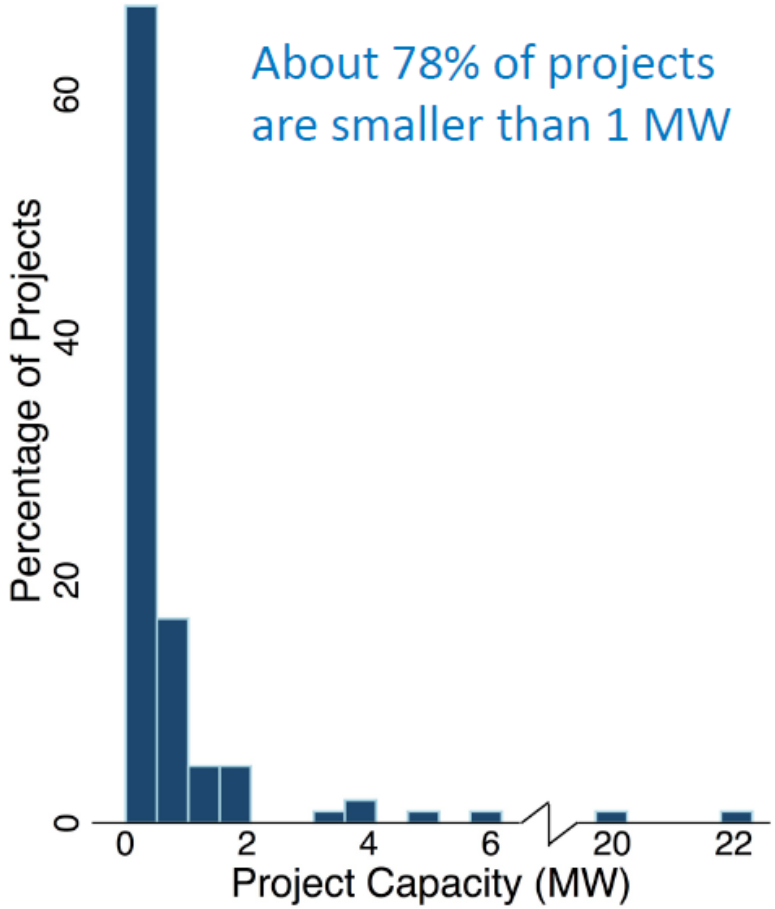


Installed Community Solar Capacity (kW) by State

Source: NREL (2016)

Status and Trends - USA

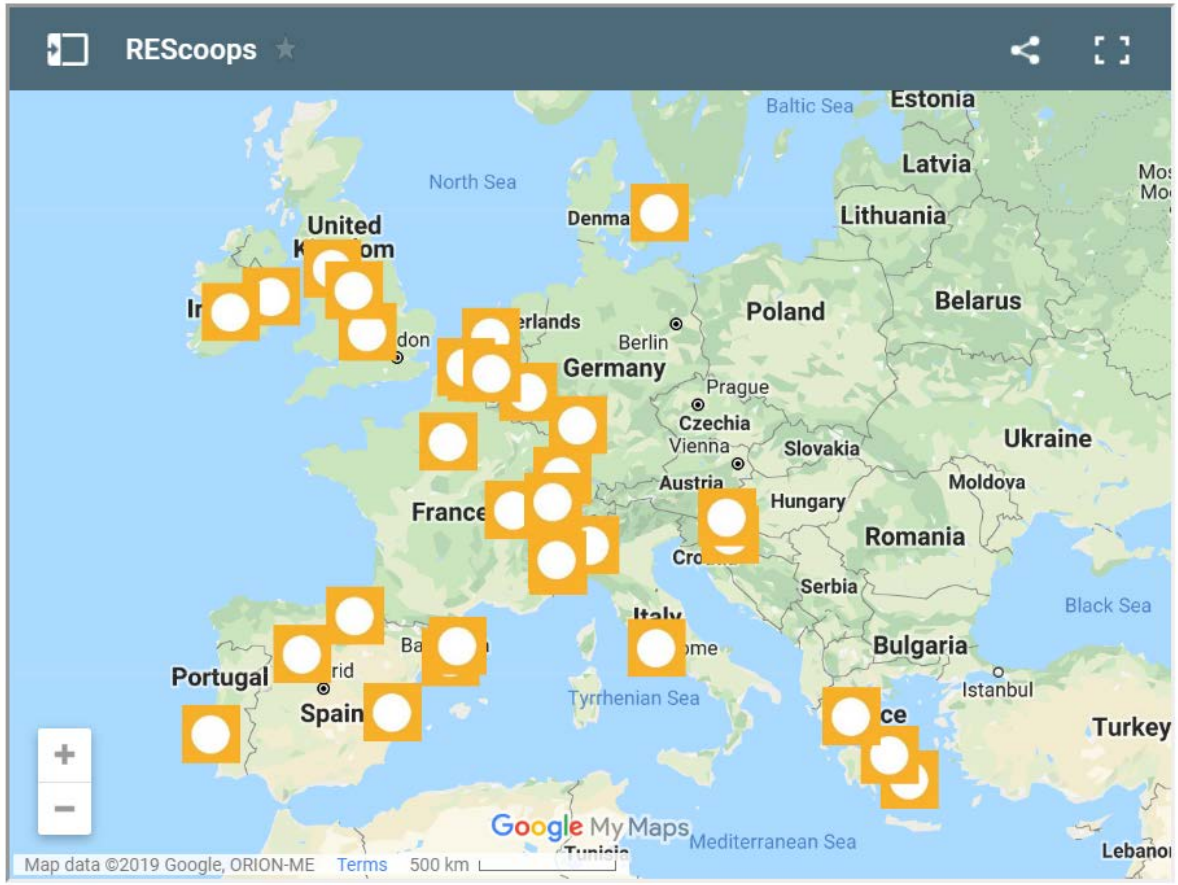
Solar Community in USA



Source: NREL (2016)

Status and Trends - Europe

Solar Community in Europe



Source: RESCoop (2019)

Status and Trends - Europe

Solar Community in Europe

- The new Renewables Directive will also include rights and provisions to support renewable energy communities.
- Member States will also be required to assess the potential and the existing barriers to the development of energy communities.
- To develop frameworks that allow communities to access markets without discrimination and on a level playing field.
- Renewable energy communities will also have a right to set up energy sharing arrangements.

Source: RESCoop (2019)

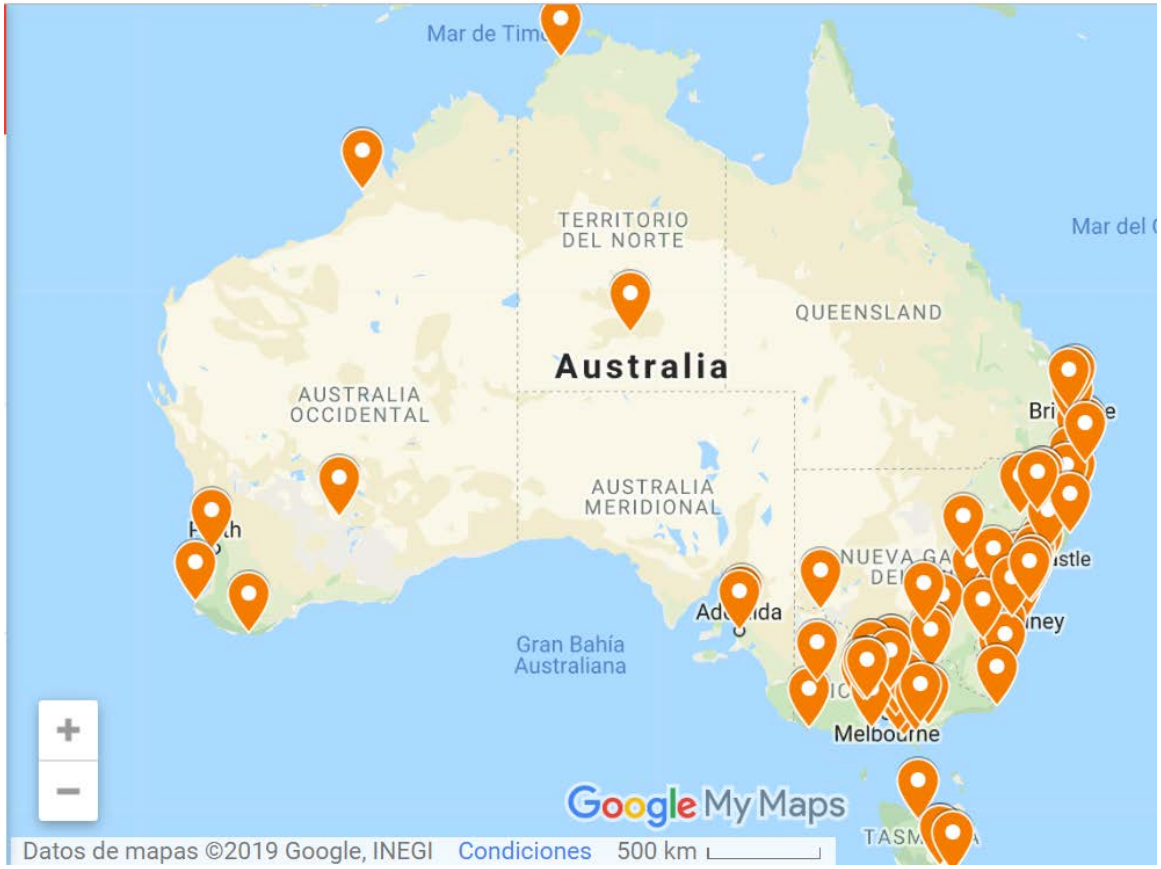
Status and Trends - Europe

Solar Community in Europe

- Member States will need to ensure citizens that are vulnerable benefit from participating in a renewable energy community.
- Member States must put in place tools to facilitate access to finance and information.

Status and Trends - Australia

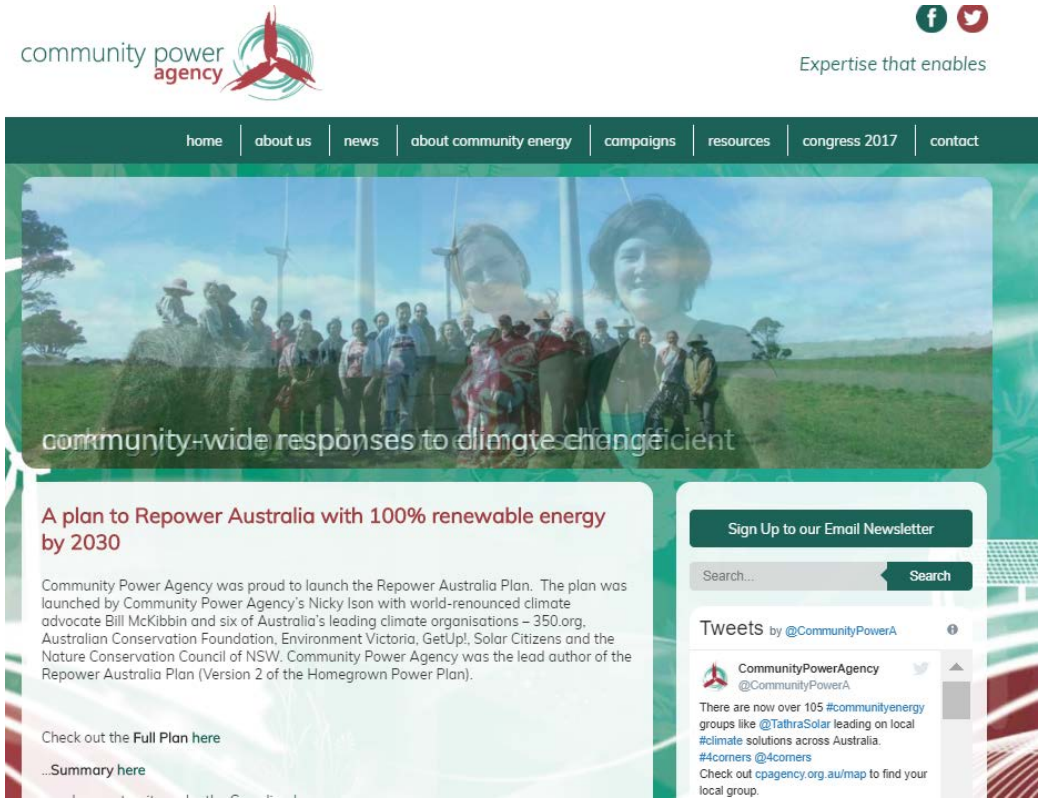
Community Energy Map in Australia



Source: https://cpagency.org.au/resources/map/ (2019)

Status and Trends - Australia

Community Energy in Australia



Community (solar) power

What is the Future of Community Solar?

The sustainable energy transition:

- Decarbonisation;
- Decentralisation;
- Digitalisation;
- Democratization.

Main Body of Presentation

1 Community (solar) power

2 Status and trends of community solar projects

3 Policy recommendations

Policy Recommendations

Developing a national community energy strategy

- Community energy models,
- Finance and funding,
- Capacity building,
- Profile raising and stakeholder support
- Policy and regulatory reform.

Policy Recommendations

Legal frameworks and regulation

- Planning regulations;
- Community solar targets;
- Analysis of the barriers to community solar;
- Regulatory measures.

Policy Recommendations

Finance

- Grants for feasibility studies and access consultancy services;
- Financial support schemes;
- Fiscal incentives;
- Public procurements.

Policy Recommendations

Expertise and Guidance

- Capacity building workshops;
- Information focal point;
- Capacity building to local civil servants involved in solar community projects;
- Maps.

Policy Recommendations

Awareness raising

- Communicating the benefits of community;
- Regional assessment of community solar demonstrating that there is potential return on investment;
- Channels to inform citizens.

4. Concluding Remarks

Concluding Remarks

1. Community Solar con not be considered anymore anecdotal but a global movement.

2. The decrease in the cost of the photovoltaic technologies, the increasing awareness of citizens, the development of new business models and the implementation of supportive legal and regulatory frameworks are the reasons behind the exponential growth of Solar Communities in the last years.

2. The Community solar projects bring multiplied benefits to the citizens and the communities that host these projects. Nevertheless they still facing multiple legal, financial, technical and administrative barriers.

Thank you for your time!

5. Further Reading

REN21 (2017): Renewable Energy Tenders and Community [Em]power[ment]. Available at:
http://www.ren21.net/wp-content/uploads/2017/09/LAC-Report.pdf

IRENA (2017): COMMUNITY ENERGY: BROADENING THE OWNERSHIP OF RENEWABLES. Available at:
https://coalition.irena.org/-/media/Files/IRENA/Coalition-for-Action/Publication/Coalition-for-Action_Community-Energy_2018.pdf

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http://www.communityenergyscotland.org.uk/

Community Power Agency (2018). Website homepage:
http://cpagency.org.au/

NREL (2016): Community Solar: Status, Trends, Legal, and Financial Issues. Available at:
https://www.epa.gov/sites/production/files/2016-03/documents/webinar_20160309_oshaughnessy.pdf

Interreg Europe (2018): Renewable Energy Communities. Available at: https://www.interregeurope.eu/fileadmin/user_upload/plp_uploads/policy_briefs/2018-08-30_Policy_brief_Renewable_Energy_Communities_PB_TO4_final.pdf

6. Knowledge Checkpoint: Multiple Choice Questions