



Enabling Community PV – A Policy Blueprint

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

UPCOMING JULY WEBINARS

TODAY: Enabling Community PV – A Policy Blueprint

Wednesday 15 July: Energising Community PV

Find out more about of the upcoming July webinars [HERE](#):



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EUHeroes

Enabling Community PV – A Policy Blueprint

Part 1: An Enabling Framework for Community PV

This first session will briefly recap the work that has been undertaken throughout the EU Heroes project and will present the context, opportunities and justification for a more dynamic and engaged community energy sector as a vital element of a reliable, safe, flexible and equitable European energy landscape. In particular we will present the policy recommendations for ‘building back better’ with community-led PV initiatives as a vital element of a reliable, safe, flexible and equitable European energy landscape.

10:30 CEST	Rebecca van LEEUWEN- JONES	Ministerie Van Economische Zaken En Klimaat - RVO (NLD)	EU Heroes Project Coordinator	Welcome & Introduction
	Ana Maria SANCHEZ INFANTE	European Commission Directorate General for Energy (ENER)	Policy Officer	The European Commission's Vision for Energy Communities
	Jack WILKINSON-DIX	The Energy Saving Trust Ltd - EST (GBR)	Policy Officer (Wales)	EU Heroes Policy Recommendations
	Graham AYLING	EST (GBR)	Senior Project Manager	
	Otto BERNSEN	RVO (NLD)	Senior Adviser	
	Evangelos (Vangelis) MATHAS	Centre for Renewable Energy Sources & Saving - CRES (GRC)	Researcher, PV Systems and Distributed Generation	PANEL DISCUSSION: Key Recommendations for Enabling Community PV
	Piotr NOWAKOWSKI	Krajowa Agencja Poszanowania Energii Spolka Akcyjna - KAPE (POL)	Specialist, Research and Projects Dept	
	Andrea REAL	CREARA Consultores SL (ESP)	Consultant	
	Moritz ROBERS	Deutsche Energie-Agentur GmbH - DENA (DEU)	Senior Expert, Renewable Energies	
	Juras ULBIKAS	Perspektyviniu Technologiju Taikomuju Tyrimu Institutas - Protech (LTU)	Senior Researcher	
11:30-11:45	Coffee & Comfort Break			



Overview: Main Results & Impact

Rebecca van Leeuwen

Coordinator, RVO

Online webinar 8th July 2020



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Agenda

- Aim/ Activities
- Partners – The Heroes
- Work Methodology
- Main Results & Impact
- Conclusions



EU HEROES project

EU routes for High pEnetration
of solar PV into Local
nEtworkS

Aims

- Enable increased deployment of community PV through new models enabling grid-integration

Activities

- Understand needs of communities and network operators
- Develop new business models
- Pilot those business models



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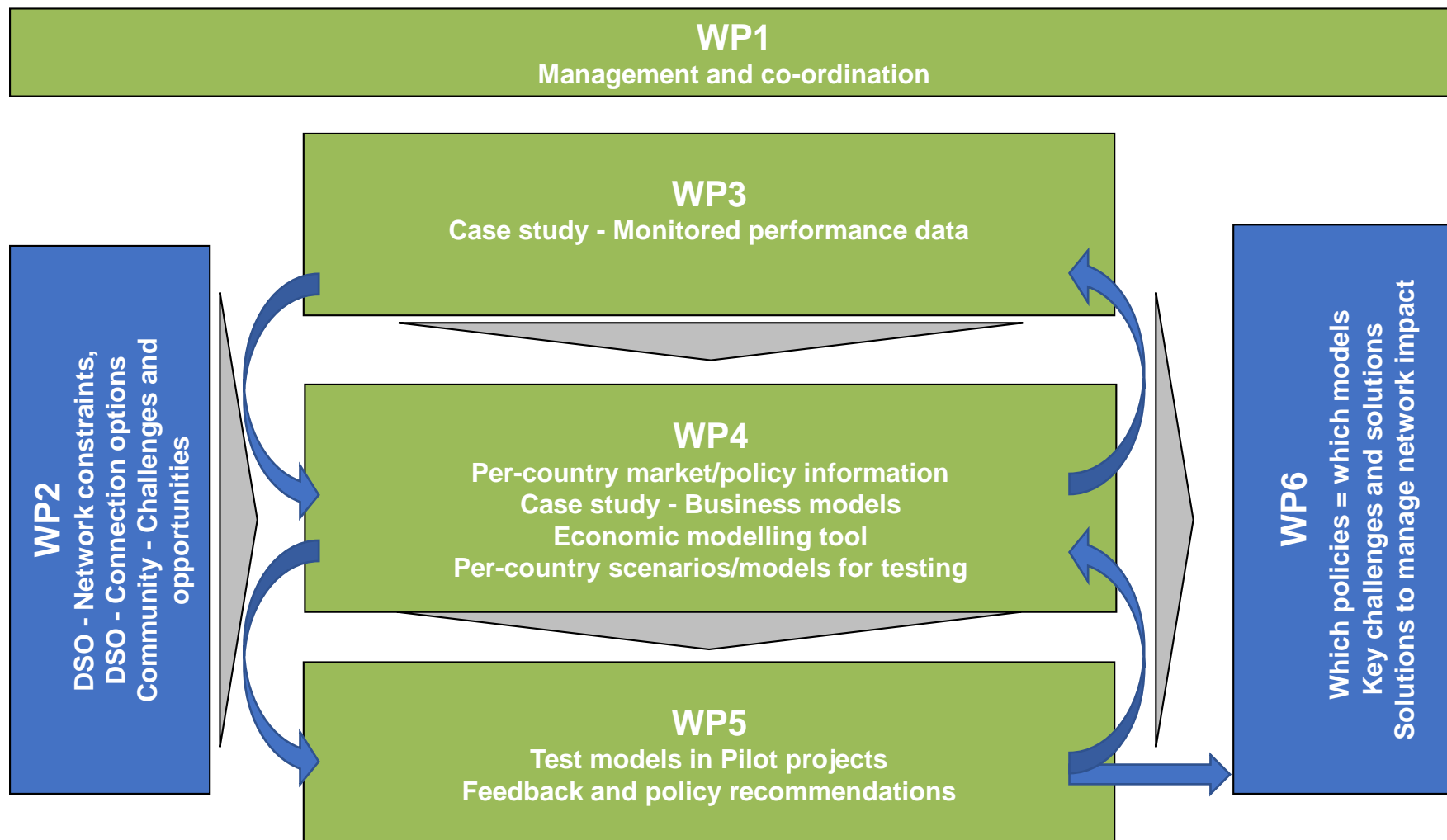
EU HEROES: Partners

Partners

- Partnership formed through Renewable Energy Working Group of the European Energy Network (EnR)
- RVO – Netherlands
- CRES – Greece
- CREARA – Spain
- DENA – Germany
- PROTECH – Lithuania
- KAPE – Poland
- EST - UK



Work Methodology



WP2: Stakeholder Engagement

OBJECTIVES & ACHIEVEMENTS

Description

- Bring together key actors from the energy community and electricity network sectors and engage them in delivering the project objectives
 - Key stakeholder groups
 - Stakeholder engagement plan

Tools

- 1 **Thematic Workshops:** *local stakeholder exchanges*
- 2 **Seminars:** *dissemination of results & training*
- 3 **Bilateral working meetings:** *for in depth discussions and insights*
- 4 **Telephone meetings** – continuous exchange of info'

WP2: Thematic Workshops and their outcomes

Athens, Greece (Grid integration and solar community projects)



- Caps on maximum of renewable energy inst. and grid installation
- High interest loan on financing
- No incentives for micro grids
- Economics of storage



- Set up funds or grants for easier and cheaper finance conditions
- Provide incentives reducing grid costs (ancillary services, storage)

Madrid, Spain (Royal Decree and impact on self-consumption)

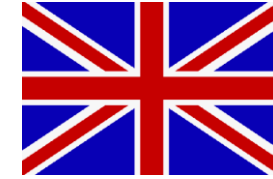


- Royal Decree sets the base for development of self-consumption
 - However: system is complex and collective self-consumption needs to be specified
- General mismatch of information in society



- Information campaigns regarding financial support. of PV and self-consumption

Swansea, UK (Solar community projects)



- Lack of professionalized structures
- Access to land and buildings, financially viable projects and organising permits
- Legislation preventing increased deployment of community solar and self-consumption



- Communal buildings opening up their roofs for community solar projects
- Create framework that enables sites to directly connect to onsite users

Vilnius, Lithuania (Prosumers in multifamily houses and energy communities)



- The concept of cooperatives or energy communities is widespread (no political influence)
- Lack of financing mechanisms



- Use multi-family houses to strengthen the concept of energy communities
- Set up financing mechanisms

WP3: PV Case Studies

- ✚ 11 PV projects from 6.6kWp to 1.6MWp were analysed, focusing either on operational PV Energy Communities or on PV systems which might be essential ingredient of current or future PV Energy Communities.



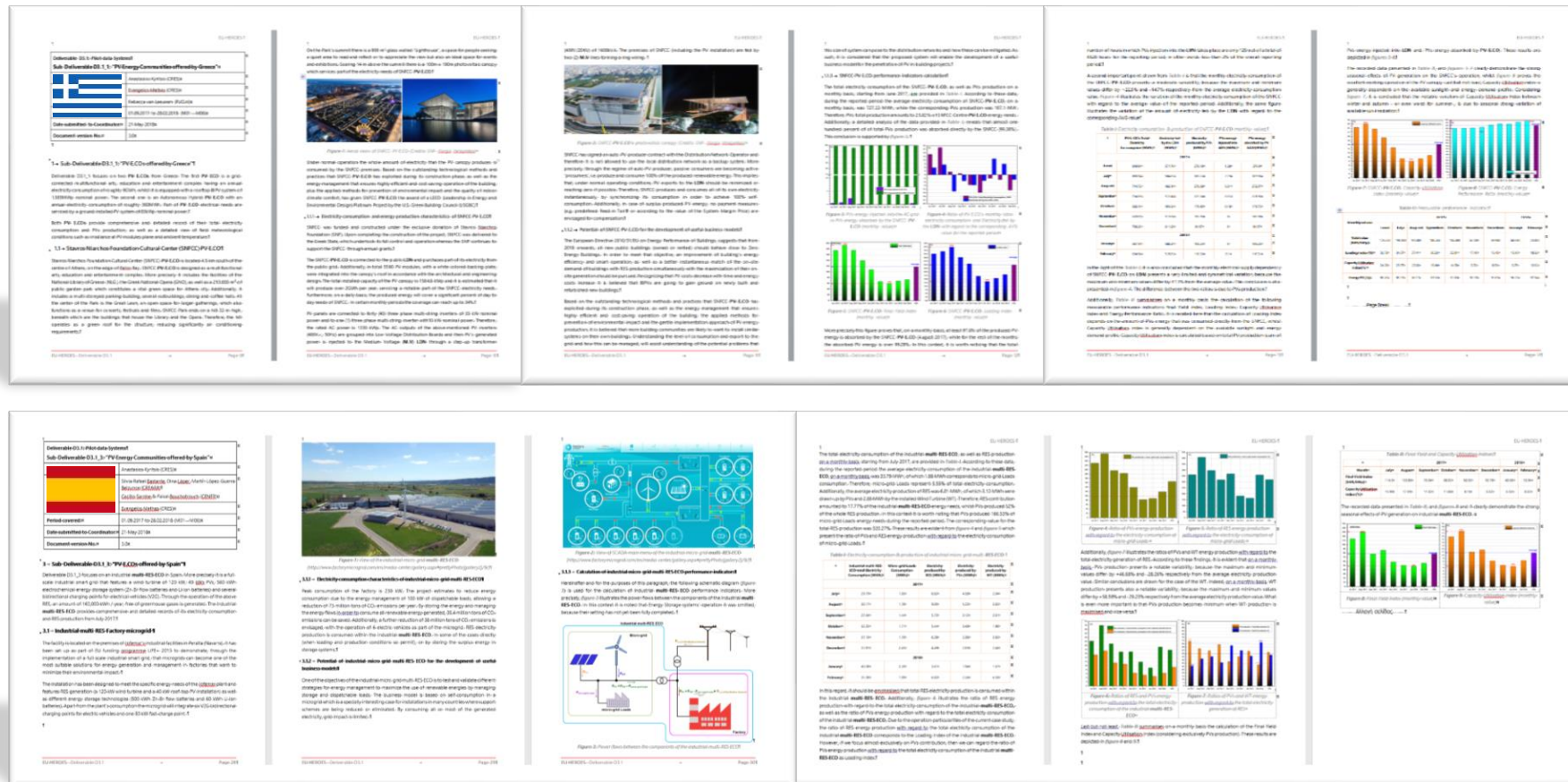
11 **PV Case Studies (PV-C.Ss)** from 7 EU countries (from 6.6kWp to 1.6MWp)

- 1 Multifunctional arts-education and entertainment complex*
- 1 Hybrid PV community (PVs production is fall under curtailed operation)*
- 2 Residential complex PV communities, 2 Primary schools,*
- 1 Community enterprise centre,*
- 1 Feed-in tariff PV System (considered as virtual energy community)*
- 1 Industrial smart-grid installation, 1 Passive house , 1 nZeb house*

WP3: Country Reports



7 country reports (for the 11 PV-C.S.s, at least one in every partner's country) was written, giving a detailed technical description of each case study together with characteristic monthly performance data.



WP4: Business Model Adaptation Development & Training

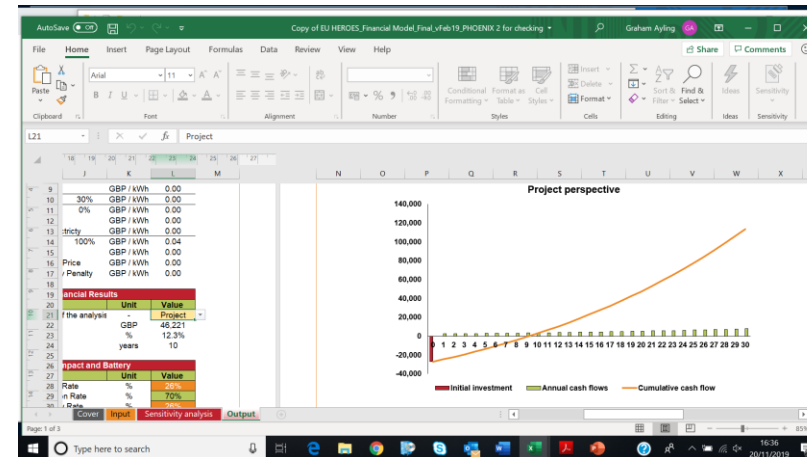
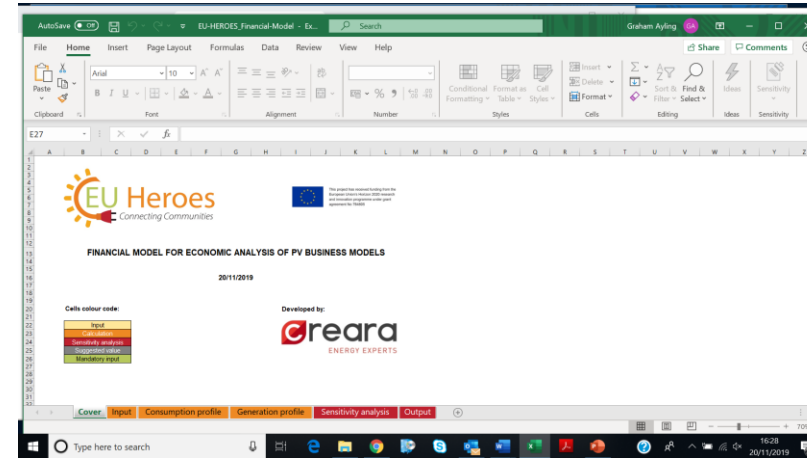
OBJECTIVES & ACHIEVEMENTS

Objectives	1	Provide clear BM description for each case study project, including a country-level context analysis	A detailed country report has been developed by each country, covering technical, financial and regulatory aspects in order to deeply describe the national context.
	2	Integrate technical data into an economical analysis that includes: <ul style="list-style-type: none">• Societal costs (owner/ consumer)• Cost for grid operator	A financial model has been developed to evaluate different BMs for the case study projects. Additionally to conventional BMs, the tool allows to test more innovative ones, such as the impact of batteries or demand side management.
	3	Identify and evaluate potential improvements for pilot projects	Potential improvements from the BM testing with the financial tool have been identified for each of the case studies, and detecting the optimal BM for community solar projects in each country.
	4	Provide conclusions on good practices	<i>Once the optimal BM in each country has been identified, recommendations will be made in order to overcome the barriers that currently hinder its deployment.</i>

WP4: Community Solar Tool

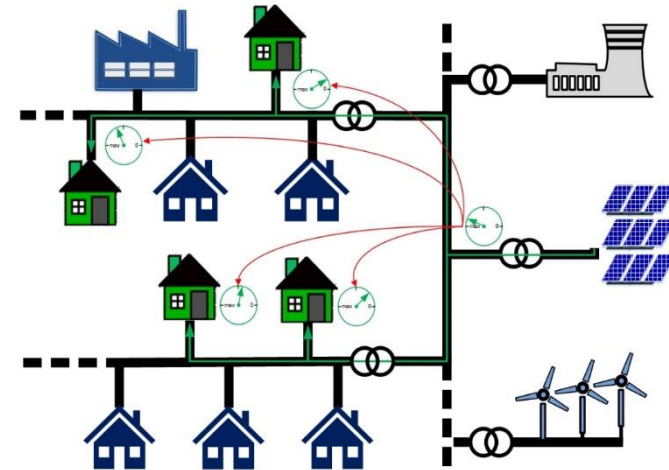
Tool features

- Aimed at energy communities
- Business modelling
- Can cover community scale
- And include battery storage
- Sensitivity analysis
- Excel-based with user guide
- www.euheroes.com/tool



WP5: Tool Piloting & Evaluation

- Demonstrate benefits of the tools developed in the project, to support community project developers & owners
- Adapt model business cases (proposed under WP4) to real community and municipal solar projects



WP5: The Pilot Projects

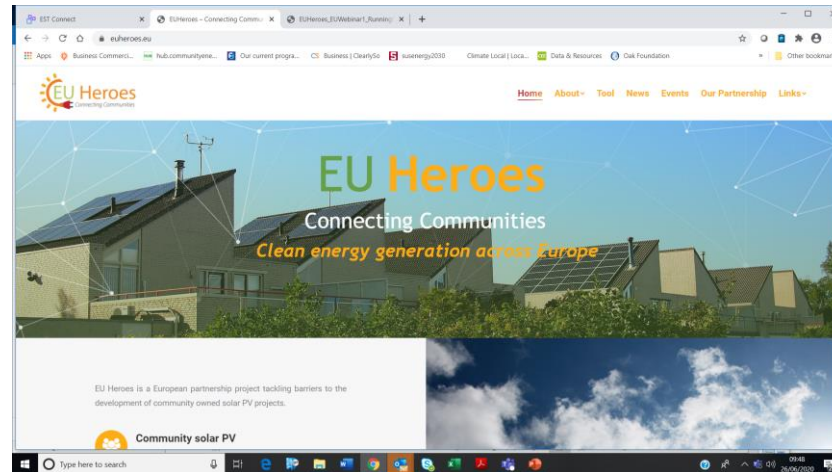
1. **Greece:** “Hyperion” - innovative PV energy community project providing distributed ownership of the community solar PV system.
 2. **Spain:** Valencia administrative complex with a total area of 35,000 m², of which 10,000 m² are built, distributed in 6 public buildings.
 3. **Poland:** Municipality-owned Public Kindergarten with PVs
 4. **Netherlands:** “Groene Mient” social ecological housing project that consists of 33 (private) sustainable homes.
 5. **Lithuania:** “Varniai Green House” project for renewable energy based refurbishment of soviet style multifamily house to the modern zero emission entity.
- (NB. For Germany & the UK currently identifying most appropriate pilots)

W5: Conclusions

- Model is applicable to wide variety of situations;
- Simple enough to understand;
- Provides insights to existing configuration;
- Provides possibilities to analyse impact of infrastructure; configuration modification as well as impact on business case outcomes.

WP6: Dissemination and Communication

- Website and social media
- Articles and presentations
- National-level dissemination webinars
- EU dissemination webinars
 - Today
 - 1st July
 - 15th July
- Twitter: @euheroes
- LinkedIn group: EU HEROES



Impact

- **Strategic Impact** – Closely following Article 22 of the RES Directive – provide recommendations for effective implementation
- **Market Impact and Socio-economic impact** – smooth transition from subsidised deployment to market conditions. Acceleration & empowerment of citizen engagement with renewable energy and decarbonisation of the EU economy;
- **Energy and Environmental Impact** – contributed to increase in share of renewable energy in EU energy mix and reduced CO2 emissions;
- **Shortened the (expensive) learning curve** for making this energy transition in society possible – valuable exchange of info’.

Conclusions

- Could it be that:
 - there are ***“No More Heroes?”***
 - ***“We don’t need another Hero?” or do we?***
- Or could it be that:
 - With the right legislation in place;
 - With a level/ equal playing field
 - With increased public acceptance
- ***We could (all) be Heroes‘***
and contribute to a cleaner, greener & brighter future





For further info
<http://www.euheroes.eu>



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European Commission's view on energy communities

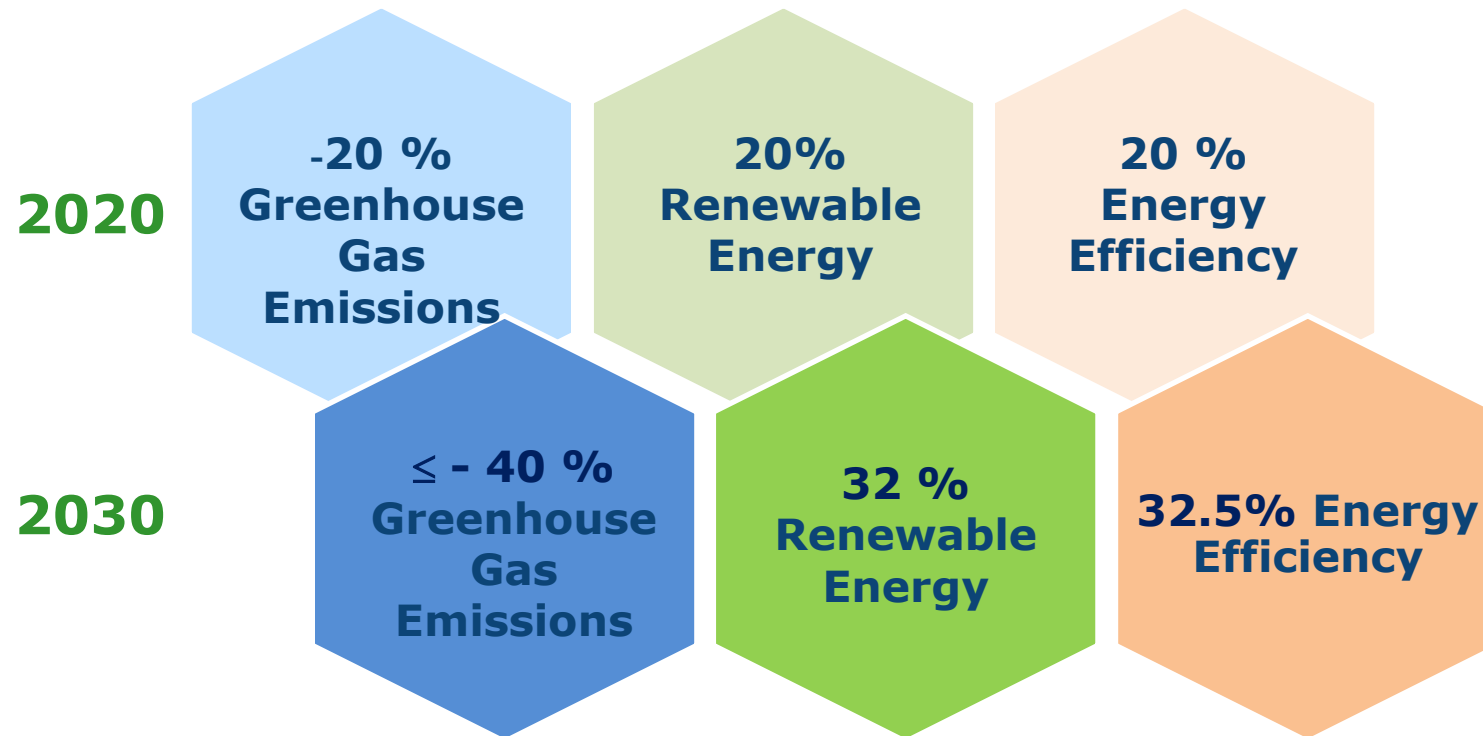
EU Heroes Webinar - 08 July 2020

DG ENERGY, European Commission

Content

- ✓ Energy policy context
- ✓ Provisions on energy communities

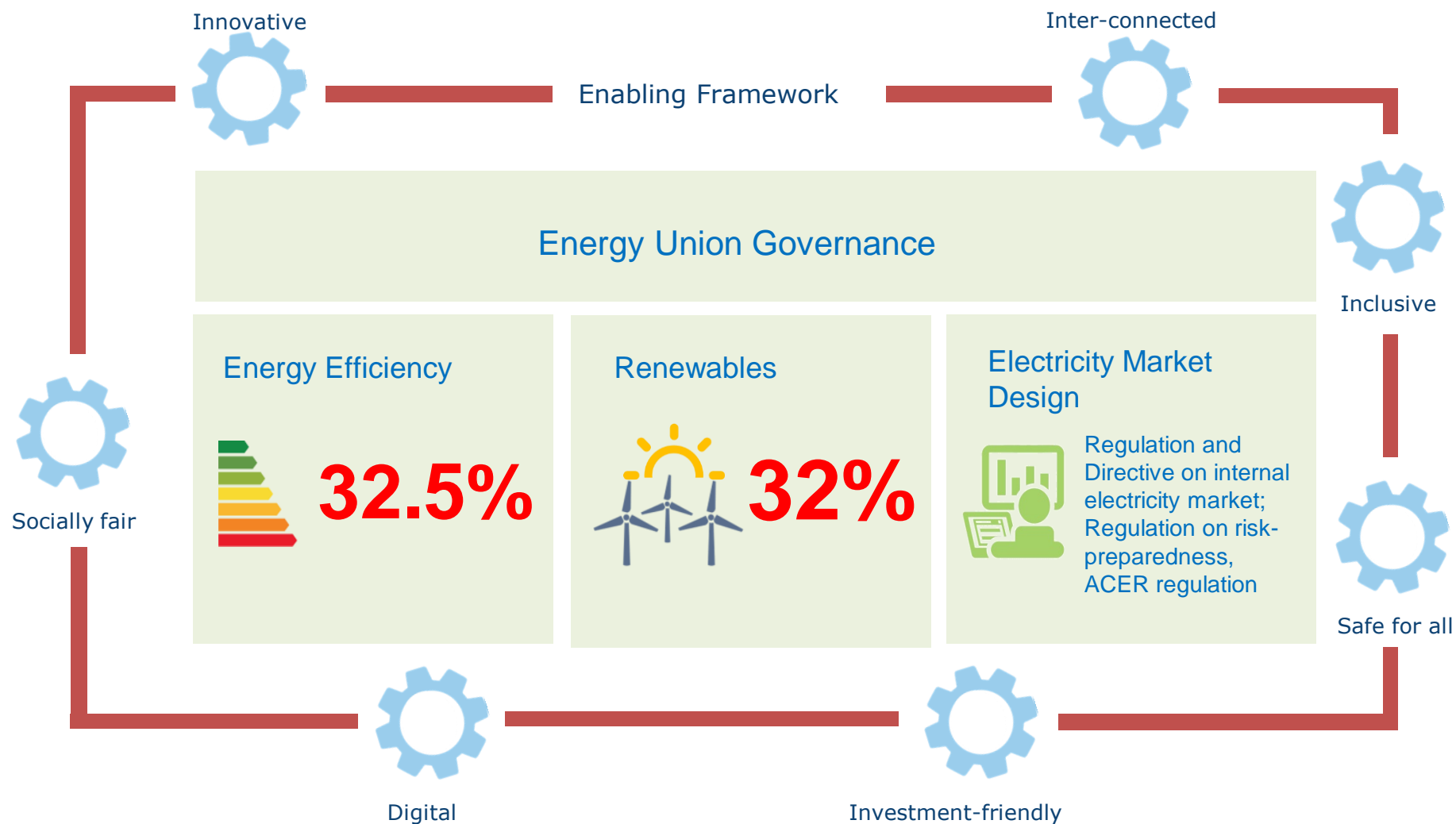
Energy and Climate Objectives 2030



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

The European Green Deal
Climate neutrality

The Clean Energy Package



Purpose of consumer empowerment



Empowering citizens

- Energy communities are an effective tool to increase **project acceptance**
- Energy communities are a tool to mobilise **private capital** for the energy transition
- Energy communities could be a tool to increase **flexibility in the market**

Citizens coming together in...



© Thinkstock



© REScoop.eu

Art. 16 of the Directive on the Internal Market for Electricity Directive on "Citizen Energy Communities"

Art. 22 of the Directive on the promotion of the use of energy from renewable sources on "Renewable Energy Communities"

Art. 2 on definitions: makes clear that renewable energy communities are a social concept, rather than financial profits



Enabling Framework for RECs

- *Promote and facilitate energy communities*
- *Participation is open to all costumers*
- *Tools to facilitate access to finance and information*

Next steps

Transposition deadlines:

- RED II: 30 June 2021
- Electricity Directive: 1 January 2021



Thank you for your attention



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Policy Recommendations

Graham Ayling and Jack Wilkinson-Dix EST, UK

July 2020



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Policy recommendations

Introduction

- EU HEROES is not a policy-focused project
- Recommendations from experience and stakeholders
- Context:
- Member States implementing RED Article 22

*Source:



Policy recommendations

Understanding energy communities

- Energy communities are not the same!
- Inter and Intra-national variation
- Grassroots climate groups
- Diversified social enterprises
- Municipal social enterprises



Policy recommendations

Understanding energy communities

- Evolution of the sector:
 - Stage 1: Pioneering – setup and first projects
 - Stage 2: Developing – delivery and portfolio development
 - Stage 3: Expanding – Community ESCOs, Community aggregators



Policy recommendations

Short and Long-term recommendations

- Building capacity –
 - Developing energy communities through stage 1 and 2
- Paradigm shift –
 - Energy communities role in net zero and smart decentralised future

*Source:



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Policy recommendations – Building Capacity

Building capacity for Stages 1 & 2

- Consistency in support frameworks for community energy
- More experience sharing
- Public (and private) sector PPAs for PV communities
- Supporting innovation from ECs and DSOs including targeted support for PV/batteries



Policy recommendations – Building Capacity

Implementing a Supportive Framework (incl. provision of resources and collaboration)

- ‘Supportive Framework’ drawn from A22
- Access to a suite of supportive measures from one access point – the ‘menu’ approach
- Higher ambition – dedicated experts, interactive resources, project ‘dating agency’.
- Seeks to address key financial and expertise barriers for early Stage projects

Example: WGES and CARES

Funded by Welsh and Scottish Government, administered by Energy Saving Trust.

ECs apply once and are enrolled into a bespoke system that provides grants, access to finance, and access to expertise.

By offering a wide range of services groups can pick and choose what help they require, making the process more efficient.

Benefits: facilitate EC expansion, tackling climate change, energy security, strong data on ECs – barriers, what help is typically required, environmental and social benefits

Policy recommendations – Building Capacity

Prioritising PPAs

- A solar asset, usually situated at the site of use, is fully or partly-owned by the community with the large public or private entity paying a fixed price for the electricity generated.
- Why important – provides long term funding security to ECs, fosters mutually beneficial relationships between actors, can relieve pressure on grid if there is a large degree of self-consumption, can be a jumping off point to explore new models.

Example: Egni Coop and Riding Sunbeams

Egni Co-op funds and manages rooftop PV installations in Wales. It has an extensive portfolio of (predominantly) public buildings i.e. schools, community halls etc.

Upfront costs met with a public share offer and funding from the Development Bank of Wales.

Egni's previous business model largely relied upon the FiT, with this being scaled a greater focus on PPAs is now the priority.

Riding Sunbeams' Green Valley Lines project is looking to build on the success *Riding Sunbeams* has had in the South of England and power sections of the South Wales rail network with ground mounted solar through a PPA with *Transport for Wales*.

Policy recommendations – Building Capacity

Supporting innovation from ECs and DSOs

- Laying the groundwork: support, engagement, opportunity
- Testing future scenarios – battery/PV, VNM, flexibility markets, PV/EV etc.
- Why important – helps DSOs prepare for and capitalise on the opportunities a more decentralised, smart, flexible and democratic energy system offers.



Solar Panels installed at the *Groene Mient* project.
Credit: Marc Roos, Marc Roos Fotografie

Policy recommendations - Paradigm Shift

Paradigm shift

- Recognise the role of energy communities in net zero
- Regulatory framework for smart-flexible
- Enable local supply
- Long term certainty on smart, flexible future
- Role of shared ownership in achieving scale?



Policy recommendations - Paradigm Shift

What does supportive policy look like for Stage 3 projects?

- It will depend. But could include legislation/regulation which supports...
- Self-consumption (reduced taxes, charges, tariffs)
- Allowing non-proximate peer-to-peer production and consumption e.g. Sonnen Batterie
- Broadening definitions to help achieve scale
- Enabling local supply, e.g. Local Energy Supply Bill (UK)
- **Certainty and consistency**

Example:

- Greece
 - Definitions, exemptions and special dispensation
 - Virtual net metering for communities!
- Lithuania
 - LAs identify sites for community PV
 - Remote net metering



Policy recommendations - Paradigm Shift

Achieving a Just Transition

- Came out strongly throughout the project
- Significant challenges exist in ensuring the benefits of ECs are felt by all
- Reaching net zero requires huge public buy-in and acceptance – ECs can be a vehicle for this (energy democratisation, multiple co-benefits)
- Policy should be crafted with this goal in mind e.g. low thresholds for individual buy-in, VNM, multiple family homes, etc.
- Can be easier to achieve these goals in early development e.g. fitting renewables and microgrids during construction of housing estates

Example: Bioregional/Repowering

Will provide solar-generated electricity to 60 homes with residents who are in, or close to, fuel poverty, and vulnerable tenants using prepayment meters.

Customers will benefit from real-time energy usage data to manage electricity use themselves.

As well as benefitting tenants, the social housing providers gain the ability to provide low-carbon, affordable energy to their tenants in line with their objectives, and benefit from higher return on solar PV investment than currently provided by the UK FiT.

Previously, Repowering London have provided training opportunities to low-income residents involved in their schemes and have made the threshold for investment in a project as low as £50.

Policy recommendations

EU policy

Good practice jigsaw

- All member states are implementing A22
- Policies on supporting and monitoring energy communities
- Policies on creating markets for energy communities
- Many countries have part of the picture
- None have all?



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RED II – Prime Time

Q1) Do you think that your national provisions adequately cover the main objectives of the stipulations of RED II?

Q2) Are there principles of Art. 21 and 22 of the RED II which are still lacking in your national legislative framework?
(and therefore constitute the main obstacle(s) for solar communities



Webinar Policy recommendations
Trends in Solar Communities in the
Netherlands
Otto Bernsen
Netherlands Enterprise Agency
8th of July 2020



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Trends in Solar Communities

General Framework

- The Netherlands have a liberalized and privatised market structure: network operators and energy retailers are unbundled. Energy production, trading and retailing have become commercial activities as (local) governments have sold their share in energy companies.
- The Netherlands have a fast growing solar market with an estimated added 2,4 GWp installed capacity in 2019. The number of solar cooperatives has doubled as of 2015. It is still a small part (2%) of the total solar market. Originally mainly small roof top systems, now more than half are large (> 15 KWp) systems, using the SDE plus support scheme.
- The other main support schemes are:
 - Net metering for smaller systems (to be phased out after 2023)
 - Postal Code (tax reduction) scheme (to be adjusted in 2021)

Picture by author. 6 MWp solar park on airport Ameland.
Jointly owned by a cooperative, the municipality and an energy company.



Trends in Solar Communities

The Evolution of Energy Communities

- There are several types of cooperative (energy) initiatives in the Netherlands. The first solar communities were pioneers, with a vision and willing to put in the extra hours and effort.
- These have become more professional, growing (size matters) and reacting to the (sometimes adverse) circumstances.
- The Dutch case studies in HEROES are all from the national regulatory sandboxes (innovative experiments with dispensation from the energy law).
- Some of these energy communities are expanding into:
 - Advising other initiatives
 - Demand Responds
 - Energy markets (retail, capacity)
 - Developing energy services (including software)

Picture by author. Launching a Lifeboat at Hollum, Ameland.

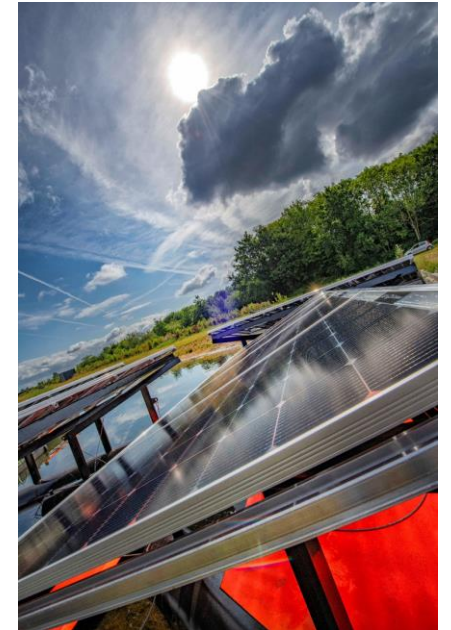


Trends in Solar Communities

Grid issues: restraints before and behind the meter

- Grid congestion has become (unexpectedly?) a major issue for larger solar projects in the Netherlands.
- Self sufficiency is one of the solutions for this problem. It can be more quickly implemented than grid reinforcement, it is inclusive and costs & benefits fall to the same parties.
- HEROES tool has shown for the Dutch cases that a high % of self consumption (over 60%) compensates for phasing out net metering.
- The storage technology can vary and investment shared with DSO.
- Barriers can still be:
 - Available surface and planning procedure
 - A (very) steep learning curve for new initiatives
 - Upfront financing for project preparation and storage.
 - Few incentives exist for self consumption (outdated tax regime).
 - Restrictive roles in the existing energy law for behind the meter.

Picture courtesy Innozowa . Floating solar system..



RED II – Prime Time

Q1) Do you think that your national provisions adequately cover the main objectives of the stipulations of RED II?

Q2) Are there principles of Art. 21 and 22 of the RED II which are still lacking in your national legislative framework?
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UPCOMING JULY WEBINARS

NEXT WEEK

Wednesday 15 July: Energising Community PV

Find out more about of the upcoming July webinars [HERE](#):



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[EUHeroes](#)

Enabling Community PV – A Policy Blueprint

Part 2: Progressive Actions for Building Stronger Energy Communities

The second session will look at action to support energy communities across Europe. Good practice examples of policy interventions and actions from different member states will be presented to illustrate how governments can comply with Article 22 of the Renewable Energy Directive and move beyond compliance to enable energy communities to play their part in the transition to net zero carbon.

11:45 CEST	Ludwig KARG	BAUM Consult GmbH	CEO	TaskForce on Energy Communities
	Jim CARDY	Welsh Government Energy Service - WGES (GBR)	Senior Development Manager	Government Energy Services Supporting Communities
	Evangelos (Vangelis) MATHAS	Centre for Renewable Energy Sources & Saving - CRES (GRC)	Researcher, PV Systems and Distributed Generation	Energy Communities in Greece
	Helen SEAGRAVE	Electricity North West (GBR)	Community Energy Manager	Engaging with Energy Communities: A Network Operator's perspective
	Vitas MACIULIS	Perspektyvinis Technologiju Taikomuju Tyrimu Institutas - Protech (LTU)	Expert	Producing Consumers and Energy Communities in Lithuania: Development and Perspectives
	Job SWENS	J-OB Joining Objectives (NLD)	Consultant	Overcoming Barriers to Community Energy in the Netherlands
	Rebecca van LEEUWEN- JONES & Graham AYLING	EU Heroes Project Team		Wrap-up (and next steps)
13:00 CEST	Webinar Close			



Taskforce on Energy Communities

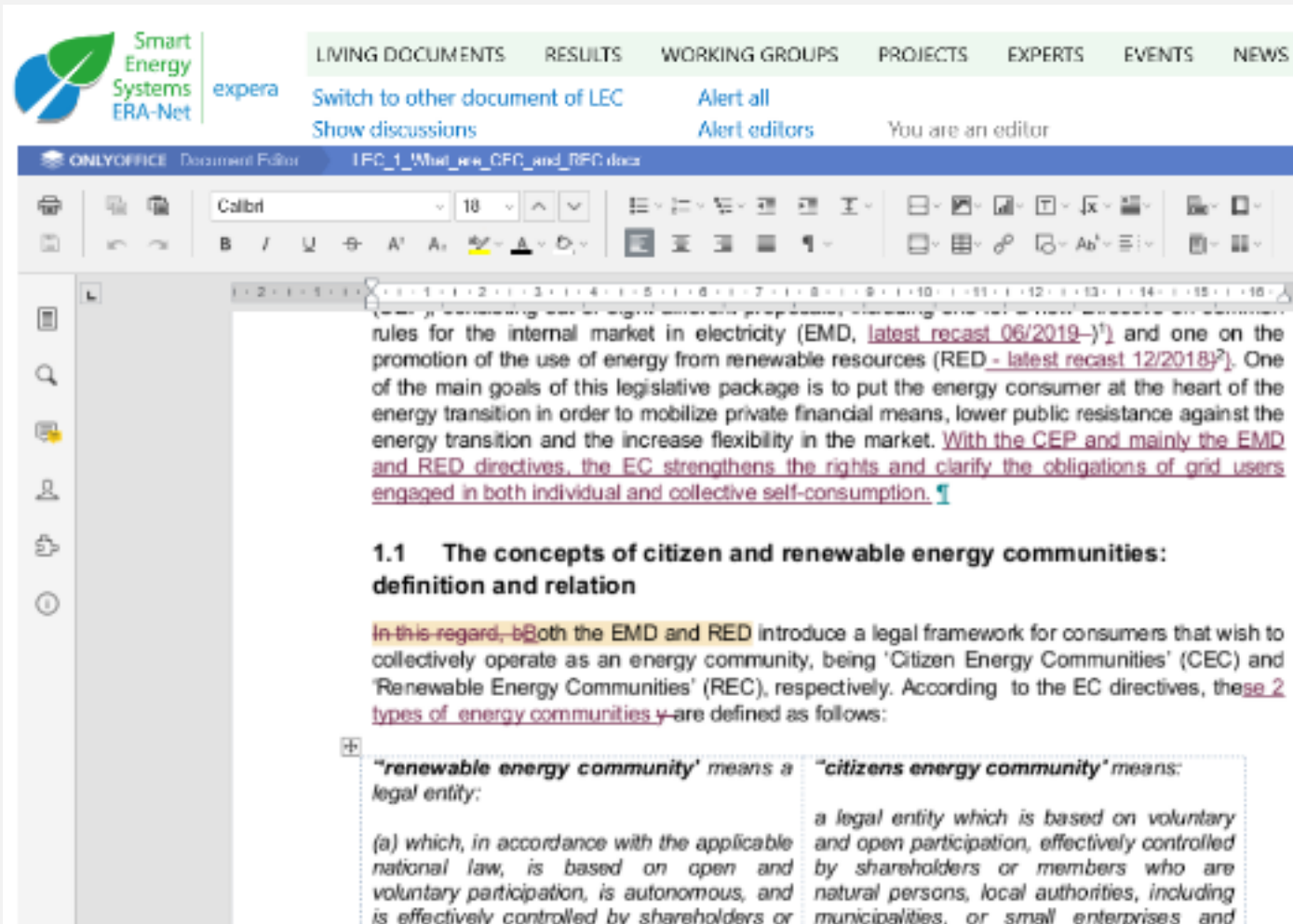
Ludwig Karg, B.A.U.M. Consult München / Berlin

Taskforce on Energy Communities



- Crosscutting work in the framework of Bridge
- What happens in the different MSs?
 - Good and inspiring examples
 - Analysis on legal existing and upcoming framework
- Recommendations expected
 - Replicability and upscaling needs and potentials
 - Research and demonstration needs
- Working Group “Regional Matters” with Taskforce “Local Energy Communities”
- Knowledge Generation from and for JPP SES projects
- Spotlights and Policy Briefs
 - for academia
 - funding programs
 - legislation (on MS level)
 - practitioners (energy, ICT)

Participation!



The screenshot displays the 'Smart Energy Systems ERA-Net expera' web application. The top navigation bar includes links for LIVING DOCUMENTS, RESULTS, WORKING GROUPS, PROJECTS, EXPERTS, EVENTS, and NEWS. Below this, a secondary bar offers actions like 'Switch to other document of LEC', 'Show discussions', 'Alert all', 'Alert editors', and 'You are an editor'. The main interface is a document editor for a file named 'LEC_1_Mod_new_CFC_and_RFC.docx'. It features a standard toolbar with font settings (Calibri, size 18) and various editing tools. The document content discusses legislative packages for the internal market in electricity, specifically mentioning the EMD and RED directives. A section titled '1.1 The concepts of citizen and renewable energy communities: definition and relation' is highlighted. Below this, the text explains that both EMD and RED introduce a legal framework for energy communities, including 'Citizen Energy Communities' (CEC) and 'Renewable Energy Communities' (REC). Two definitions are provided in a table-like format:

"renewable energy community" means a legal entity:	"citizens energy community" means:
(a) which, in accordance with the applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or	a legal entity which is based on voluntary and open participation, effectively controlled by shareholders or members who are natural persons, local authorities, including municipalities, or small enterprises and

- cooperating with experts at www.smartgridsplus.eu
- reading and commenting Living Documents
- taking part in online discussions

The topics (identified by core-team of taskforce)

1. What are Energy Communities?
 2. Which potential for renewable energy use can be triggered by a CEC or REC in addition to existing organisations?
 3. What would be benefits and options for a CEC to operate its own (sub) grid?
 4. What are benefits of CEC or REC in relation to existing means and measures of citizen involvement?
 5. Which overall cost savings can be expected from CECs compared to existing schemes?
 6. What are feasible tariffs to allow for the implementation of a CEC as part of the overall energy system?
 7. How can candidates be supported to establish a CEC or REC?
 8. What are requirements to ICT solutions for the implementation of a CEC or REC?
 9. How can data collection and management be limited and data security be ensured in a CEC or REC?
 10. What is the national situation of Energy Communities in the context of the CEP?
-
11. Cases and Experiences
 12. Conclusions and Recommendations



Recommendations

1. Draw on the [experiences of existing energy community initiatives](#), or create a temporary space for them to emerge in
2. Dare to [be ambitious](#) to maximize the potential of energy communities, but adequately differentiate between types
3. Specify principles of 'autonomy', 'effective control' in order to [avoid elite-capture](#)
4. Define the concept of '[locality](#)' for [collective self-consumption and energy sharing](#) in line with grid topology, but do not equate it with the element of 'proximity' for REC
5. Put in place participation [mechanisms for energy poor and vulnerable](#) households
6. Consider the [value that CEC and REC can provide](#) to the public network
7. Consider the [value of REC and CEC to the community](#)
8. Pro-actively [support](#) the set-up of REC and CEC
9. Consider a separate auction-based support scheme for REC
10. [Streamline, simplify and make less burdensome](#) licensing and network connection procedures
11. [Do not reduce the concept of CEC and REC to mere collective self-consumption and vice versa](#)

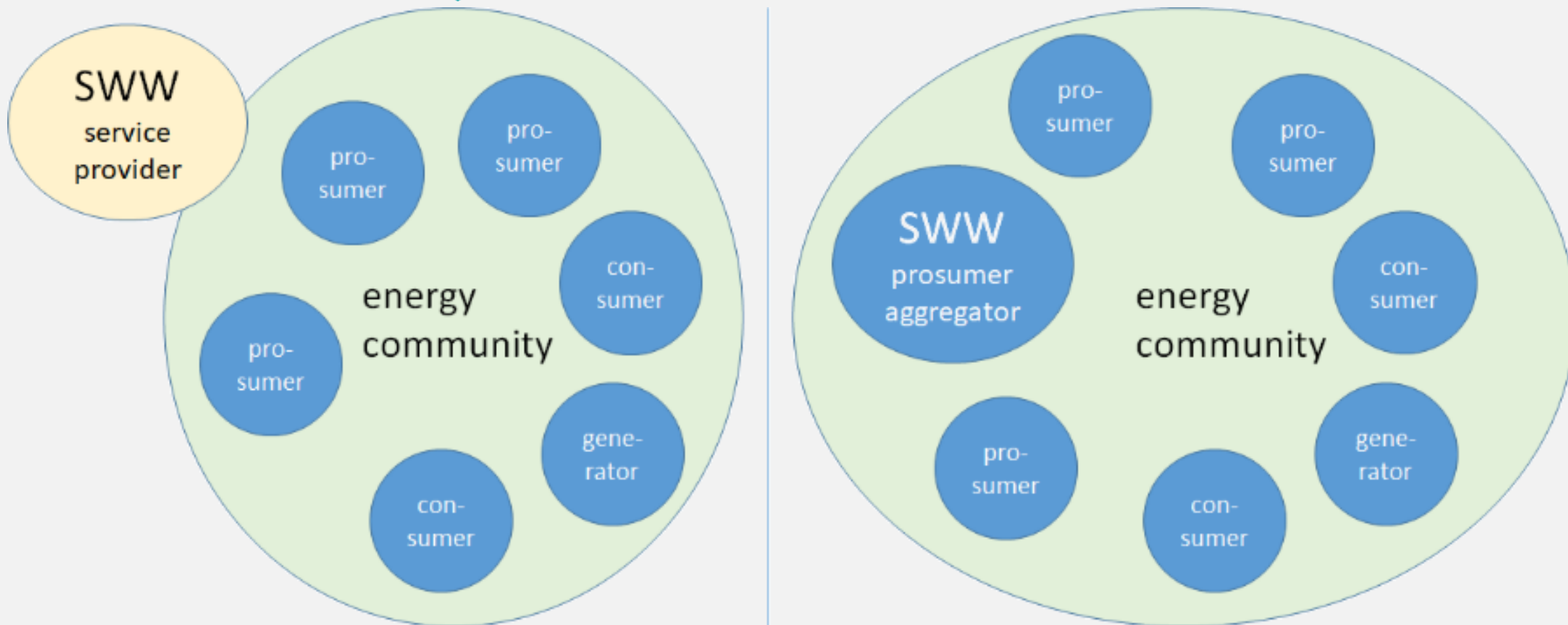
Classes of Energy Communities

No	Name	LEC Taskforce
class 1	Collective generation and trading of electricity	all types of territorial or commercial groupings of generators – whether active on the market or under feed-in mechanisms (often called Virtual Power Plants)
class 2	Generation-Consumption Communities	certified sourcing of electricity in a closed group of generators and consumers - not necessarily in proximity but including local or regional energy markets
class 3	Collective residential & industrial self-consumption	generation, storage and consumption in residential cases with multiple dwellings; includes Tenant-Power (Mieterstrom) - models
class 4	Energy positive districts	districts with residential and business entities operating their energy supply systems under their own regime
class 5	Energy islands	real islands or parts of the distribution system that can be operated standalone (e.g. cellular system as in SINTEG, holonic model as in PolyEnergyNet)
class 6	Municipal utilities	existing organizations for energy production, supply and grid operation under citizens' control – directly (e.g. cooperative) or indirectly (e.g. controlled by local government)
class 7	Financial aggregation and investment	a “community” of investors joins to scale the amount of or manage the investment in generation systems (without further involvement in organisation etc.)
class 8	Cooperative Financing of Energy Efficiency	citizens jointly investing in efficiency means of SMEs and municipalities, possibly in their own region (e.g. contracting / ESCO, crowd-funding)
class 9	Collective service providers	all types of commercial groupings of energy services (e.g. grouping of EV charging stations, aggregation of demand side management services)
Class 10	Digital supply and demand response systems	all types of digitally controlled energy systems (e.g. implemented with blockchain), these days possibly operated as a sandbox-model

Classes of Energy Communities and Examples

<i>Class</i>	<i>Name</i>	<i>Example presented at MIA Online</i>
1	Collective generation and trading of electricity	Collective generation and trading in the Netherlands Job Swens, J-OB
2	Generation-Consumption Communities	Experiences with collective self-consumption in France Alexandra Battle, TECSOL
3	Collective residential & industrial self-consumption	Housing associations as energy communities: FlexShape in Denmark Prof. Torben Bach Pedersen, Aalborg University
4	Energy positive districts	Energy positive districts as nucleus for energy communities Andreas Tuerk, JR
5	Energy islands	About islands and other autonomous communities in Greece Takis Ktenidis, TILOS project
6	Municipal utilities	Local utility operating on behalf of and supporting the citizens Gerhard Meindl, Stadtwerke Wunsiedel, Germany
7	Financial aggregation and investment	Financial Aggregation and Investment Josh Roberts, REScoop
8	Cooperative Financing of Energy Efficiency	Local organizations for fostering energy efficiency: ALLIES in Hungary Gergely Toth, KÖVET, Hungary
9	Collective service providers	Jointly providing flexibility and grid services while charging EVs Tereza Borges, Lumenaza, Germany / UK
10	Digital supply and demand response systems	Digital Energy supply and demand response systems Natalie Samovich, ENERCOUTIM

Service provider or „super-peer“ in p2p trading of Energy Communities?





ALLIES

Activating and Learning from
Local Investments in Energy Savings

Supported by:



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety



European
Climate Initiative
EUKI

based on a decision of the German Bundestag

Activating society and SMEs to foster
energy efficiency measures

Establishing Local Financing Entities
for Energy Efficiency (LFEEE)

Collective approach with cooperatives
or similar



Establishing an enabling framework

EMD, whereas (43):

... aims to recognise certain categories of citizen energy initiatives at the Union level as ‘citizen energy communities’, **in order to provide them with an enabling framework**, fair treatment, a level playing field and a well-defined catalogue of rights and obligations.

Support Needs – assessed for ...										The Netherlands				
No	Name		clear legal framework	financial support for setup	financial support for operating	capacity building for key actors	capacity in terms of time	counselling with models / templates	network for knowledge exchange	umbrella to reduce risks, costs etc.	electrical technology	software for operating the community	clear positioning of DSO / TSO	
		whether active	5	0	0	1	1	3	4	3	0	5	5	
		s and consumers	5	0	0	0	0	0	3	3	1	3	3	
		energy markets												
		with multiple dwell-	1 ¹	1	0	2	1	2	3	1	1	3	3	
		their energy supply	1	3 ²	0	1	1	1	1	1	1	3	3	
		be operated	5	1	0	1	1	1	1	1	1	1	3	
		model as in PolyEner-	1 ¹	0	0	1	1	1	1	3	1	0	2	
		and grid operation under	1 ³	0	0	1	1	1	1	1	0	0	0	
		(ative) or indirectly (e.g. if												
		unit of or manage the invest-												
		involvement in organisation etc.)	1 ⁴	0	2 ⁵	3 ⁶	0	1	2	1	1	1	3	
		MEs and municipalities, possi-	0	1	0	1	0	0	2	1	1	1	3	
		crowd-funding	1	1	0	1	0	1	1	1	1	2	2	
		services (e.g. grouping of EV												
		e management services)	1	1	0	1	0	1	1	1	1	2	3	
		management implemented with block-												
		andbox-model	1	1	0	1	0	1	1	1	1	2	2	
class 1	Collective generation and trading of electricity	ai on: Pla												
class 2	Generation-Consumption Communities	cert - not												
class 3	Collective residential self-consumption	gener. ings; in												
class 4	Energy positive districts	districts systems												
class 5	Energy islands	real island, standalone evNet)												
class 6	Municipal utilities ²	existing orga citizens' contr controlled by												
class 7	Financial aggregation and investment	a "community" ment in genera												
class 8	Cooperative Financing of Energy Efficiency	citizens jointly in bly in their own re												
class 9	Collective service providers	all types of comm charging stations, a												
Class 10	Digital energy supply and demand response systems	all types of digitall chain), these days pos												

TF Energy Communities, Ludwig Karg

67

Join us!

on **expera** for the co-creation of knowledge

>>> <https://t1p.de/usr9>

- comment and edit living documents
- participate in surveys
- support creation of recommendations

need contacts in
ministries for survey
on frameworks

need participants
for needs
analysis



Leen Peeters

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Ludwig Karg

B.A.U.M. Consult

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81371 München
Germany
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www.baumgroup.de



www.euheroes.eu





WGES - Welsh Government Energy Service 'a policy blueprint for community solar'

Jim Cardy



Gwasanaeth Ynni
Energy Service

The history of energy community support in Wales

Ynni Fro – 2010 - 2015

- Welsh Government Programme using European Structural funds
- Helped social enterprises across Wales develop their own community-scale renewable energy schemes
- Support from team of full-time development officers
- Toolkits – finance, project development, ownership models

Local Energy Service – 2015 - 2018

- Maximise the level of locally retained benefits
- Partnership portal
- More detailed technical support

Welsh Government Energy Service – 2018 - 2022



Gwasanaeth Ynni
Energy Service

Delivering national policy goals

Our overall approach for delivering the Welsh Government Energy Service is to identify, prioritise and focus resources on activities and projects that will have the greatest impact on Welsh Government objectives and targets for:

- public sector decarbonisation
- locally-owned renewable energy generation
- the Environment (Wales) Act
- the Well-being of Future Generations (Wales) Act (WFGA)
- 'Prosperity for All', Wales' national strategy and economic action plan

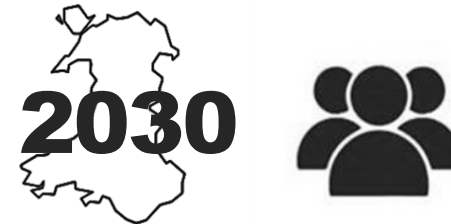


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Prioritising support

The energy service should prioritise activities that:

- contribute to 2030 carbon reduction ambitions;
- increase capacity, capability and motivation in the public and community sectors;
- generate local income or social/economic benefit or avoid future costs; and
- contribute to partnership working.



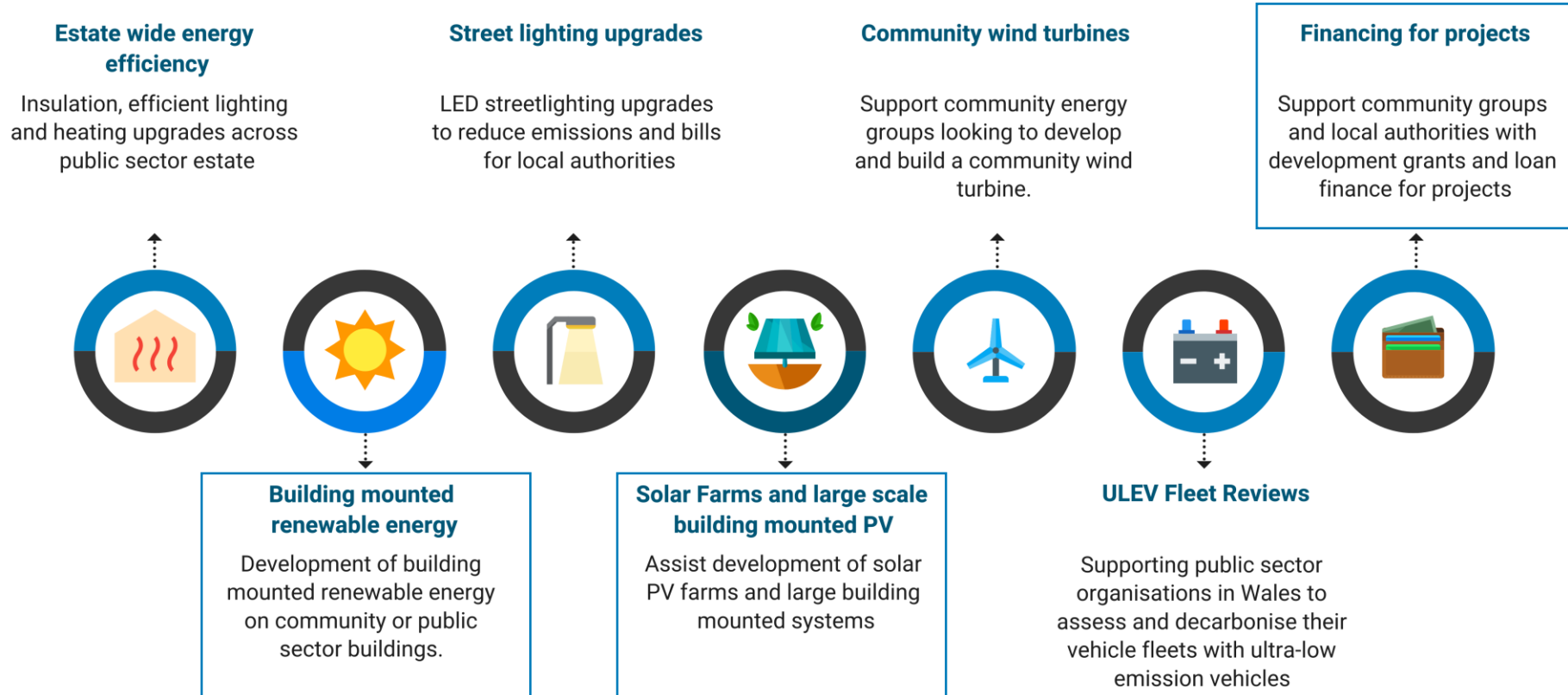
The energy service should achieve a balance between:

- providing direct support to the public and community sectors to deliver carbon reduction projects in the short term; and
- enabling the public and community sectors to take ownership of tackling the wider decarbonisation challenge for the long term.



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Energy Service

WGES workstreams



Projects supported by the Energy Service

220

total projects

21

Local Authorities



Solar PV

76 projects



Energy Efficiency

55 projects



Hydro power

6 projects



Wind

14 projects



Heat Networks

6 projects



Battery Storage

1 project



Street lighting

32 projects



Re:fit projects

30 projects

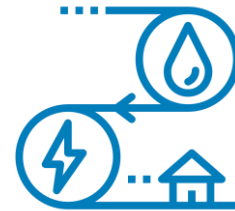


Community success to date

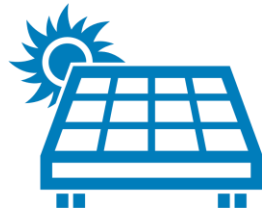
Under WGES and its predecessor Local Energy we have installed (since 2015):



8.9MW wind power



0.8MW hydro power



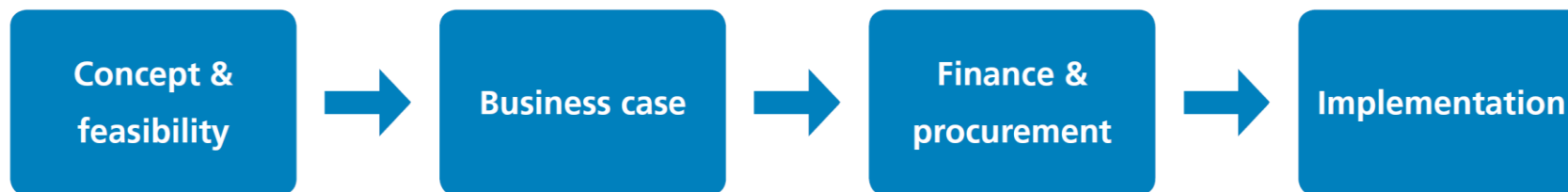
9.8MW solar (ground mount and rooftop)

Current pipeline : 25.9MW of community and public sector projects in financial close

How does the Energy Service support community solar?

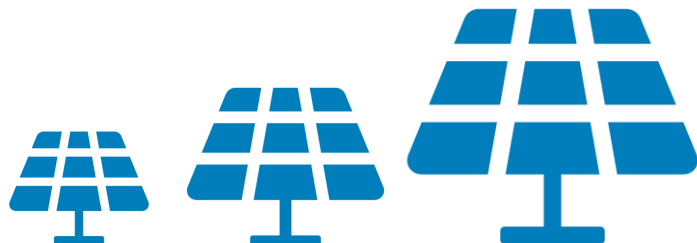
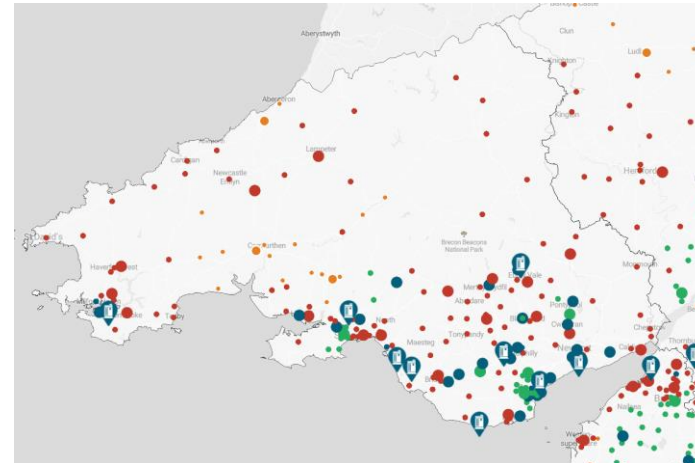
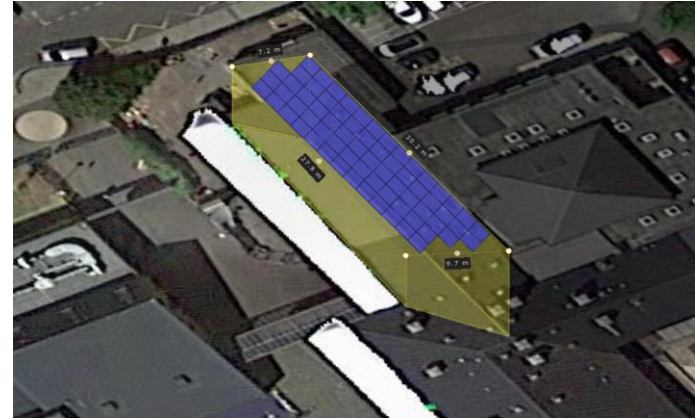
Technical, commercial and procurement support to help develop large scale solar energy from concept stage through to completion.

All service users have support from a dedicated Energy Service development manager to coordinate and deliver support tailored to their needs



Concept and feasibility

- GIS scoping, land asset reviews, constraints data, grid capacity
- Early stage design – ground mount or rooftop PV
- Detailed standardised assumptions – panels, orientation, shading, AC/DC ratio etc

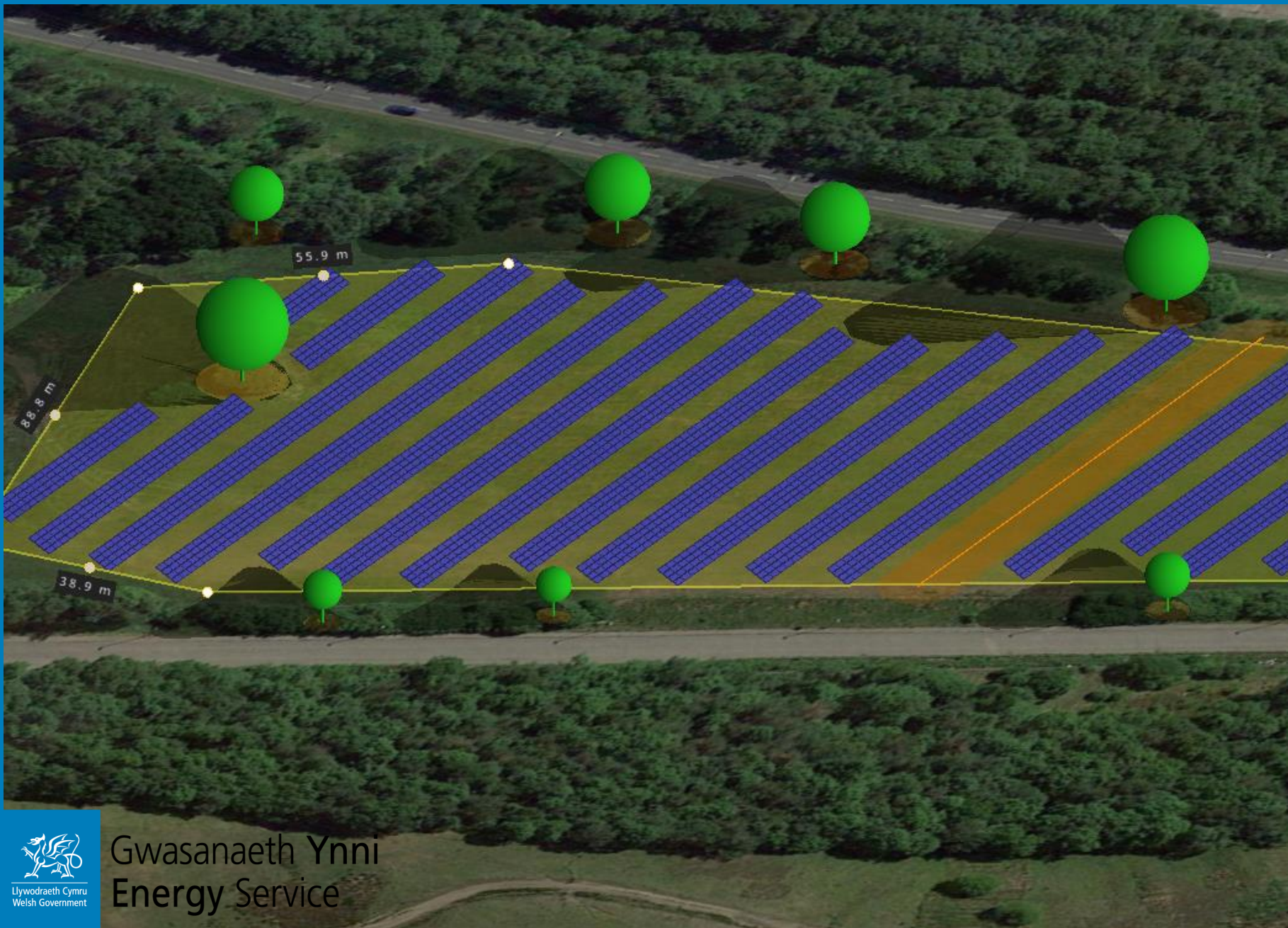


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Llywodraeth Cymru
Welsh Government

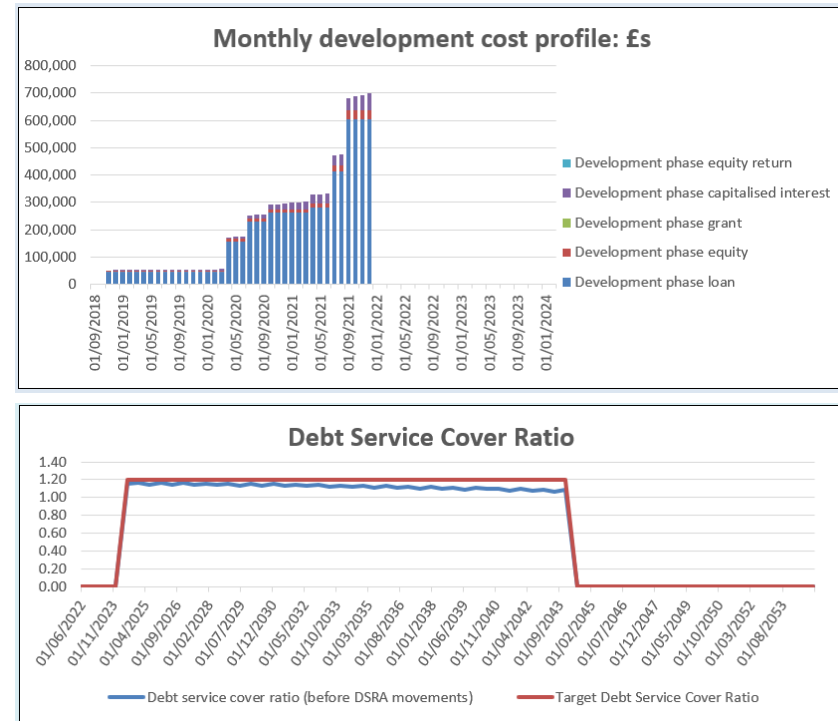
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Energy Service



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Business case development

- Financial modelling – development costs, CAPEX, OPEX, inflation, insurance, metering, on-site consumption and sales to grid
- Provide this work to community groups, Local Authorities and funders to make investment decisions
- Senior organisational commitment
- Sponsor agreement
- Encouraging organisations to deliver work themselves where possible
- Bring in additional expertise if required



Funding community solar

- **The Wales Funding Programme:** interest free finance for public sector energy efficiency and renewable energy projects provided by the Welsh Government;
- **The Development Bank of Wales:** dedicated investment fund with flexible loans for community owned renewables;
- **The Public Works Loans Board:** low cost, long-term public-sector finance;
- **Alternative routes to finance:** community share offers, private finance



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Energy Service

Implementation



Cardiff waste disposal site – 8.5 MW ground-mount on refuse site
£7,000,000 investment – Local Authority owned
Private wire arrangement with utility



Gwasanaeth Ynni
Energy Service

Implementation



Egni – Newport
Velodrome

500kW

Wales largest rooftop PV
system – 100%
community owned



Gwasanaeth Ynni
Energy Service

Implementation



Utility scale PV under construction

Community-owned

- 30MW in North Wales
- 300kW in South Wales

Local Authority owned

- 1.6MW in North Wales
- 2.1MW in North Wales
- 3MW in South Wales



Gwasanaeth Ynni
Energy Service

To find out more about the [Welsh Government Energy Service](https://gov.wales/energy-service-public-sector-and-community-groups), please visit:



<https://gov.wales/energy-service-public-sector-and-community-groups>



@_gwasanaethynni

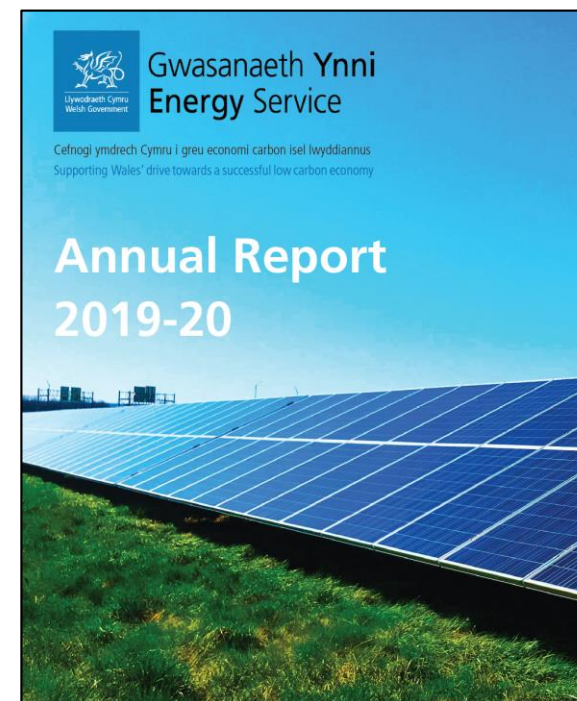
@_energyservice

Or contact us at:



ymholidau@gwasanaethynni.cymru

enquiries@energyservice.wales



CARES

LOCAL
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SCOTLAND



This consortium is between



LOCALENERGY.SCOT
0808 808 2288
FUNDED BY THE SCOTTISH GOVERNMENT

CARES



Local Energy Scotland provides



free and impartial advice, support, signposting and funding

for community groups, rural businesses,
social enterprises and other stakeholders

‘Since its inception CARES (and its predecessor SCHRI) has supported nearly 600 community and locally owned projects throughout Scotland and offered funding of over £49 million’



www.euheroes.eu



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



Energy Communities (E.C) in Greece

“Opportunities & Challenges”

8th July 2020



KAPES

CENTRE FOR RENEWABLE
ENERGY SOURCES AND SAVING

Tasos Kyritsis, John Nikolettatos,
Vangelis Mathas, Kiki Papadopoulou



HEDNO

Network Users Department

Fotis Gakis , Policy Engineer at
Regulatory Issues Section

The Greek framework for Energy Communities -I-



Greek Law 4513/2018 (published on 23/01/2018)

ΕΦΗΜΕΡΙΔΑ
ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ
ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

23 Ιανουαρίου 2018 ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 9

ΝΟΜΟΣ ΥΠ' ΑΡΙΘΜ. 4513
Ενεργειακές Κοινότητες και άλλες διατάξεις.
Ο ΠΡΟΕΔΡΟΣ
ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ
Εκδίδωμε τον ακόλουθο νόμο που ψήφισε η Βουλή:

ΤΜΗΜΑ Α'
ΕΝΕΡΓΕΙΑΚΕΣ ΚΟΙΝΟΤΗΤΕΣ

Definition:

1. Η Ενεργειακή Κοινότητα (Ε.Κοιν.) είναι αστικός συνεταιρισμός αποκλειστικού σκοπού με στόχο την προώθηση της κοινωνικής και αλληλέγγυας οικονομίας, όπως ορίζεται στην παρ. 1 του άρθρου 2 του ν. 4430/2016 (Α' 205), και της καινοτομίας στον ενεργειακό τομέα, την αντιμετώπιση της ενεργειακής ένδειας και την προαγωγή της ενεργειακής αειφορίας, την παραγωγή, αποθήκευση, ιδιοκατανάλωση, διανομή και προμήθεια ενέργειας, την ενίσχυση της ενεργειακής αυτόρκειας και ασφάλειας σε νησιωτικούς δήμους, καθώς και τη βελτίωση της ενεργειακής αποδοτικότητας στην τελική χρήση σε τοπικό και περιφερειακό επίπεδο, μέσω της δραστηριοποίησης στους τομείς των Ανανεώσιμων Πηγών Ενέργειας (Α.Π.Ε.), της Συμπαράγωγής Ηλεκτρισμού και Θερμότητας Υψηλής Απόδοσης (Σ.Η.Θ.Υ.Α.), της ορθολογικής χρήσης ενέργειας, της ενεργειακής αποδοτικότητας, των βιώσιμων μεταφορών, της διαχείρισης της ζήτησης και της παραγωγής, διανομής και προμήθειας ενέργειας.

2. Για όλα θέματα δεν ορίζονται ειδικότερα στον παρόντα, οι Ε.Κοιν. διέπονται συμπληρωματικά από τις διατάξεις του ν. 1667/1986 (Α' 196).

3. Στις Ε.Κοιν. δεν εφαρμόζονται οι παρακάτω διατάξεις του ν. 1667/1986:

α) Οι αριθμητικοί περιορισμοί των τριών (3) μελών για το αίτημα σύγκλησης γενικής συνέλευσης του πρώτου εδαφίου της παραγράφου 3 του άρθρου 5, των επτά (7) μελών για την ελάχιστη απαρτία στη γενική συνέλευση του τελευταίου εδαφίου της ίδιας παραγράφου, των τριών (3) μελών για την υποχρεωτική αναβολή της σύζήτη-

σης θεμάτων που δεν περιλαμβάνονται στην ημερήσια διάταξη της γενικής συνέλευσης του εβδομαδιαίου της παραγράφου 5 του ίδιου άρθρου και των δύο (2) μελών για το αίτημα σύγκλησης διοικητικού συμβουλίου της παραγράφου 2 του άρθρου 7,

β) η υποχρέωση συγκρότησης τριμελούς επιτροπής ελέγχου της παραγράφου 1 του άρθρου 7,

γ) οι διατάξεις της παραγράφου 4 του άρθρου 9 και του άρθρου 13.

4. Όπου στις διατάξεις του ν. 1667/1986 αναφέρεται καταχώρηση σε μητρώο, για τις ανάγκες του παρόντος νοείται το Μητρώο Ε.Κοιν. του άρθρου 8 και δεν απαιτείται εγγραφή, καταχώρηση ή ενημέρωση οποιουδήποτε άλλου μητρώου.

Members:

1. Μέλη μιας Ε.Κοιν. μπορεί να είναι:

α) Φυσικά πρόσωπα με πλήρη δικαιοπρακτική ικανότητα,

β) νομικά πρόσωπα δημοσίου δικαίου εκτός των οργανισμών τοπικής αυτοδιοίκησης (Ο.Τ.Α.) α' και β' βαθμού ή νομικά πρόσωπα ιδιωτικού δικαίου,

γ) Ο.Τ.Α. α' βαθμού της ίδιας Περιφέρειας εντός της οποίας βρίσκεται η έδρα της Ε.Κοιν. ή επιχειρήσεις αυτών, κατ' εξαίρεση του άρθρου 107 του ν. 3852/2010 (Α' 87),

δ) Ο.Τ.Α. β' βαθμού της έδρας της Ε.Κοιν., κατ' εξαίρεση του άρθρου 107 του ν. 3852/2010.

2. Ο ελάχιστος αριθμός μελών της Ε.Κοιν. είναι:






α) Πέντε (5), αν τα μέλη είναι νομικά πρόσωπα δημοσίου δικαίου εκτός των Ο.Τ.Α. ή νομικά πρόσωπα ιδιωτικού δικαίου ή φυσικά πρόσωπα,

β) τρία (3), αν τα μέλη είναι νομικά πρόσωπα δημοσίου ή ιδιωτικού δικαίου ή φυσικά πρόσωπα, από τα οποία τα δύο (2) τουλάχιστον είναι Ο.Τ.Α.,





γ) δύο (2), αν τα μέλη είναι μόνο Ο.Τ.Α. α' βαθμού νησιωτικών περιοχών με πληθυσμό κάτω από τρεις χιλιάδες εκató (3.100) κατοίκους σύμφωνα με την τελευταία απογραφή.

3. Τουλάχιστον το πενήντα τοις εκατό (50%) συν ένα των μελών πρέπει να σχετίζονται με τον τόπο στον οποίο βρίσκεται η έδρα της Ε.Κοιν. και συγκεκριμένα τα φυσικά πρόσωπα-μέλη να έχουν πλήρη ή ψήλη κυριότητα

E.Cs are defined as civil law partnerships with the exclusive aim of:

-  promoting the social economy,
-  encouraging solidarity and innovation in energy,
-  responding to energy needs,
-  promoting energy sustainability in the production, storage, self-consumption and distribution,
-  increasing energy efficiency in final consumption on the local and regional level.









Members:

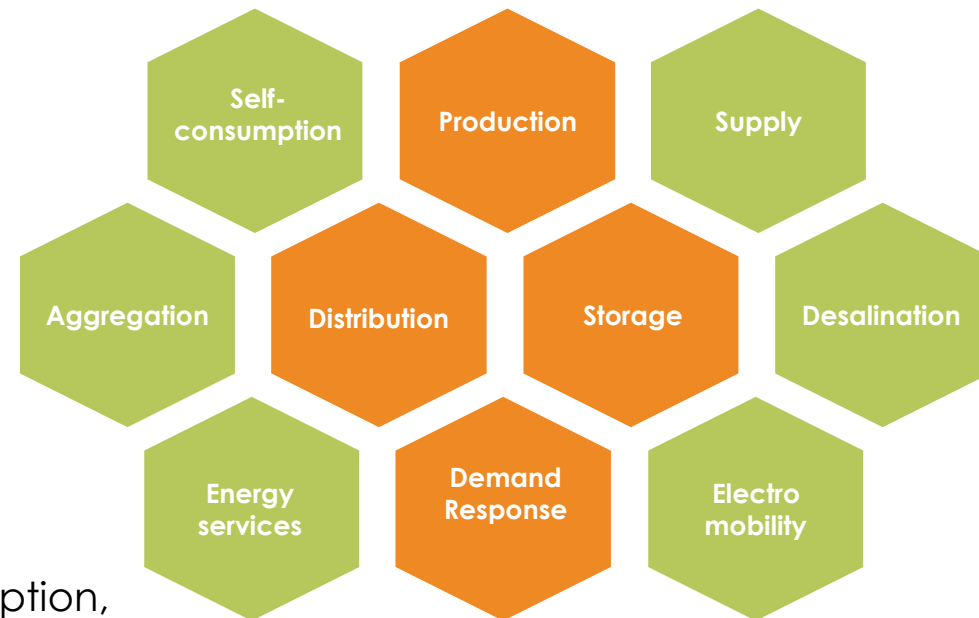
-  Natural persons,
-  Local authorities (Municipalities, Regions),
-  Legal entities governed by public law,
-  Any legal entities (enterprises of any size).

E.C-92

The Greek framework for Energy Communities -II-








E.Cs allowed to perform the following activities:

-  Generation, storage, self-consumption or sale of electricity or heating/cooling from RES or CHP,
-  Production of electricity or heating/cooling from biomass, bio-waste or biofuel,
-  Procurement of: i) appliances and installations with increased energy efficiency, ii) electric vehicles and iii) vehicles that use natural gas, biofuel or liquefied gas for energy,
-  Distribution of electricity or heating/cooling on a local level,
-  Supply of electricity and natural gas on a local level,
-  Management of final electricity consumption,
-  Management of desalination of water through RES,
-  Development & Management of fuelling stations (i.e. liquefied natural gas, liquefied gas or biofuel) as well as management of their transport on the local level.







The Greek framework for Energy Communities -III-

Restrictions:


-  At least 50% + 1 member shall be 'associated' with the place where the E.C has its registered offices.
-  E.Cs are generally non-profit. In case they consist of more than 15 members, the majority of whom are natural persons, they may be profit-driven.
-  Each member, independently of the shares that may possess, has only one vote to the General Assembly.
-  The minimum number of members is as follows:
 -  five public or private law legal entities or individuals,
 -  three local authorities, or
 -  three members, if at least two are local authorities.

The Greek framework for Energy Communities –IV-

Incentives:


-  Priority for the issue of production license, environmental terms and connection offer (in case of nonprofit E.C),
-  Exemption or discount of administrative costs (fees, guarantee letters),
-  Competitive bidding process is not required for installations below 6 MW (Wind) or 1 MW (PV),
-  For PV installations a special tariff is foreseen which is 10% higher than the average price of last year's competitive bidding processes.

illustrative examples -I-

 An E.C could be established with the aim to install a Wind park or a Solar PV plant (of 6 MW and 1MW maximum installed power respectively) and sell the energy to the energy market through PPA.

 An E.C could install a PV plant in order to offset multiple energy bills through Virtual Net Metering services (*production and consumption facilities are not behind the same meter device*).

There is no obligation to keep balance between production and total consumption in real time (*no need for demand side management or storage facilities*).

 The owners/users of a multi-family building establish an E.C (*jointly acting renewables self-consumers*) and install a community-owned PV plant in order to serve their total annual electricity needs.

The supplier offsets the energy bill of each tenant by virtually sharing the production of the PV system according to the rates given by the jointly acting renewables self-consumers (*through Virtual Net Metering services*).

illustrative examples -II-



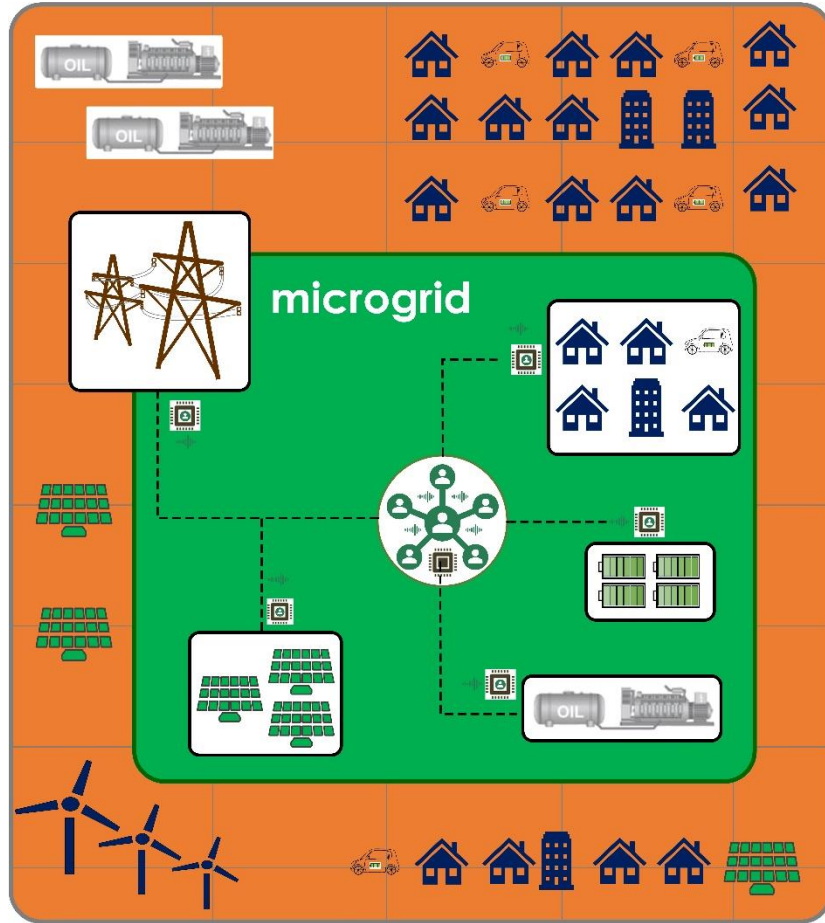
Three Municipalities establish an E.C and install a large PV power plant sited in the rural area, due to lack of space in the urban, which is connected to the MV network.

The energy is virtually shared among consumption points of public interest, connected either to the MV or LV network.

The EC may choose to donate an amount of energy to vulnerable consumers or citizens who suffer from poverty.



illustrative examples -III-








A group of citizens and local enterprises in a non-interconnected island organized in an E.C and establish a microgrid, by installing RES, storage and ICT facilities, so that the energy is shared among the E.C members.

Small and medium size islands constitute ideal places for the development of E.Cs due to high energy costs and due to the need for higher RES penetration.

Excess of energy can be sold to the market through PPA. The EC increases its self- adequacy, contributes to the security of energy supply while its facilities can be used by the network operator for auxiliary services.

Obstacles to drive Energy Communities forward

-  The lack of campaigns to motivate citizens, local authorities, private and public law entities to be actively involved in the development of PV Energy Communities
-  The lack of detailed information to the Boards of the Public Entities and Authorities that are responsible for the approval or the rejection of big projects (such as the establishment of PV Energy Communities) regarding the changes in the new Energy Regimes, their restrictions and their economic profitability
-  The establishment of non-profit PV Energy Communities from Public Entities and Authorities encounter problems to raise capital for their activities
-  The absence of a specific financing mechanism for financing Municipalities and other Public Entities and Authorities to develop PV Energy Communities.
-  The permitting procedures of profit PV Energy Communities from individuals and enterprises is delayed compared to other high-priority PV investments (i.e. non-profit PV Energy Communities, net metering and virtual net metering PV investments).



**KAPE
CRES**

CENTRE FOR RENEWABLE
ENERGY SOURCES AND SAVING





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Our community and local energy strategy

Helen Seagrave

Community energy manager

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Introducing Electricity North West



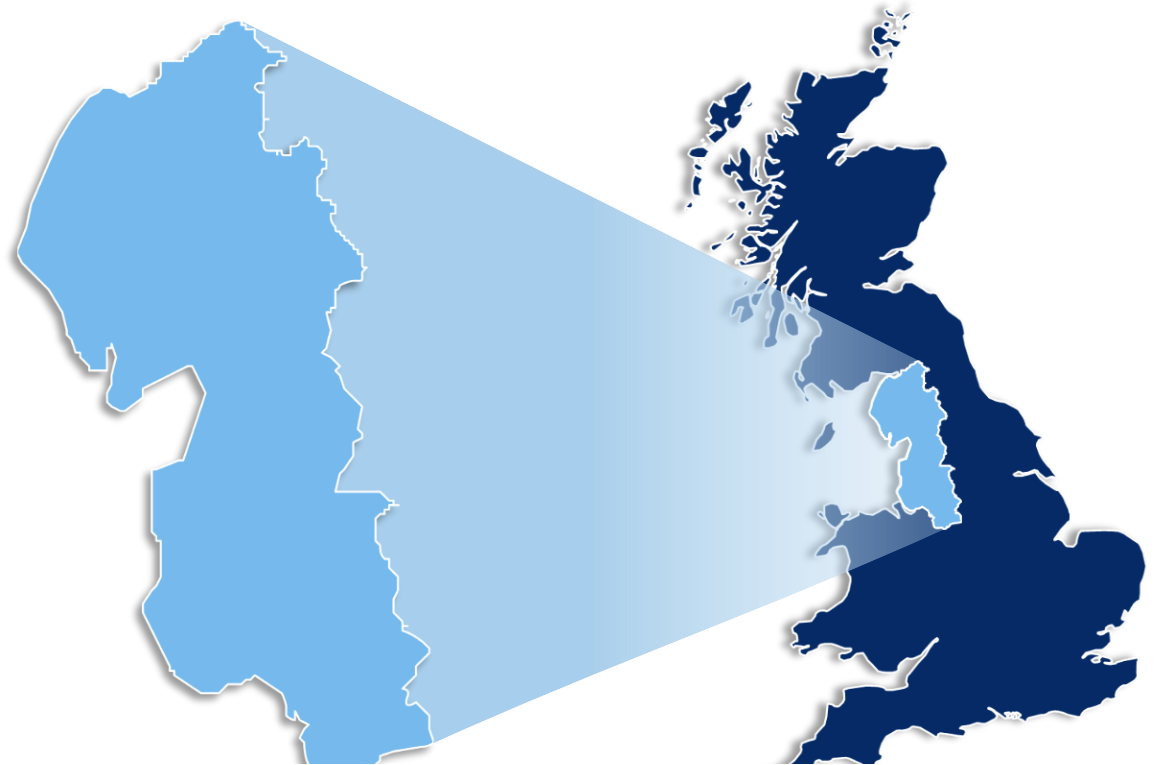
4.9 million



2.4 million



25 terawatt hours



£12.3 billion of network assets ● 56 000 km of network ● 19 grid supply points
66 bulk supply substations ● 363 primary substations ● 33 000 transformers

How we see community and local energy

Community energy



Community-led projects or initiatives to reduce, manage, generate or purchase energy

Community energy projects focus on engagement and benefits to their local area and communities.

Local energy



Encompasses community energy projects and includes activities by a wider set of local partners such as local authorities, housing associations, intermediary or advisory organisations and local businesses

May have a commercial aspect to their delivery but are also likely to benefit their local area and community

Community and local energy in our region



CarbonCo-op



GMCA GREATER MANCHESTER COMBINED AUTHORITY



Not just generation



- Energy Cafés
- Workshops
- Training
- School Events
- Web Engagement
- Other



- Energy Audits
- Carbon Footprinting
- EPCs and Surveying



- Insulation
- Draft Proofing
- Energy Efficient Lighting
- Fuel Poverty Reduction
- Energy Monitoring
- Other

1 community led EV charging point project

60 planned EV charge points

Where should we take action?

Access to ENWL

Early engagement

More face-to-face time; Dedicated point of contact

Collaboration

Help with understanding where connections could be easier

Finance

Financial support

Help to develop viable business models

Regulation

Regulatory regime doesn't suit community and local energy

Current solutions such as virtual private wires are a 'work around' and not a long-term solution

91% of responses agreed or strongly agreed we have understood the main challenges faced by community and local energy groups

Easier to get in touch with



Easier to get in touch with

Dedicated point of contact

Contact form/enquiries email address



Increased outbound communications

Dedicated web pages

Quarterly newsletter

Strategy/guides



More opportunities to meet ENWL

Community Connects

Attending/presenting at external events

Empowering our Communities seed fund



12 projects supported so far including Carbon Coop, Burneside Community Energy, Oldham Community Power, GMCR and Lune Valley Community Trust

Will be re-launched in Sep 2021

Realising community energy workshop



Workshop focused on developing community energy projects

Output: community energy resources map to help groups navigate the resources available.

Regulation



Quarterly regulation
and policy update
produced for
community and local
energy stakeholders



We are supporting
the Local Energy Bill
campaign being run
by Power for People

Keep up to date

Sign up for our newsletter and view previous editions on our website.

Visit the community and local energy section of our website.

www.enwl.co.uk/communityandlocalenergy

Get in touch

If you are developing a community or local energy project please get in touch to discuss your plans.

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PROSUMERS & ENERGY COMMUNITIES IN LITHUANIA

08/07/2020



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

TARGETS OF RENEWABLES IN ENERGY CONSUMPTION

- 2020 → 30%
- 2030 → 45%
- 2050 → **100%**

Prosumers in LT

PROSUMERS SHARE AMONG TOTAL ELECTRICITY CONSUMERS

- 2020 – 2%
- 2030 – 30%
- 2050 – **50%**

LT Legislation

NET-METERING & PROSUMERS ACCORDING TO LT LEGISLATION

- EVERY PRIVATE OR LEGAL CONSUMER CAN USE NET-METERING SYSTEM & BECOME A PRODUCING CONSUMER
- POWER LIMIT FOR PROSUMING – **500 kW !**
- PLACES OF PV PRODUCING & CONSUMING **CAN BE DIFFERENT:**
 - Producing in one part of the country & consuming in other
- CONSUMER HAS OPPORTUNITY TO ACQUIRE **SMALL PART OF BIG PV STATION** AND BECOME A PROSUMER
 - E.g. Household can own 5 kW in 10 MW PV station and use its electricity at home

Multi-family Houses I

OPPORTUNITIES FOR MULTIFAMILY HOUSES

NET-METERING WITH 500 kW LIMIT
& POSSIBILITY TO PRODUCE PV ELECTRICITY IN REMOTE AREAS
OPENS NEW ATTRACTIVE OPPORTUNITIES:

- PV ELECTRICITY **PRODUCED IN THE SUMMER** CAN BE USED FOR HEATING & HOT WATER **IN THE WINTER**
- **HEAT PUMPS** CAN BE USED FOR **COST-EFFECTIVE PRODUCING** OF HEAT:
 - Geothermal
 - Weather – water
 - Weather – weather

Multi-family Houses II

OPPORTUNITIES FOR MULTIFAMILY HOUSES

WIDE OPPORTUNITIES OF NET-METERING OPENED WAYS
FOR **ZERO EMISSION MULTI-FAMILY HOUSES** & COMMUNITIES

- LT GOVERNMENT OPENED ATTRACTIVE SUPPORT SCHEME FOR SUCH **EXPERIMENT:**
 - **60% of investment support** for energy modernization of multi-family house
- THIS EXPERIMENT IS PART OF THE **EU HEROES PROJECT**

Energy Communities

- **LEGISLATION ON ENERGY COMMUNITIES (EC) CAME INTO FORCE ON 1 JULY 2020 ONLY**
- **LEGAL FORM OF EC: NON-PROFIT ORGANISATION**
- **STAKEHOLDERS:**
 - PRIVATE PERSONS
 - SMEs
 - MUNICIPALITIES
 - 51% HAVE TO LIVE IN MUNICIPALITY WHERE ENERGY IS PRODUCED
- **EC ENERGY PRODUCED CAN BE SOLD OR GRANTED FOR MEMBERS**
→ IT ALSO CAN BE SOLD FOR OUTSIDE CUSTOMERS
- **MUNICIPALITY IS OBLIGED TO ANNOUNCE ABOUT LANDPLOTS SUITABLE FOR EC**
- **MAIN OBSTACLE: ENERGY COMMUNITIES CANNOT USE NET-METERING SYSTEM**

Conclusions

- LT NET-METERING & PROSUMING CONDITIONS ARE **BROAD & FLEXIBLE** ENOUGH FOR SUCCESSFUL IMPLEMENTATION OF “EU GREEN DEAL” PROVISIONS
- ENERGY COMMUNITIES ARE IN **STARTING POSITION** AND NEED CAPACITY BUILDING FOR EFFECTIVE DEVELOPMENT
- MAIN CHALLENGES FOR ENERGY COMMUNITIES:
 - TRADITIONAL SKEPTICISM FOR COLLECTIVE METHODS OF PRODUCING AND DISTRIBUTING OF GOODS, INCL. ENERGY
 - INFORMATION SHORTAGE AND LACK OF KNOWLEDGE

BEST PRACTICES SHARING BETWEEN COUNTRIES IS NEEDED

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Legal and Regulatory Barriers for LECs under Dutch legislation

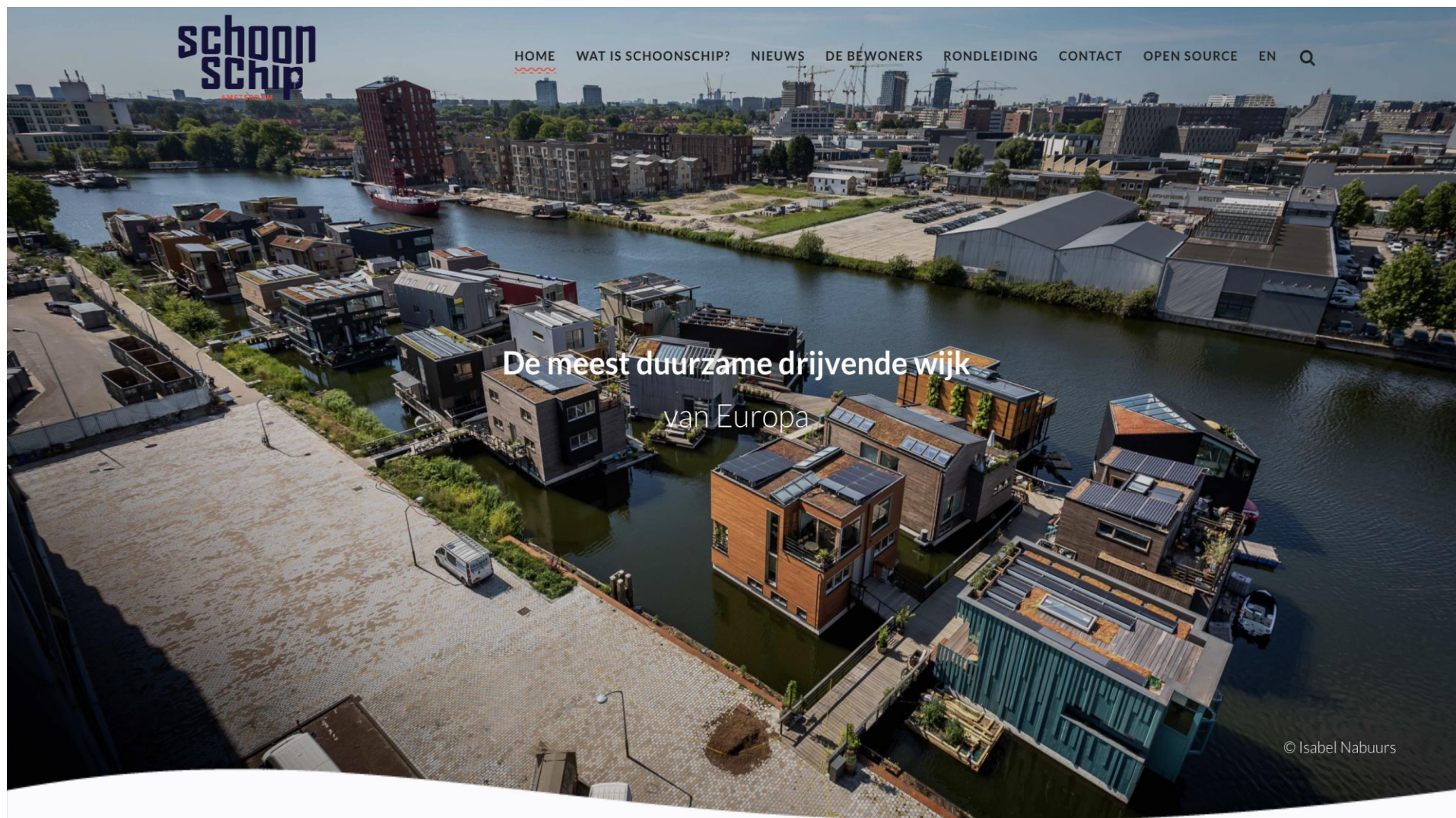


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Schoonschip (Clean-ship) – march 2020

powered by Spectral



Schoonschip – the idea (2009)

- Community of 46 households on 30 ships (14 single; 16 double)
- 46 private PV systems
- 46 separate real estate objects
- 30 community owned batteries (one per ship)
- 1 community owned real estate object (a.o. the jetty, smart grid, battery network)
- 1 grid connection
- 1 community owned micro grid.
- Centralised energy management (future: blockchain?)

Schoonschip – the objectives

Schoonschip wanted to:

- Locally balance demand and generation, where necessary using storage
- Trade electricity on all electricity markets, including the ancillary grid service markets

Schoonschip – the ‘needs’

To locally balance demand and generation:

- Operation of the local grid,
- Metering of supply to and feed back from final consumers
- Management of demand response
- Coordination of generation
- Coordination of storage

Schoonschip – the ‘needs’ (*cont.*)

Trade electricity on all electricity markets

- Have access to the grid
- Be regarded as a significant grid user (SGU)
- Be allowed to offer ancillary services

Provisions under Current NL Energy Law

Balancing		
Operation of a local grid	X	Designated Operator
Metering of supply and feed-in	X	By Designated Operator only
Management of demand response	X	By Designated Operator only
Dispatch of generation	√	But not preferred
Management of storage	√	Any entity
Supply to households	X	By Licenced Energy Supplier only
Trading on energy markets		
Access to the grid	√	NB: not preferred
Access to commercial markets	√	Any entity
Trade on ancillary markets	0	if assignend by TSO

The Solution Offered:

Regulatory Sandbox: “Experiments Electricity Law”:

Allowed to:

- Own and/or operate a local grid
- To provide maintain and operate metering equipment
- Trade electricity on all electricity markets (including ancillary grid service markets)

NB: max 10 per year; limited duration (10 year)

Other obstructions encountered:

Complexity:

- Peer-to-peer trading for small consumers only through 'community'.
- Customer protection: right to 'step out' and select external supplier

Other legislation:

- **New Law to prevent money laundering and financing of terrorism: extra check in case of mortgage adaptations.**
- Real Estate Valuation Act: Community owned heat pump per dwelling not possible.
- Energy tax due for locally self generated and consumed renewable electricity (so far)
- Double energy tax for stored electricity (battery = consumer + generator)

New EU provisions for:

A. 'Renewable Energy Communities'

1. Renewable Energy Directive:

Member States *shall* ensure that REC's are entitled to:

- generate, consume, store and sell renewable energy, including through power purchase agreements,
- share renewable energy within the community
- Get access to all relevant energy markets

without being subject to disproportionate procedures and charges that are not cost-reflective.

New EU provisions for:

B. 'Citizen Energy Communities'

2. Electricity Market Directive:

a. Member States *shall* ensure that CEC's:

- can produce, distribute, supply, consume, aggregate and store electricity
- can access all electricity markets directly or through an aggregator or supplier

b. Member States *may* allow that CEC's:

- can own, establish or lease and autonomously operate community networks
- Operate internationally

Provisions EU, NL and EU-cep

	NL	EU-CEP
Balancing		
Operation of a local grid	X	(√)
Metering of supply and feed-in	X	√
Management of demand response	X	√
Dispatch of generation	√	√
Management of storage	√	√
Supply to households	X	√
Trading on energy markets		
Access to the grid	√	√
Access to commercial markets	√	√
Trade on ancillary markets	0	√

Implementation in national law

Where will the legislator draw the line in

- Geographic extension
- Minimum and maximum number of participants
- Total installed power
- Volume of trading
- Acceptation of (new) financial instrument(s)

Implementation in national law

Latest developments

Dutch Energy Law is

‘Action Oriented’, not ‘Actor oriented’:

- NO new entities
- EU provisions basically for any entity, *if*
- the meets the requirements for the provisions
- probably no grid ownership of operation:
- obligation for DSO to cooperate instead

Thank you for your attention!

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UPCOMING JULY WEBINARS

NEXT WEEK

Wednesday 15 July: Energising Community PV

Find out more about of the upcoming July webinars [HERE](#):



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