Toolbox for reaching private institutions - PV4 All

September 2024

Introduction

This toolbox is a central product of the PV4All project. Photovoltaic energy is so technically advanced that this form of energy generation is not only ecologically but also economically extremely sensible. Efficiency continues to increase.

Mainly due to the geographical location of the countries in the Baltic Sea region, relatively little has been invested in the expansion of PV energy in recent years, although the usefulness of PV energy has also been proven here.

As part of our project, we have set ourselves the task of developing and, if possible, testing various small-scale solutions in order to sensitize different target groups to the topic and thereby pursue the goal of increasing the use and acceptance of this form of energy generation.

Securing the results was an important part of this for us. Above all, other institutions pursuing similar goals to ours should be able to learn from our experiences and build on them. Accordingly, we have categorically summarized our solution approaches and integrated them into a toolbox. As we were able to determine that a central differentiation of the individual tools lies in the defined target group, we divided our approaches into target group-specific documents.

The documents now available are the product of a 1.5-year process. After we had developed an initial draft, the project partners decided individually which of the approaches were particularly promising locally and depending on local circumstances (the institution's area of work; networking with stakeholders; legal framework conditions for PV in the respective country) and tested these in the form of pilot projects.

The experience gained was thoroughly evaluated and formed the basis for the revision of this toolbox. This document is the result of this revision. Activities that were carried out in the framework of PV4All are included but also activities outside the project scope are included. Each partner has contributed with activities for the toolbox. In that way the reader can use the toolbox for inspiration for PV information and of promotion activities but also read and learn about experiences from carried out activities.

Consulting Housing Companies on Plug-In PV	
Target Group	
Housing companies	
Potential of target group	
Overcome boundaries that are set by landlords regarding the installation of PV modules	
Issue	
Even for people that wish to install plug-in PVs there are high boundaries set by housing companies so that a lot of own know-how and persuasion work has to be invested	
Activity	
In this regard, it is crucial to get in touch with representatives of the major real estate management companies. It is helpful to be able to fall back on existing contacts. Also through EU laws, the topic of sustainability is present in any case up to a certain point. In Germany, the legal situation is also currently changing in that landlords must agree to an application for a balcony power plant. Accordingly, they currently have an interest in learning more about the topic, which is why it is easier to approach them and talk about the issue. Here, the concerns of landlords should be given space and the relevant topics should be discussed. Overall, there are no disadvantages for the landlord, which is why this activity is promising. In addition, it helps in the sense that the companies have the topic of PV even more present and thus perhaps also think about systems on the roof.	
Responsible institution	
Housing Companies - Legislation	
Relevant partners	
• Tenants' Associations • Housing industry associations as multipliers	
Resources needed	
• Contacts to Housing Companies help • Well-prepared information to convince people and to pass on the information (e.g. presentation or information flyer)	
Obstacles, barriers and restrictions	
Some boundaries are set in a legal way. There are limits depending on the construction of the house and the power grid of the house. Difficult to reach smaller housing developers.	
Piloted in PV4All	Yes, in:
Proactive Consulting of Housing Companies	*Germany*
Meetings with Vonovia and SAGA (public housing company in Hamburg) to talk about barriers to install plug-in PV by the tenants. Offer to provide help to inform about the use of plug-in PV	

Energy consulting service for property managers and the Finnish Real Estate Managers' Association	
Target Group	
All those responsible for the green energy transition in buildings, housing companies and businesses	
Potential of target group	
They are potential buyers/ consumers of solar energy	
Issue	
Energy consulting service for building societies and companies	
Activity	
Information on solar PV schemes in Finland is currently provided mainly by Motiva and the regional energy advisors in 18 regions, who provide impartial information on the subject. There is a wealth of quality information available online. However, we can market a targeted energy advice service to property managers and the Finnish Real Estate Managers' Association. We could produce an information package on the potential of solar power and current legislation. This could be distributed either through Motiva, as a targeted email newsletter or a webinar.	
Responsible institution	
Benet Solutions	
Relevant partners	
• Property managers and the Finnish Real Estate Managers' Association	
Resources needed	
• Time • Planning • Computer	
Obstacles, barriers and restrictions	
How to find members of these target groups?	
Piloted in PV4All	Yes
Title of the local implementation	*Finland*
We contacted to the property managers and the Finnish Real Estate Managers' Association and arranged a webinar, where we introduced the EU's new directive on photovoltaic requirements, and who, what and how the matter concerns (e.g. solar photovoltaic requirements).	
Recommendations	
To the property managers and the Finnish Real Estate Managers' Association	

Energy communities

Target Group

Municipalities and companies considering the construction of solar energy. Apartment buildings, where tenants could buy solar electricity produced on the roof of their apartment building (social aspect).

Potential of target group

The hope is to share solar energy to all citizens

Issue

Energy communities

Activity

Finnish legislation has been amended so that by 2023 all electricity network companies must offer the possibility of setting up an energy community. The community can be a solar energy community.

1. An energy community within a building.
2. An energy community consisting of several buildings.
3. A distributed energy community.

An energy community is most often set up to facilitate the production and consumption of solar energy.

The aim is to give visibility to solar communities and to provide an advisory service according to the needs of the community.

Responsible institution

Benet Solutions

Relevant partners

- Motiva
- Finnish Solar Energy Association
- Local network companies

Resources needed

- Planning details
- Cooperation
- Time and money

Obstacles, barriers and restrictions

Networking of partners: how to reach potential solar communities?

Piloted in PV4All	Yes
Title of the local implementation	*Finland*

We kept this tool in our minds during the work and we presented it on every possible occasion. We introduced it in our webinars.

Recommendations

Energy communities will be important in the future, so dissemination of knowledge will be important.

Exhibition pV 2.0	
Target Group	
Private stakeholders - Housing associations	
Potential of target group	
Invest in and install complete pV systems with pV panels, EV charging and electricity storage	
Issue	
Plug-in pVs are not allowed to connect with a wall socket to the electricity grid in Sweden	
Activity	
The installations of standard pV systems are ongoing for private persons and housing associations in Sweden. But to accelerate the pace of installations even more and to give the right conditions of doing things right from the start, an exhibition for pV 2.0 will be organised. The idea of organising the exhibition pV 2.0 is the to provide information about a more complete energy system where producing electricity from pVs is one important component but there are others. For example, to combine pV panels with EV charging and also electricity storage in batteries. Lectures will be held combined with an exhibition for pV products including EV chargning and electricity storage, where the participants will learn more about full pV enery systems and are also able to look at the products. The exhibition will be organised 8 November 2023.	
Responsible institution	
Solar Region Skåne (associated partner)	
Relevant partners	
• Sustainable Business Hub • pV product exhibitors	
Resources needed	
• A facility to organsise the exhibition in • People to give lectures • Human resources to organise the lectures and exhibition • Exhibitors willing to shove their products	
Obstacles, barriers and restrictions	
The full local pV energy system could look complicated without information how it works.	
Piloted in PV4All	no

Highway and railroad noise preventing fencings with PVs (Lithuania)

Target Group

- *Highway designers;*
- *Highway constructors;*
- *PV developers*

Potential of target group

Co-operation

Issue

Contacts, presentation of new ideas

Activity

Installation of PVs on the southern side of noise reducing fencings near the roads and highways.

Responsible institution

Roads maintenance company.

Relevant partners

- *Ministry of Transport and Communications of Lithuania*
- *Lithuanian Solar Energy Association*
- *Lithuanian Energy Institute*

Resources needed

Obstacles, barriers and restrictions

Still requires more information on the topic as this is rather new development in Lithuania

Piloted in PV4All	No
	Lithuania

Short description

Lithuania has almost 14,000 kilometres of highway and paved roads. Unfortunately, not a single metre of them is used for renewable electricity generation, despite the abundance of both noise barriers and green dividing strips. The same is true of the rail network. Thousands of hectares of buffer zones around railways are still unused. If trains were to be electrified, the electricity generated in such areas could be used immediately for electric trains. This would reduce the cost of travel for passengers and reduce freight rates.

However, Road Maintenance company (AB "Kelių priežiūra"), has built a new 200 kW solar power plant earlier this year, which will provide for the internal needs of the company's complex in the Kaunas district. It is estimated that this solar power plant will save the company at least EUR 30,000 per year. In total, AB "Kelių priežiūra" operates 7 power plants with a capacity of only 300 kW, none of which are installed in the transport infrastructure. The Ministry of Transport and Communications could set an example by seeking to generate revenue, reduce costs and contribute to the green energy transformation, instead of constantly asking for increased budget allocations (which are still in short supply).

Recommendations

Road infrastructure has a lot of energy potential - roadsides, noise barriers, fences, train tracks, cycle paths and more could all be harnessed for solar energy.

Lighthouseproject for media attention on plug-in PV

Target Group

Private people, politicians, decision makers, policy maker

Potential of target group

Private individuals who live in apartments (rented or owned) who cannot install solar panels on their own roof can use their balconies for plug-in PV.

Issue

The possibility of installing solar systems on balconies is not yet widespread and there are many questions about implementation and uncertainties due to media reports about risks such as fire.

Activity

To make plug-in PV for balconies better known, the aim was to equip a building with as many modules as possible. In order to provide an incentive for as many parties as possible to participate, a sponsor was sought who would offer the modules free of charge. The first aim is, to have a building in a neighborhood, which gets attention due to the high number of balcony power plants. The second aim is, to make the installation to an event, which is accompanied by media to spread the information and draw attention.

Responsible institution

Different possibilities, such as:

- Housing company
- Private owner of a multi-family house
- NGOs

In general you need an institution in response with the interest of organizing the action

Relevant partners

- Sponsors for the power plants
- Media
- Tenants with the interest of having a balcony power plant

Resources needed

- Expertise in public relations
- Access to multi-family houses and the tenants
- Solar modules, inverters & superstructures
- Knowledge in installing the power plants

Obstacles, barriers and restrictions

The hardest part was to find a suitable building (sufficient sun; balconies; external sockets) with several interested residential parties.

Piloted in PV4All	Yes, in:
Lighthouse project plug-in PV equipping a block of flats with numerous plug-in PV	*Germany*

It was harder than expected, to find a proper building, where the tenants and the landlord, both like the idea and are motivated to participate. As it is, without any doubt, clear, that tenants benefit from such an installation in an economic way, this is a finding, which makes clear, that we still have a long way in the energy transition and it points out, that it is important, to reach more people with the topic.

Recommendations

You should calculate a lot of time for planning and need to be an expert in answering questions around plug-in PV. It is recommended to start such in initiative with expertise in the work with media (to ensure, you reach the aim of drawing attention), technical know-how to convince people of the need and some time for planning.

Meeting with solar energy experts

Target Group

People who work with solar energy

Potential of target group

Cooperation and sharing specified information

Issue

Meeting with stakeholder groups

Activity

A webinar for installers and PV companies, bringing together the latest legislation, the most interesting news on technological developments, innovations and key topics from the PV 4 all projects. The aim is also to contribute to increased cooperation.

Responsible institution

Benet Solutions

Relevant partners

- Motiva
- Solar Energy Association
- Real Estate Association
- Solar power consulting companies
- City of Jyväskylä/ municipalities

Resources needed

- Computer
- Internet

Obstacles, barriers and restrictions

How do you reach your target audience and get them interested? For example, involving the public sector, such as cities and municipal decision-makers, could increase the interest of actors to get involved.

Piloted in PV4All	Yes
Title of the local implementation	*Finland*

We had one online meeting with this stakeholder group. We planned the topics of the speech in advance. First, we shared greetings/news about the PV 4 All project. Then we discussed the current state of solar energy in Finland. We sided plug-in legislation and panels to be installed on balconies. The experts were of the opinion that the panels installed on the balconies during the construction phase would be the best solution due to facade regulations. There were many experts in the meeting: Jouni Järvinen (PV 4 All project), Tuula-Maria Tarmo (PV 4 All project), Tanja Oksa (City of Jyväskylä, Business services network manager), Timi Tiira (City of Jyväskylä, Project Manager, Business Environment Development) Hannu Koponen (Union of Central Finland), Petri Pylsy (Real Estate Association), Teemu Kettunen (Motiva, State Sustainable Development Company), Christer Nyman (Finnish Solar Energy Association), Antti Lehmuskoski (Solnet

Finland), Pirita Huotari (Entrepreneur, sustainability) and Tapio Tuomi (Local Energy Association)
Recommendations
Exchange of information between experts

Promotion of combined (hybrid) heating using PV + heat pumps for heating of new and/or renovated buildings (Lithuania)

Target Group

- *Developers of new housing;*
- *Developers of buildings renovations;*
- *Installers of PV and/or PV + heat pumps for heating in buildings;*
- *District heating companies, interested in finding individual solutions for buildings, which can't be connected to DH networks.*
- *Municipalities*

Potential of target group

act as multipliers to potential PV users

Issue

Combined heating (PV + heat pump) systems as decarbonization possibilities for new and/or renovated buildings, which cannot be connected to District heating and are often using natural gas and/or solid fuel boilers.

Activity

- *Educative webinar*
- *Targeted information to target groups, stakeholders on branch association website (2024):*
- *Information in branch journals (Thermal Technology), available for installers and interested households (2024).*

The bundled version of all information provided during the events under PV4All project was prepared in English and can be presented to interested stakeholders in BSR countries.

Responsible institution

LEI

Relevant partners

- *Lithuanian Solar Energy Association (LSEA)*
- *Lithuanian Association of Thermal Engineers (LTERA).*

Resources needed

PC, Internet

Obstacles, barriers and restrictions

Technical barriers:

- *Insufficient grid capacity.*
- *Lack of PV panels and inverters due to equipment supply bottlenecks and lack of kit parts.*
- *Insufficient information on PV + heating solutions (technical and economic).*

Financial barriers:

- *Limited funds for support.*
- *Only equipment is supported, and there is no support for work, so payment can be not transparent (financial actions performed in cash)*

Legal barriers: • *Constantly changing legal support schemes – no stability for consumers and investors.* • *Volatility in the formation of the electricity purchase price*	
Piloted in PV4All	Yes
Webinar "PV for Heat Generation"	*Lithuania*
Short description *The educative webinar was implemented in September 13, 2023. It has covered various aspects of combined (hybrid) heating using PV + heat pumps for heating of new and/or renovated buildings, starting with legal, political and support issues, various technical/economic issues for district heating companies, multiapartment blocks and individual houses, including good practice examples. Total number of registered participants was 67, including developers of PV and Heat pumps solutions, designers of buildings, municipalities, district heating companies, academicians, individuals. Seminar was a success, as caused many questions and discussions. Instead of 2 hours, the webinar lasted for nearly 3 hours, which shows the growing interest in the issue.* *The presentations were made available for all interested parties (in Lithuanian).* Seminaras „Saulės elektra šilumos gamybai" – Lietuvos energetikos institutas (lei.lt)	
Article in branch Journal THERMAL TECHNOLOGY Magazine of Lithuanian District Heating Association (LDHA) and Lithuanian Thermo-technical Engineer's Society (LITES) "PV for Heat Generation"	*Lithuania: Yes*
Short description *This article is based on the proceedings of the workshop of the same title and was funded by the PV4All project. The article covers the following topics:* • *Combination of heat pumps and PV plants: advantages, assumptions, opportunities and risks;* • *Solar thermal applications in apartment buildings: good practices;* • *Technical and economic estimate for solar PV and heat pumps;* • *Economic evaluation of heat pump systems;* • *The potential of solar PV for decarbonization of district heating systems.* *The article was elaborated by experts of Lithuanian Thermal Engineering Association, Kaunas University of Technology, Lithuanian Solar Energy Association, and Lithuanian Energy Institute.* *Journal with article (p. 17-23) can be downloaded in Lithuanian:* Žurnalas „Šiluminė technika" – Lietuvos šilumos tiekėjų asociacija (lsta.lt)	
Recommendations	
Such type of webinars are to be arranged in close cooperation with PV and heat pumps experts to make information professional. **Information from the webinar is presented in the bundled version of all material provided during webinars in Lithuania in English version.**	

Promotion of PV modules testing laboratory (Lithuania)

Target Groups

- *Lithuanian PV producers*
- *Sellers and importers of second hand PVs.*

Potential of target group

Act as testing possibility for PV modules for dealers and/or users of used PV

Issue

Since there are few PV modules producers in Lithuania, they need certified testing, which is provided by the Protechlab, which belongs to Applied Research Institute for Prospective Technologies PROTECH. Protech sees to offer and provide high quality R&D as well as product testing services for PV sector actors (researchers, developers, producers) at national and international level.

Second life PVs are not very popular in Lithuania yet, however, existing practice shows that the quality of even new PVs plants is not guaranteed, not just panels, but also inverters and cable connections should be tested.

Such testing may be extremely useful for initiating the use and trade of used second hand PV modules. Laboratory Possibilities:

- *measurement of PV modules,*
- *characterization of their technical parameters,*
- *accelerated ageing testing,*
- *indentification of modules performance,*
- *conducts quality inspections of PV modules manufacturing processes.*

The modules testing is performed according IEC 61215:2005 standard.

In year 2019 this laboratory has tested 6515 modules of 96 types, from 29 producers, available at Lithuanian market and defined that 25.10% of total have lower PMAX value that declared by the suppliers, though not much, so there would be reasonable to test larger parties of the PV panels.

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Activity

- *SmartNORTH Stakeholders Meeting (October 18, 2023),*
- *Targeted information to all interested groups and stakeholders.*

Responsible institution

LEI, Protechlab

Relevant partners

- *Lithuanian Solar Energy Association (LSEA)*

Resources needed

TARGETS IN NEAR FUTURE

- *Accreditation in 2023 of our laboratory according requirements of ISO/IEC 17025 for testing PV modules;*
- *Partnership and providing tests not only for local customers, but for nearest countries;*
- *Expansion of testing areas*

Obstacles, barriers and restrictions

Testing of various materials and instruments not only for UV resistance but also for full solar spectrum resistance;

Expand the test base for perform more test of PV modules by requirements of standards IEC 60904-1, ENIEC 61215 and IEC 61730; *Searching possibilities a new solar resistance testing/calibration market needs.*	
Piloted in PV4All	Partly, yes
SmartNORTH Stakeholders Meeting (October 18, 2023) ***Seminar on Balcony mini PVs in Lithuania***	*Lithuania*
Short description *DG Grow initialized and held conference "CLUSTERS MEET REGIONS" has taken over Vilnius on October 18, 2023. The meeting and discussion between LEI and Protechlab took place during EMN Smart Specialisation in Northern Europe Meeting #13, organised by EUROMET and Center for Physical Sciences and Technology. Joining clusters across Europe participated in this conference.* *During PVAll project at least two presentations were made in quality of PV systems for developers and consumers and it appeared that the topic is very important and the laboratory representative received many questions.*	
Recommendations	
A lot of information was providing on certification, quality testing and other issues related to security of the system in at least 2 events (on arranged by LEI (Balcony PVs on March 6, 2024, and another by the Lithuanian Solar energy association on March 11, 2024) *Wider decription is provided in above mentioned bundled version in English.* Home - Perspektyviniu technologiju taikomuju tyrimu institutas (protechnology.lt)	

Promotion on mini Plug-In PV (on balconies, terraces, garages., etc.) for apartments and small individual houses (Lithuania)

Target Group

- *Developers of PV installations;*
- *Installers of PV, traders of PV;*
- *Apartment and individual house owners, housing associations;*
- *Researchers, academicians;*
- *Architects, towns developers.*

Potential of target group

Getting informed about potential (no grid congestion as power is used within the house and not fed into the grid)

Issue

Though such systems are extremely popular in e.g., Germany, in Lithuania, the idea is not only viewed with suspicion, but without permission, it may be also subject to fines. Since November 2023 such regulation was introduced and the permission to install is easy to obtain with the requirement to provide technical documentation of PV plants only for energy supplier. Due to new and not well known situation of mini Plug-In PV systems in Lithuania, there is also lack of more extensive information on technical, economic benefits for less electricity consuming population.

Besides, available information from Germany regarding the issues, which should be regulated, could be also useful with regard to regulation.

Activity

Activity will be performed via:

- Targeted information to target groups, stakeholders, apartament and house owners on the websites of branch associations (e.g. Lithuanian Solar Energy Association, Lithuanian Solar Energy Development Association, etc.) (2024).
- Targeted information to stakeholders, such as PV developers via information from Germany using information provided by German colleagues (2024).

Responsible institution

- *Lithuanian Energy Institute*

Relevant partners

- *Lithuanian Solar Energy Association*

Resources needed

PC, Internet

Obstacles, barriers and restrictions

The main obstacles are:

- *Lack of regulation for Plug-in mini PVs (up to 800 kW) in Lithuania, which makes implementation doubtful, though there is some promotion and supply of such plants. The reaction of electricity supplyers may be unpredictable,*
- *Architects will most probably be opposing to such solutions for already existing buildings, as they usually require to align the permission with regard to change the façade of the buildings. Such procedures may be long and not satisfactory to residents.*
- *Balcony PVs were allowed in Lithuania in November 2023 and since then are gaining some popularity and interest from municipalities and private persons, since there is not much information about them in Lithuania.*

Piloted in PV4All	Yes
Seminar on Balcony or mini PVs in Lithuania	*Lithuania*

Short description

The educative webinar was implemented in March 6, 2024. It has covered various aspects of mini Plug In PVs in Lithuania, such as What are Mini Plug-Ins, technical aspects, regulation; Economic aspects of Investment; Testing of modules with regard to use them for balcony and other PVs; Buildings renovation, mini Plug-Ins and attitude of Architects; Attitude of ESO (Energy Distribution Operator). The webinar ended with extensive questions and discussions with interested participants.

Total number of registered participants was 116 (participated at least 93), which shows great interest in the topic, as it is the new development in PV sector. The variety of participants, including municipalities, energy companies and developers, electricity suppliers, some national authorities, associations, academicians, individuals. Seminar was a success, as caused many questions and discussions. Consumer's Alliance informed that they have already started the project with 10 new pilot installations in apartments in Vilnius, which will be monitored for a year under the project.

The presentations were made available for all interested parties (in Lithuanian).

Seminaras-diskusija „Balkoninės saulės jėgainės" – Lietuvos energetikos institutas (lei.lt)

Recommendations

Professional presenters involved in the activity raise the quality of the webinar, which makes such events popular among interested participants.

Wider decription is provided in above mentioned bundled version in English.

Target Group

For people looking for information about solar energy or reading solar news

Potential of target group

More knowledge to make decisions

Issue

Targeted information for different target groups

Activity

In Finland, we need unbiased information because telephone and door-to-door salesmen sell their products, sometimes half-heartedly. The elderly population in particular can fall victim to this type of buying behaviour. The dissemination of objective information through the various media would therefore be of paramount importance.

Things that should be talked about more: System sizing, system installation and commissioning checks, snow load on panels (and how to avoid it) ....

When people make a purchase decision based on their own knowledge (rather than a sales pitch), it also improves the user experience and spreads positive images more widely, for example to people they know.

We wanted to come up with a way to easily find unbiased information about solar power systems and their sizing. We thought that a solar electricity calculator could be an easy-to-use and informative tool for our problem. We developed a solar calculator that helps in dimensioning a solar power plant.

Such a calculator has not previously been available in the Finnish language.

Responsible institution	
Benet Solutions, Motiva	
Relevant partners	
• Motiva • Solar Energy Association	
Resources needed	
• Time • Money • Computer	
Obstacles, barriers and restrictions	
What kind of advertising or marketing would best reach people.	
Piloted in PV4All	Yes, in Finland
Title of the local implementation	
We built a solar electricity calculator based on Excel. With the easy-to-use calculator, you can get an unbiased sizing estimate for purchasing your own photovoltaic system *With the calculator, you can estimate the monthly production of the solar power system to be installed on the roof of the property and compare it with your own monthly consumption* *During March-September, daylight consumption can be estimated in more detail by entering consumption data on operational electricity during the dark hours of the day into the calculator* *Since the use of solar batteries has not yet been widely marketed in Finland, we did not include them in the calculator. However, the counter mentions the possibility of using batteries.* *The calculator shows an estimate of the system's overproduction, i.e. the share of electricity production going up for sale.* *In addition, the calculator shows the impact of solar power on the carbon footprint of your utility electricity.* *When person uses calculator, she/he needs:* *Location information:* *residential area* *roof angle* *orientation of the panels to be installed* *shading* *Your monthly electricity consumption data from your electricity company* *For a more accurate estimate in March to September, you will need hourly electricity consumption data during the dark time of day* *A computer and an Excel application*	
Recommendations	
This kind of calculator is new in Finland. We share it as much as possible and give it free to every use.	

Use of Solar Energy in local authorities – seminars

Target Group

Public authorities - local authorities, energy companies, housing associations for local authorities

Potential of target group

Installing pV in on buildings owned by the local authority and buildings in the local authority

Issue

The local authority often has objectives for renewable energy or locally produced solar energy (electricity) but it can be difficult to realise the potential of using available solar energy by installing pV on buildings in the local authority.

Activity

The purpose is to help municipalities promote and increase implementation of solar power through good examples of solar energy installations in Skåne and exchange of experiences to convey knowledge, tools and inspiration. How do you work successfully with solar power for municipal and other properties and taking into account the wishes of residents and business? What should a solar strategy look like as part of municipal energy planning? Is it economic beneficial?

One seminar will inform about good examples, experiences and planning tools to use for a local authority to enhance use of solar energy. An electricity grid owner will present what work is needed when a new pV facility will be developed and installed in a local authority. Another seminar will inform about how a local authority can work with pV installation from the perspective of profitable investments and how pV facilities can be procured. A third seminar have an exchange of experience how a local authoritiy could work with pV installations and how it could work with planning of pV installations.

The seminars could be organised in the following way:

- General planning information
- Profitable pV installations in a local authority
- Knowledge exchange

Responsible institution

Solar Region Skåne (associated partner)

Relevant partners

- Sustainable Business Hub
- Energy Agency of South Sweden

Resources needed

- A computer and projector for powerpoint
- A venue to arrange the seminar in
- Human resources to organise the event
- Presenters of good examples, planning and strategy work
- An electricity grid owner informing about regional conditions for pV facilities
- Presenters of economic calculations of municipal pV installations and procurement rules.
- A person from a local authority presenting planning prerequisites for pV

Obstacles, barriers and restrictions

One challenge is to identify how a local authority in the best way could organise the work to improve and enhance local prerequisites for installation and implementation of pV facilities.

Piloted in PV4All	Yes, in Sweden

Three seminars for local authorities were held in the PV4All project. During the first seminar a more general view on how to work with solar energy in municipal planning and municipality buildings where held. From electricity grid owner E.ON, a presentation was held about the capacity in the grid and what to take into account when applying for a pV installation in the local authority. During the second seminars presentations where held about financial possibilities for local authority when installing a pV facility. First it is important to understand how to procure a pV facility and what possible demands a local authority can put on the supplier when procuring a pV facility. Secondly, it is important to calculate how the financial details will add up when installing the pV facility on a municipal building. Will the pay-off be ten, twenty or thirty years? What capacity should the facility have to get best financial benefit from the facility? Third seminar was about knowledge exchange, where a local authority presented how the work with planning regulation for installing pV facilities for citizens. The seminar ended up with group discussions where participant from local authorities discussed what obstacles there are to work with and increase pV installations in a municipality and how to come around these in the best way.

Recommendations

It is important that the local authority look into what planning material there are for energy and pV already developed. It is important to have an ongoing dialogue with the electricity grid owner to understand and have knowledge about grid capacity and possibilities to install more pV facilities. It is important to work with procurement in an organised way, putting right demands on suppliers for pV facilities and know how to evaluate the bids. It is important to do accurate financial calculations of the planned installations of additional pV facilities to understand the size to install and when to install or not. Some conclusions from group discussions from representatives from local authorities:

- *Develop proper guidelines for how to decided incoming applications from citizens who want to install pV facilities in regulated areas.*
- *Be aware of that authorities liked defence authorities or air plane authorities can take very long time to answer if they approve pV installations in areas where they have interest.*
- *Tell applicants why the authority decided in the way they did about the pV faclitiy in the decision letter.*
- *Develop guidelines on how to evaluate electricity produced from pV installations.*
- *Important to have guidelines how to evaluate the construction of the building when installing pV.*
- *Important that the politicians understand solar energy and that the civil servants understand what the politicians want when it comes to solar energy in the local authority.*
- *Important to have a dialogue with the grid owner and that there are capacity in the local grid for additional pV installations.*
- *Important to have a dialogue with citizens and companies in the local authorities about solar energy.*
- *Develop a map where buildings that are very suited for solar energy are present.*