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PEER REVIEW 8th – 12th OCTOBER 2018, BADEN-WÜRTTEMBERG, GERMANY

REPORT

1. INTRODUCTION & FOCUS OF THE PEER REVIEW

The Peer review Team included representatives from: Oldham/Greater Manchester, UK; Abruzzo, Italy; Hajdu-Bihar County, Hungary; Prahova, Romania; Valencia Region, Spain; Sofia, Bulgaria.

COALESCCE stands for Community Owned And Led Energy for Security, Climate Change and Employment (or Economy). Community owned and led energy is referred to simply as "Community Energy", and refers to energy transition projects which have been conceived, developed, financed and delivered by a collection of citizens acting together as a community group.

Because community energy projects are in the main motivated by a desire to make a positive contribution to the fight against climate change, rather than primarily for making money, they have a number of advantages over renewable energy projects delivered by the private and public sectors (although the public sector can legitimately be said to be a member of the wider community and a key stakeholder in community energy).

Community energy can deliver energy security at a very local level, due to the local ownership and management of individual projects and the local distribution of energy generated by them. It can also deliver carbon emissions savings that are missed by private and public approaches to renewable energy because communities are generally interested in smaller, local projects which have a local relevance and benefit (such as solar PV on community owned buildings) that energy companies and local authorities are not generally interested in. When amalgamated, these smaller community projects can yield significant carbon savings. Finally, the local supply chains used in the construction of community energy projects, and the local ownership of these projects, means that the local economy benefits much more than larger projects where technical teams are brought in from outside the locality for construction, and ownership is generally at regional or national level.

The Peer Review team attended the District Heating Congress in Karlsruhe, followed by two days of meetings with local experts in Freiburg and Konstanz. A workshop was held to refine the recommendations with some of these local experts. The findings were presented at a public event on Friday 12th October.

1.1 Specific questions the Host Region asked the Peer Review Team.

1. How do we manage to revitalize the existing cooperatives and motivate them to invest in new projects?
2. What are the most promising non-monetary aspects that could be used to promote citizen energy and how do we communicate them to reach out to new actors?

3. What possibilities do exist to help low-income households participating in the energy transition?
4. How can we reach out to young adults in order to get them involved in citizen energy?

1.2 Specific outcomes the Host Region expected to achieve from this Peer Review

1. We laid the focus of the interviews and inputs specifically on the difficulties and problems – not on the good practices and existing infrastructures. So in the final session of the peer review we want to put the emphasis on the potential there is to improve and increase citizen energy in Germany.
2. We want to use the open sessions on Thursday and Friday to get new partners involved in the action planning and stakeholder workshops. We hope to create higher interest in COALESCCE and to motivate stakeholders to continue working with us on the topic.
3. In order to get actions and measures integrated in the IEKK (Integrated Energy and Climate Concept of Baden-Württemberg – our main policy instrument) we need concrete goals that are measurable.

2. FEEDBACK

The morning of 11th October was spent discussing the findings and recommendations. These were refined in a workshop in the afternoon with input from a number of local stakeholders.

Each of the four questions posed by the Host Region was considered separately and the findings summarised under four headings:

- What was good or interesting about existing activities
- Challenges faced
- Opportunities identified
- Recommendations

Background

There are around 170 energy cooperatives in Baden-Württemberg. The majority of these were set up several years ago and rely on the Feed In Tariff to make the scheme viable. Most schemes in are wind power, solar PV or bio-energy district heating. Cooperatives are formed by members who invest in the scheme.

Some of the key issues raised in discussions with Co-operatives were:

- The majority are set up and managed by volunteers. Smaller ones tend to remain this way but larger ones will employ staff.
- The main form of Society is one that provides benefits only to members.
- The minimum investment is typically €2,000, this was information presented to the peer review group although the following link below says it is not unusual to encounter much lower minimum investment:- https://www.cleanenergywire.org/factsheets/citizens-participation-energiewende
- Existing co-operatives have struggled to find investable projects since the changes to government policy reduced the Feed In Tariffs and introduced the auction system for large

projects. This has made the development phase of projects more risky and difficult to finance. However, the link above says that there were advantageous stipulations for community energy in the auction legislation –but which could be abused by strawmen - fake community energy companies (see the second link below) – also, it was heard from coop stakeholders that risk perception of coop managers are usually lower than that of ordinary members, who would accept higher risks. So it is possible that the challenge is more to do with the culture of these older, existing co-operatives, and that a new flexible, outward-looking an innovative approach is required

- https://www.cleanenergywire.org/factsheets/citizens-participation-energiewende
  and the fake community energy argument:
- https://energytransition.org/2018/02/share-of-german-citizen-renewable-energy-shrinking/
- Electricity generation projects tend to supply straight to the grid
- Anti-wind demonstrators significantly delayed at least several major local project.

These issues have clearly lead to the formation of the key questions for the Peer Review. There is a lot of synergy/overlap in the four areas of discussion, for example engaging young adults can help revitalise an existing co-operative, but each question focus group tried to avoid developing recommendations that might be picked up by a different group.

2.1 Revitalising and Motivating Existing Co-operatives

Good/Interesting Existing Activities

- Lots of existing co-operatives
- Current projects in rural areas e.g. bio-energy villages
- Motivated, engaged and ambitious cooperative board members, who have built up a vast pool of experience and expertise
- Evidence of good co-operation between the municipality and community energy sector e.g. Stadtwerke Konstanz (although the latter is a large company and not necessarily representative of the co-operative sector more generally)
- Supply company open to working with community energy which could enable new business models on energy sales to customers
- Supportive Co-operative & Community Energy associations
- People trust co-operatives – although there is a perceived generational divide with challenges in engaging the younger generation
- The eco-tour of Konstanz highlighted many interesting if small-scale environmentally friendly activities such as production of local apple juice and upcycling of furniture and clothing for retail. Germans seemed very interested in ecofriendly products, environment and mobility, whilst by way of contrast, co-ops were often only talking about investing in large wind farms and other energy projects

Challenges

- National policy - reduction in FITs, self-consumption tax for PV or CHP energy production, riskier auction system for wind projects means previous business models don't work well for new projects
- Aging demographic of existing cooperatives

- High capital costs to join limits engagement of those without resources or less likely to stay in the local area
- Lack of attractive projects – but linked to perceptions of risk and economic viability, with mind-set based on business models developed during era of state support (FITs). However, it was suggested that this is true for risk averse coop managers, but not necessarily true for ordinary members who are often more willing to take risks. One of their main challenges is that they sit on existing funds (the capital is there!), but they are still looking for low hanging fruits to pick. Their culture and approach is possibly obsolete, and the solution is that they need to adapt their business model
- High capital cost of schemes
- Lack of community capacity (skills and time). This also includes the challenge of retaining staff after they have been trained up, as staff tend to have high aspirations which a relatively small co-operative employer cannot fulfil
- Based on volunteers
- Opposition groups targeting larger projects especially wind
- Working with an exclusive focus on individual projects but maybe not taking in ideas from wider energy or community sector – little 'cross-pollination'
- Bureaucracy - getting projects approved can be difficult and time-consuming.

Opportunities

- National commitment to energy transition – visible support and climate change continuing to be a driver for change in energy sector
- Supportive state administration
- Redrafting IEKK in 2019
- Pressure through missing targets on de-carbonising energy supply and reducing emissions
- Existing capital reserves in co-operatives – which could be re-invested
- New technologies: energy, information, currency, communication
- Solar, wind & heat potential are already mapped – potential to use this data to highlight opportunity sites and engage with community energy groups
- Greater co-operation between co-ops and state/municipality actors
- District heating & renewable heat not affected by FITs changes: but affected by biogas tariff changes and the ending of FIT-tariffs after 20years.
- Transport / mobility not yet tackled by energy cooperatives but potential for community & shared ownership especially in electric vehicles
- Building refurbishment – market opportunity not yet tackled by cooperatives. There is a feeling that the middle classes are an untapped resource for citizen energy models around retrofit
- Pro-renewables activists in co-ops can be motivated to counter opposition.

Recommendations

The recommendations fall under three main headings, and also are linked to the recommendations for the other three questions, as addressing non-monetary aspects and wider inclusion are a significant means of re-invigorating community energy.

Communication, information sharing & support:

- Increase the visibility of community energy by linking co-operatives with businesses & other stakeholders and promoting ways that community ownership of energy projects can be beneficial to these other organisations
- Increase networking opportunities for co-operatives to share ideas and encourage development of new projects and provide technical, financial or organisational advice: Stakeholder events, email networks, training events, co-ordinate CE leaders meetings
- Publicise ideas, innovation & project opportunities
- Specify a support programme for Community Energy in IEKK

Promote an expanded scope of community energy activities, beyond just generation:

- Building refurbishment: build partnerships and develop business models that enable community owned & managed retrofit programmes e.g. partnerships between state/municipality, residents' associations, housing associations & co-operatives
- Help develop Energy Services Co-operatives to offer a wider range of services
- Identify and share projects on transport/mobility that could be co-operatively owned or managed (e.g. electric vehicle charging and sharing schemes)
- Link businesses with suitable roofs or energy demand with community energy co-operatives that could own the energy generation equipment and sell energy to the business (e.g. Power Paired linking scheme)
- Use existing co-operative capital to support new projects or different / spin-off co-operatives

Professionalise community energy:

- Franchise model: incentivise larger co-operatives to support smaller or developing co-operatives, e.g. through a mentoring scheme, sharing start-up and development methods or part ownership
- Shared services provider: e.g. centralised paid-for administration offered by one organisation to a number of smaller co-operatives.
- Develop a programme to attract & co-ordinate secondee placements from relevant industries to provide technical/ project development/ legal support.

Transferable Good Practice from COALESCCE partners relevant to these recommendations

1. Community Energy England: networks & support

Community Energy England https://communityenergyengland.org/ is the umbrella organisation for community energy organisations in England (it has sister organisations in Scotland and Wales). With just three staff, it is funded through membership fees, corporate members and through charitable funding to provide support to groups, and representation and lobbying to government and the regulator. It holds events to help groups share best practice and understand regulation and has brought in both Distribution Network Operators and also some small independent energy supply companies to innovate with community energy groups. It also has a Community Energy Hub website where case studies can be uploaded to share.

2. Co-operatives UK Community Shares Unit Energy Mentoring Programme

In 2014, Co-operatives UK ran a programme to match mentors from experienced community energy groups with new or developing groups, to provide support, advice and the benefit of hindsight for these newer groups. 30 groups were supported by 14 mentoring organisations, who were paid a small fee plus expenses. The main benefit for the mentees was in developing confidence to take a project forward through having someone to talk to who'd been through the process before and faced similar challenges. But the mentors also benefited by expanding their knowledge and helping the mentees to work through different challenges.

www.uk.coop/sites/default/files/uploads/attachments/energy_mentoring_impact_report_online.pdf

3. Power Paired

Power Paired is an initiative which is being developed by Forum for the Future, a NGO in the UK, supported by Oldham Council as part of the COALESCCE project. It is an online service which aims to introduce community energy groups and the owners of assets such as buildings with large roofs which may be suitable for community energy installations. Both asset owners and community energy groups can register on the web portal and search for opportunities near their geographical area. This could remove one of the main barriers facing community energy groups in the UK – the identification of suitable sites with willing landlords.

https://powerpaired-pilot.herokuapp.com/welcome

2.2 Non-monetary actions to promote citizen energy

Background

Community energy grew out of individuals' and groups' concerns about climate change and the environment, and how to do something themselves to address some of these issues in their local community. The movement was therefore driven by ideology, commitment and a wish to act.

With the development of community energy schemes built around tariff support, for many members of co-operatives it has become seen as merely a financial transaction. With the entry costs for many co-operatives set at a high level (typically over €2000), wider engagement can be harnessed through re-vitalising and promoting the driving non-monetary motivations, although this would not necessarily overcome a high level entry cost barrier. However, for the lower financial returns offered by citizen energy schemes compared to more commercial schemes, an appreciation of the non-monetary benefits could be an incentive to engaging citizens.

What do we mean by non-monetary aspects?

- Political influence, speaking with one voice
- The feeling of being part of a movement that is changing things
- The feeling of being a stakeholder whose input matters even if not a shareholder / member
- The feeling of being part of the decision-making process
- The feeling of being part of a community with shared values and identity

- The feeling of doing a good thing, the right thing for the future and the next generation – part of the energy transition

Recommendations

- All stakeholders should work together to lobby at national level for policy change e.g. carbon tax.
- Friendly competition at regional level between co-operatives for recognition in a league table
- Have a challenging and noble vision. Use the 'scare tactics' of the objectors turned around – message community energy as a response to, for example, health-damaging pollution, energy insecurity and political vulnerability, climate impacts. Have a claim 'to be proud of'
- Energy co-ops could set up "community benefit pots" of funding which any local citizen or group can bid to for projects benefiting the community, it could increase attractiveness and acceptance considerably
- Local citizens should be consulted on renewable energy developments – can be done affordably via e.g. public meetings, online surveys and published feedback
- Modern cryptocurrencies can complement traditional local currency, with deals and discounts for e.g. energy efficiency measures, electric vehicles
- Shareholding membership can be promoted as an investment to protect the future of the next generation, and "doing good" in the world – ethical investments.

Transferable Good Practice from COALESCCE partners relevant to these recommendations

1. Community Benefit Societies (CBS)
A CBS is a form of co-operative that is set up primarily to benefit a wider community than its members. This means that it must have an overarching community purpose. Although a community benefit society can pay interest on members' share capital, and return capital to members, it cannot distribute surpluses to members in the form of dividends. Any surplus, or specific regular amounts, are set aside to provide a community benefit fund, which is then used to benefit the community identified in its rules. The rules of a CBS are typically very similar to those of a co-operative society for the benefit of members, in being a democratic society with one member one vote. It will also often have an Asset Lock, which prevents the members gaining any financial advantage from the society's assets, above the value of their shares.
www.uk.coop/developing-co-ops/model-governing-documents/community-benefit-society

2.3 Low Income Household Participation

Background

Low income households do not typically join energy cooperatives, often due to lack of disposable income, but there are ways in which low income households could get involved in community energy. It is important to note that low income households also typically have a much lower carbon footprint and environmental impact than those on higher incomes (this is true in Germany at least – in other partner regions, low income households in rural and suburban locations sometimes resort to burning extremely polluting materials such as rubber to keep warm). Community energy activities aimed at reducing fuel poverty may engage lower income households but this is not the same as

reducing carbon emissions. Low income communities are just as motivated to improve their communities and environment as those with higher incomes.

Good/Interesting Existing Activities

- Existing programme of support providing advice on saving electricity
- Committed individuals running this programme
- Good information on target group and offer
- Low income households are already low impact
- Solar/CHP tenant model used by Energy Supply Company (Stadtwerke Konstanz) could be replicated for low income households
- Relatively low levels of fuel poverty
- Municipality is motivated to help households save energy as it reduces their own costs for support these households.

Challenges

- Not wanting to ask for help
- Hidden poverty in rural areas
- Lack of behaviour change support
- Lack of motivation to save energy for purely financial reasons
- Heating bills are paid for very low income households, so little motivation to make savings.

Opportunities

- Redefine market that they want to engage: as well as the very poor, include the "just about managing" households.
- Energy cooperatives have capital and assets that could be used for benefit of low income households
- Some low income households have time for volunteering

Recommendations

- Use community energy to provide social & community benefit: through Community Benefit Funds but also supporting or developing energy efficiency programmes
- Zero joining cost co-operatives: focus on social engagement not investment
- Target community buildings for renewable energy projects and make it visible to users of those buildings
- Involve low income households in the Energy Transition process to increase acceptance
- Empower the communities to be able to provide a fair support including low-income households that usually suffer from high rents
- Share information (with co-ops) on how they could engage low income households e.g. wider benefits.

<u>Transferable Good Practice from COALESCCE partners relevant to these recommendations</u>

1. Warm Homes Oldham

Warm Homes Oldham is a multi-agency initiative in Oldham, Greater Manchester, jointly funded by Oldham Council and the Health Service. It aims to address fuel poverty in Oldham borough through a range of interventions including the retrofit of energy inefficient homes with insulation, new boilers and other measures, but also extends to medical referrals and checks to make sure that the homeowners are claiming all of the social security benefits that they are entitled to, to maximise their income. A range of agencies whose front-line staff visit residents in their own homes are trained to identify the signs of fuel poverty, and make a referral to the Warm Homes Oldham scheme. This is followed by a home visit by a trained specialist who can then make further referrals for different interventions as required.
https://www.oldham.gov.uk/warm_homes_oldham

2. Oldham community energy finance model

Oldham is one of the poorest areas of Greater Manchester. The council is a 'co-operative council' and wanted the benefits of renewable energy to be shared with the residents. The council conducted feasibility studies on schools and a community centre for PV installation. Local members of the community were invited to collaborate on the project. Three people came forward to help, bringing a range of business and environmental activism skills. The study identified five schools and a community centre that were feasible for community-owned energy. A type of co-operative known as a Community Benefit Society was formed and they signed roof-top leases at zero rent. The group, called Oldham Community Power, offered shares. They raised some money, and borrowed a low interest loan from the council to meet the FIT deadline and install the PV panels. Once local people could see the PV panels on the roofs, they bought shares in the organisation, and over half of the cost of the scheme was paid for by local people who receive an annual interest payment on their shares. One option for share purchase was through monthly instalments, to spread the cost for low income households. See: http://oldhamcommunitypower.org.uk/

2.4 Involving Young Adults

Background

The typical age of co-operative members is 50+. Younger adults tend not to get involved due to a combination of lack of disposable capital, lack of time and being less likely to remain in the same place for long enough to benefit from membership. As a result, cooperatives risk being unable to grow as their membership declines over time.

Good/Interesting Existing Activities

- Young people are often committed to the environmental agenda
- Familiar with digital & communications technology
- Quick to take a stand / speak up
- Interest in volunteering
- More skilled young people active in the energy & climate change sector
- Open minded, out of the box thinking

Challenges

- Not enough money to invest in energy co-operatives with high minimum investment levels
- Transient/mobile population
- See community energy as irrelevant to them – different priorities even for climate change
- Sometimes negative perceptions among older cooperative members of young people
- Existing co-op models don't fit young people's lifestyles
- Renting homes so unable to invest in them
- Lack of skills in project management and implementation

Opportunities

- Young people have energy & imagination
- Quick to mobilise
- Open to innovation
- Take action where they see they are affected
- Good reasons to get involved – it's their future

Recommendations

- Help support/ set-up cooperative models suitable for / developed by young adults – easy in/easy out, low cost, time rather than money invested
- Ask young adults what type of community energy project they would get involved in
- Invite universities & young professionals to Stakeholder Event
- Set a challenge to develop young cooperatives
- Internships/apprenticeships within cooperatives to develop new projects
- Encourage innovation partnerships with universities
- Offer training courses to young people in community energy project management
- Profile target groups young adults to identify those most likely to engage.

Transferable Good Practice from COALESCCE partners relevant to these recommendations

Repowering London: www.repowering.org.uk

Repowering's projects empower adults and young people living on some of London's most deprived inner-city social housing estates to take control of their energy generation and use. Our projects bring communities together and deliver energy efficiency advice and measures in areas where many people are living in fuel poverty. Repowering has delivered both the first, and the largest community solar schemes on inner-city social housing blocks in the UK. Each community energy project is delivered alongside a 12 – 14 month social works programme. Repowering provides mentoring for adults from the estates where the installations are located throughout the project development and delivery process, empowering local people to set up and run a successful community energy organisation. Local young people are also given the opportunity to take part in a 40 week paid internship and gain work experience alongside professional contractors during the installation process. The project employs 6 staff and works with over 50 regular volunteers.

EnergiMine's EnergiToken

One exciting new technology making a foray into the world of energy is blockchain and cryptocurrencies. Oldham company EnergiMine has developed its own cryptocurrency called EnergiToken. EnergiToken aims to incentivise carbon reduction activities by rewarding its users with special deals on low carbon products such as electric car chargers and discounts on energy bills.

Educational centre for environment

In Abruzzo Region, it has been developed a dense network (more than 40 centres) of Education Centres for Environment (CEA, in Italian). These centres constitute a unique reference in the framework of the environmental education and of the sustainability involving in their activities citizens, schools, local Authorities and enterprises. The CEAs realize projects focusing on the environmental education, taking into account of the territorial contest in which they operate through activities such as teaching, didactical stay, training initiatives and furnishing teaching/publicity materials. Moreover, the CEAs deal with documentation and communication activities. The participatory process is an important mechanism to improve the learning situations, allowing to each participant to share knowledge and actions with the community. The CEAs assume a supporting role on the participatory process, taking into account of the local reality with a global background.

3. PRESENTATIONS & VISITS

3.1. District Heating Congress, Karlsruhe – Monday 8th October

Attendance at the conference to provide an insight into community-owned district heating schemes in Germany and Denmark. The programme included:

- *Collective and still autonomous - sociological approaches of collective heat supply systems* Honorary Professor Dr. Uwe Pfenning, University of Stuttgart
- *Contribution of Citizen Energy to enable energy transition - why local heating districts are particularly suitable,* Volker Kromrey, Lake Constance Foundation
- *Full costs and socio-economics - Evaluation of district heating projects in DNK*, Patrizia Renoth, Danish Energy Agency
- *Development of cooperatives, project financing and knowledge transfer*, N.N., EBO Consult A/S; Denmark
- *Solutions for Baden-Württemberg: Heat that arrives*, Ulrike Lorinser, Lorinser Engineering Office
- *How to argue to trigger district heating?* Martin Lohrmann, Energy Project Developer
- *New, regional district heating operators for further development in Baden-Württemberg*, Jörg Dürr-Pucher, Clean Energy GmbH
- *Implementing heating districts – by ESCO model. An example of a local heating network in Heiligenberg* Konstanze Stein, KEA, Karsten Jäkel, Karsten Jäkel Energy management
- *Use of waste heat from the mineral oil refinery Oberrhein (MiRO) in the Karlsruhe FW network - from idea to implementation* Dr. Manuel Rink, public utilities Karlsruhe
- *Industrial Waste Heat - Hope or Hype? Results of a Germany-wide waste heat register* Sebastian Blömer, ifeu - Institute for Energy and Environmental Research
- *Experiences of a heating association in Denmark - from supply temperature at 95 degree to 65 degree* Tom Diget, Viborg Fjernvarme; Denmark

- *Comments from representatives of Baden- Wuerttemberg cooperatives* Klaus Gall, energy cooperative Weiler Wärme eG Thomas Häcker, energy cooperative Gussenstadt eG

3.2. Stakeholder Meetings, Solarcenter Freiburg – Tuesday 9th October

Network and dialogue with energy transition stakeholders: Ms Preisenberger, Renewable Energy Competence Centre, Regional Council (Regierungspräsidium Freiburg)

- Energy Competence Centres provide pre-consultation advice for planning, technical and investment advice, legal advice on climate protection, conflict management for communities involved in or affected by renewable energy projects
- Grants are available for project development costs including technical feasibility.
- Many co-operative schemes haven't produced the returns expected
- Focus on wind power but also less productive farm land for solar farms
- Opportunities in communally-owned (municipal) land
- Community Plans have had to identify zones suitable for wind since 2012, and can zone for solar farms – impact on land values
- Change from guaranteed FITs to market competition for support has resulted in significant drop in renewable energy development
- Important to have strong partnership between investors and communities affected.

Challenges of community energy – further contributions of private householders: Energy Agency "Regio Freiburg" Mr Fleck

- Energy Agency financed through project work (all public money)
- Develops "Climate Protection Concepts" for whole communities: emissions assessment and set of measures
- Typically engage 20-30% of citizens: mainly well-educated
- Good representation of young people in concept development – 8000+ responses online and at workshops
- Developing new opportunities in electric bikes, fuel cells for vehicles and heating, renewable energy tourism.

New approaches for community energy: Energy Co-operative of Central Baden, Mr Zwosta

- Co-operative with 270 members, started in 2008, now owns 14 CHP plants and 2 solar parks, €1.2million investment
- Developed online platform to help other co-operatives identify which support services they need: finance, technical, maintenance, marketing etc
- Co-operatives facing decline as members getting older and want to withdraw their money
- Returns are around 1.5% - not enough to attract new members
- Members can get cheaper energy from the co-operative: sales facilitated by local energy supply company partnership – around 10% saving
- Solution suggested mainly around national policy change: eliminating tax on self-consumption and CHP systems and more transparency on subsidies to fossil fuel and nuclear energy industries.

3.3 Excursion to Neukirch - 8 October 2018

Bio-energy village: Mr. Faller

Development of biomass district heating scheme for village

- Long process to get agreement from sufficient building owners to sign up
- Still need the agreement of two larger buildings to make it viable
- Heating plant located by main road on outskirts of village – ease of delivery and avoiding traffic through the village
- Infrastructure put in under the main road as this was being resurfaced to reduce later costs

3.4. Stakeholder Meetings, Konstanz - 9 October 2018

A civil energy approach: Landlord-to-tenant electricity - Public Utility Company of Constance, Ms. Caladarone (Stadtwerke Konstanz)

- Development of energy supply model to tenants in tower blocks: based on CHP and PV combined with smart metering
- Stadtwerke Konstanz owns the generation equipment and leases space from the Housing Association for 10 years (CHP) & 20 years (PV)
- Stadtwerke Konstanz also offers another option in which the housing company owns and operates the generation equipment (not yet chosen by any)
- Complex monitoring & calculation algorithm developed to apportion own-generation and imported electricity to homes supplied
- 28 buildings and 400 homes so far
- Tenants get lower energy bills (approx. 8%), generators get higher prices for energy than selling to grid: project IRR 6%
- No requirement for tenants to accept the offer
- Working with local energy company could allow community energy to supply to households under “white label” approach, avoiding costs of becoming a registered energy supplier

Participation project “our urban district” - City of Constance administration, Mr. Heublein

- 6-month project aiming to motivate citizens to make personal lifestyle changes to contribute to the energy transition
- Activities in five themes: consumption; living at home, mobility, nutrition, waste prevention and reuse
- Group activities, talks and celebration
- Participants mainly young people & over 50’s: 35-45 age group most difficult to engage
- Participants thought the programme was good but too short
- Legacy difficult to assess, but some groups became self-sustaining e.g. waste
- €50,000 programme funded by national government (90%) and municipality (10%)

Energy roadmap City of Constance - City of Constance administration, Mr. Heublein

- Online tool providing information on energy performance of individual buildings: heat demand, suitable energy technologies & solar potential

- Can identify areas with greatest potential for renovation
- Potential to identify buildings suitable for cooperatively owned energy supply

Increasing energy efficiency in companies - Energy agency Constance, Mr. Walcher

- Free energy advice project aimed at SMEs
- Identifies potential energy savings and provides information on solutions
- Difficult to recruit businesses as energy not sufficiently important to them

Insight of a local community energy cooperative - Energy cooperative Lake Constance, Mr. Klatt

- Co-operative set up in 2011: 2 PV plants + 1 wind; €1.3m investment
- 135 members, average investment €9,600, minimum €1,000
- Run by volunteers
- Most members live within 10km of project site and age 55-65
- Dramatic reduction in new cooperative projects after FITs legislation changed in 2012
- New projects have lower returns than previous ones
- Share interest offered was c.5% but in practice 1-2% as used income to invest in new projects
- Motivated by climate change concerns – investing for the future.

Green guided city tour in Constance Greentours guide, Ms. Wehr

- Visit to shops around Constance focusing on re-use, repair and green/local supply credentials

Participatory process in Baden-Württemberg – Conflicts & Dialogue - Representatives of Ministry of Environment Baden-Württemberg, Mr. Carius & Mr. Franz

- Summary of national and local legislation driving climate action
- Unlikely to hit targets for CO2 reduction or renewable energy generation
- Integrated energy and climate concept (IEKK) being renewed in 2019
- Further work needed to address heating, building efficiency and transport
- Community energy needs to be recognized as an opportunity in the IEKK

Current challenges of community energy - Solarcomplex, a citizen energy company, Mr. Armbruster

- Professional community energy company, founded in 2000, now 40 full time jobs
- €18m capital, 1200 members, 4% share interest, €2,000 minimum investment
- Originally set up individual coops for each scheme but now centralized to share development costs, risks and revenues
- Projects: >30MW PV, 12MW wind, 1 hydro, 2 biogas plants, 16 district heat networks
- PV now starting to be viable with Power Purchase Agreement
- Current project €34m wind development: facing major legal challenges
- Looking at power-to-heat options for wind turbines after the end of FITs
- Partner with other organisations on very large projects
- District heating becoming more important than wind for future projects – one project uses industrial waste heat
- Limits to growth: capital for development and trained staff (as opposed to the problem presented by Lake Constance Coop (Mr. Klatt): they suffer from lack of good potential

projects but could easily raise more capital and increase their membership – whereas for Solarcomplex lack of promising projects is not a problem, but attracting new members and capital)
- Limits to community energy: mind-set that energy projects should be "no risk" & accessing at-risk funding for development.

Ecocamping as a contribution to secure livelihoods of present and future generations - Ecocamping, Mr. Walter

- Registered association supporting environmental initiatives in camping: 225 certified campsites in 6 countries
- Experience of mobilizing people:
    - Starting from a few keen people then using community networks to get others involved
    - Speaking to people's identity
    - Finding people who really feel there's a problem to be solved
    - Providing supportive networks
    - Avoiding introducing financial barriers.
- Also set up cargo bike rental scheme in Constance: 26 bikes, 50,000 hours rental/year

Energy saving check for individuals and households - Caritas: catholic welfare organisation, Mr. Krüßmann

- Energy advice programme for low income households
- Funded by Ministry of Environment: partnership with local Energy Agencies and Catholic church
- Developing skills for long-term unemployed: train as face-to-face advisers
- Targeting 3000 households per year
- Advice focusses on electricity saving: average saving €250/household/year
- State contributes to heating bills of low income households so less incentive to save
- Low income households already have low energy use and carbon emissions.