RES-e Regions

Summary report WP4 – Specific technology promotion

Background

The market development for different RES-e technologies varies significantly, even in neighbouring regions with similar conditions. This WP aims at tackling existing information barriers.

As a result of the analysis carried out in WP 1, each region participating in this WP selected a RES-e technology/ application which is underperforming compared to its potential (taking into account the existing financial framework) and carried out targeted dissemination and promotion.

Tasks

Technology selection

Based on the results of the regional analyses in WP 1, a promising technology has been selected which is suffering in its present market development from lack of information or lack of dedicated know-how or lack of specialised actors etc. The most important target groups (e.g. most likely project developers as well as other important stakeholders) for this technology development has been identified and - in consultation with representatives from this target group - an approach defined.

Each region participating in this WP has selected a specific technology, and in some cases also specific application or target group, to promote within the project. The selections are based on a regional analysis over the barriers and opportunities. Each participating partner compiled a brief 2-page report describing their technology selection.

The report, available in both English and the native language, address the following:

- Background
- Current situation
- Barriers
- Opportunities
- Target groups
- Actions needed

The technology selections of the regions are:

Region	Technology selection
Upper Austria	Small scale hydro and biogas
Liguria, Italy	Small scale hydro and biomass CHP
Greater Copenhagen Region, Denmark	Photovoltaic systems
Slovenia	Biomass CHP
Wales, UK	Domestic/Community-scale wind
Navarra, Spain	Photovoltaic systems
Västra Götaland, Sweden	Biogas CHP
Saarland, Germany	Medium-sized PV

Support facility

A "support facility" for project developers has been made available. This support facility consists of

- 2 support tools, i.e. check.lists, FAQ, guidelines, short information leaflets etc
- Advises to individual projects in each region. Each project advice includes at least 1 face-to-face meeting as well as a 1 page summary for each project.
- Benchmarking of existing plants: an Excel table will be developed in which key project costs (e.g. costs for plant design, cost for permission procedures, costs for main components, cost for maintenance) for at least 10 installations of a specific technology will be listed and used for comparisons and proposals for cost reductions.

Support tools

These are the following support tools produced and dissiminated withinthe WP:

Region	**Support tools**	
Upper Austria	Small hydro power FAQ	Info on fish ladders
Liguria	BiomassCHP	Small scale Hydro
Greater Copenhagen	Interactive PV	Check list
Slovenia	Info List - Biomass CHP	FAQ - Biomass CHP
Wales	Leaflet on micro Wind	Flowchart on micro Wind
Navarra	Flowchart – PV net connection	Flowcart on PV in buildings
Västra Götaland	FAQ – Biogas installations	Check list - Biogas installations
Saarland	FAQ on Medium PV	Checklist for PV installations

All support tools has been dissiminated regionally and can be downloaded from the project website.

Project advices

During the project a range of project advises has been held. For example nine face to face meetings have been held in respectively Västra Götaland, Upper Austria, Slovenia and Liguria.

All meetings are listed in the table below:

Partner	**Place**	**Date**	**Subject/technology**
ESV	Friedburg	2005-03-16	Biogas
	Uttendorf	2005-08-17	Small scale hydro
	Neukirchen a.d. Vöckla	2005-09-20	Biogas
	Tragwein	2006-01-02	Small scale hydro
	Walding	2006-03-24	Biogas
	Langenstein	2006-03-24	PV
	Windischgarsten	2006-04-27	Small scale hydro
	Wels	2007-01-16	PV
ARE	Genova	2006-04-19	Small scale hydro
	Genova	2006-06-16	PV
	Pontinvrea	2006-06-28	Small scale hydro
	Rezzoaglio	2006-07-03	Hydro power

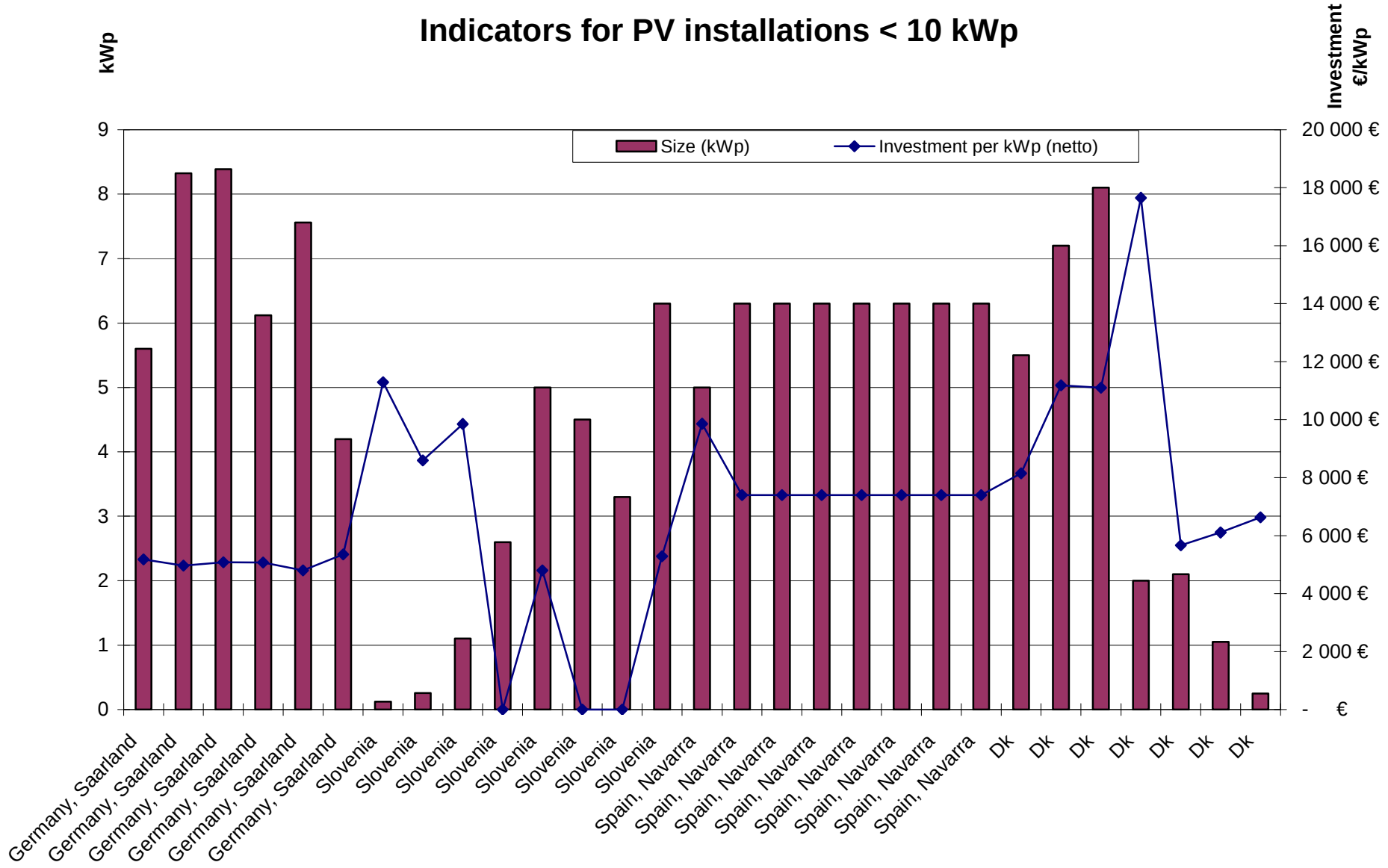
	Pornassio	2006-07-12	Small scale hydro
	Mendatica	2006-07-17	Small scale hydro
	Ceranesi	2006-08-28	Small scale hydro
	Vobbia	2006-09-29	Small scale hydro
	Sassello	2006-10-21	Small scale hydro
DTI	Albertslund	2006-05-21	PV
ULFME	Železniki	2005-06-14	CHP
	Lesce	2005-10-21	PV
	IMP Promont–Montaža	2006-01-26	CHP
	Jarše	2006-02-09	PV
	Kranj	2006-04-12	PV
	Mavčiče	2006-06-02	PV
	Kamnik	2006-08-08	Biomass stirling engine
	Ljubljana	2006-11-16	Biomass
	Kranj	2006-09-13	Biogas
GN			
STEM	Uddetorp	2006-02-22	Biogas
	Larv, Vara	2006-02-28	Biogas
	Rådde gård	2006-03-16	Biogas
	Töreboda	2006-03-24	Biogas
	Bygdegården i Hällsta	2006-03-27	Biogas
	Tollered	2006-04-19	Biogas
	Skara	2006-06-22	Biogas
	Töreboda	2006-08-15	Biogas
	Falköping	2006-08-23	Biogas
IZES	Dörrenbach	Spring 2006	Biogas
	Homburg-Waldmohr	October 2005	Biogas
	Losheim	2005-07-27	Biomass CHP
	Mettlach	2005-11-17	Biomass CHP
	SaarBrucken	2005-07-11	Biomass CHP
	Homburg	April 2006	Hydropower

Benchmarking tables

The benchmarking activities in each region were coordinated by the WP ledaer and all the installation data collected by the partners where compiled in one excel sheet per technology. The RES-e installations were categorised as:

- PV < 10 kWp
- PV 10-40 KWp
- Biogas CHP
- Small scale hydro

Below are examples on benchmarking indicators for the different categories.


Indicators for PV installations < 10 kWp
kWp
Investment €/kWp
Size (kWp)
Investment per kWp (netto)
9
8
7
6
5
4
3
2
1
0
20 000 €
18 000 €
16 000 €
14 000 €
12 000 €
10 000 €
8 000 €
6 000 €
4 000 €
2 000 €
- €
Germany, Saarland
Germany, Saarland
Germany, Saarland
Germany, Saarland
Germany, Saarland
Germany, Saarland
Slovenia
Slovenia
Slovenia
Slovenia
Slovenia
Slovenia
Slovenia
Slovenia
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Dk
Dk
Dk
Dk
Dk
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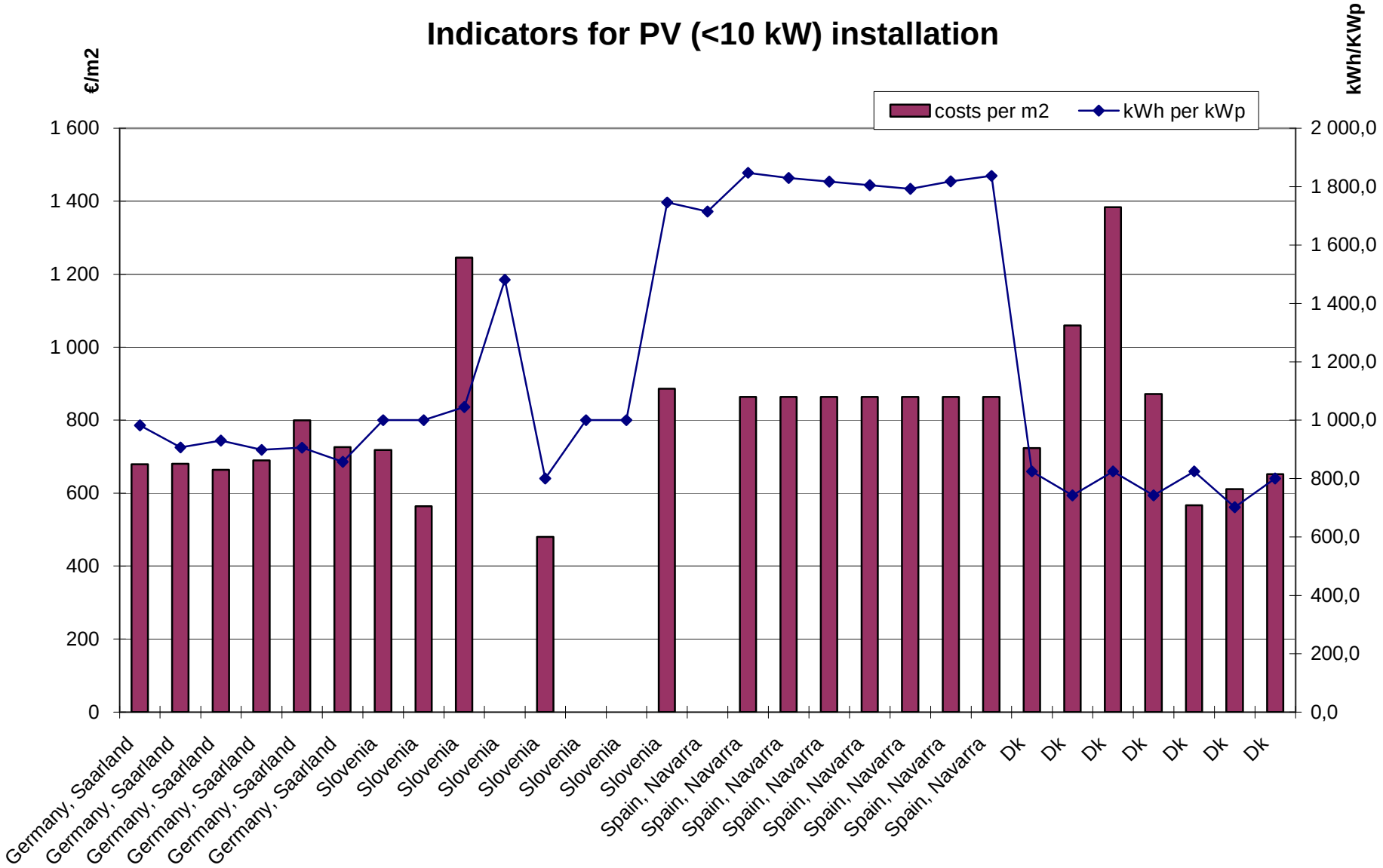
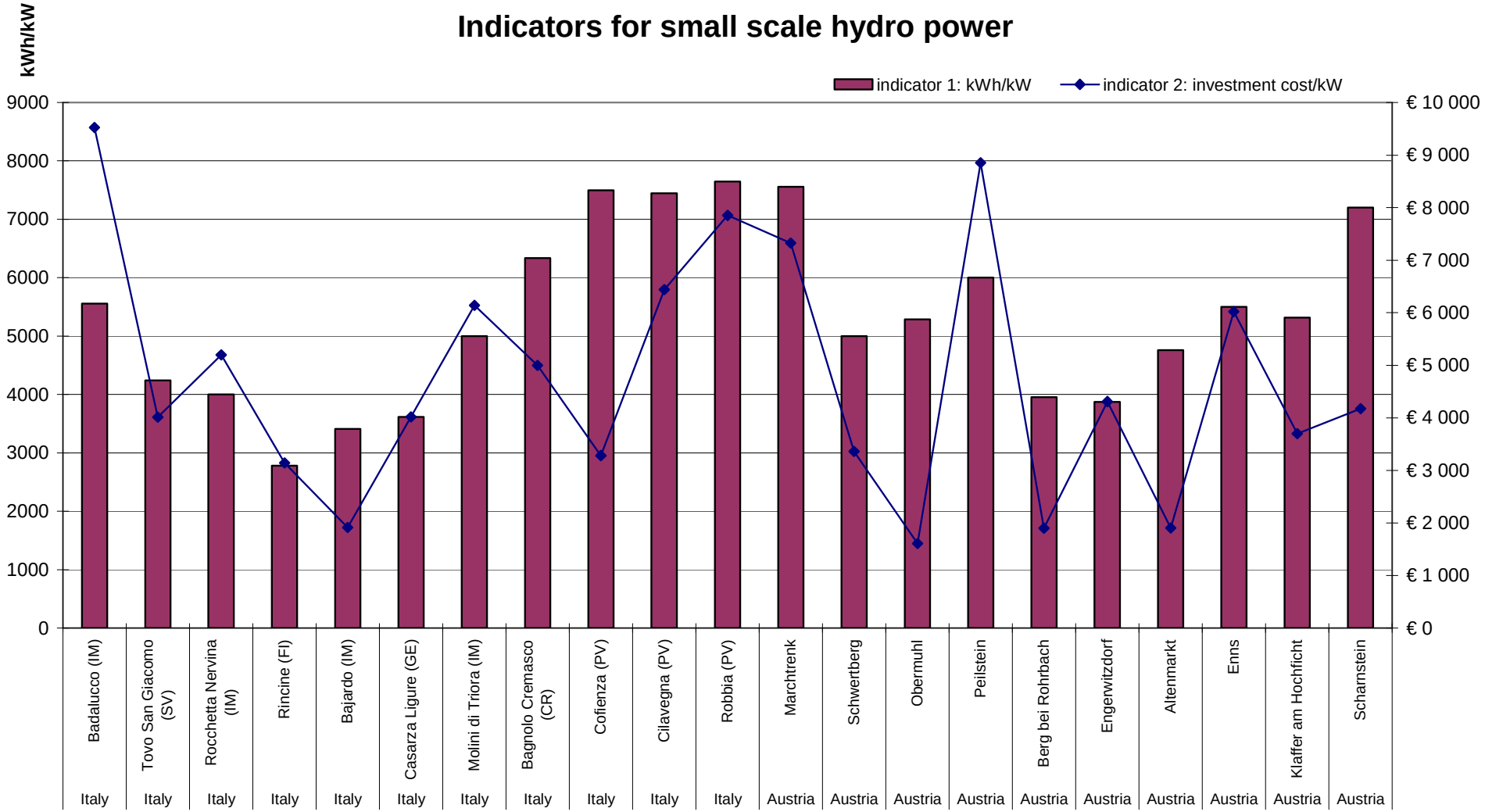
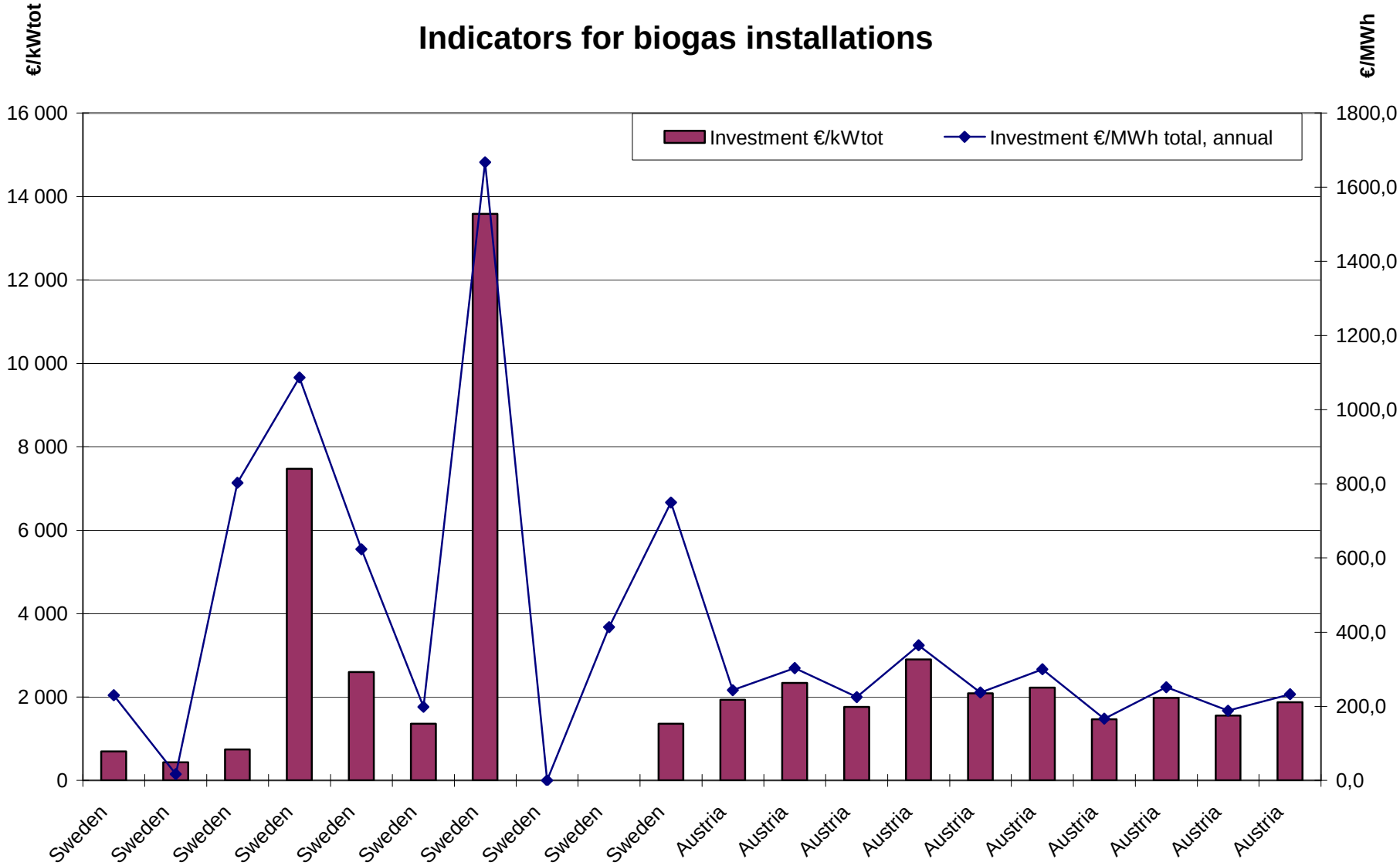
Dk


Indicators for PV (<10 kW) installation
€/m2
kWh/KWp
costs per m2
kWh per kWp
1 600
1 400
1 200
1 000
800
600
400
200
0
2 000,0
1 800,0
1 600,0
1 400,0
1 200,0
1 000,0
800,0
600,0
400,0
200,0
0,0
Germany, Saarland
Germany, Saarland
Germany, Saarland
Germany, Saarland
Germany, Saarland
Germany, Saarland
Slovenia
Slovenia
Slovenia
Slovenia
Slovenia
Slovenia
Slovenia
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Spain, Navarra
Dk
Dk
Dk
Dk
Dk
Dk
Dk


Indicators for small scale hydro power
kWh/kW
indicator 1: kWh/kW
indicator 2: investment cost/kW
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
€ 10 000
€ 9 000
€ 8 000
€ 7 000
€ 6 000
€ 5 000
€ 4 000
€ 3 000
€ 2 000
€ 1 000
€ 0
Badalucco (IM) Italy
Tovo San Giacomo (SV) Italy
Rocchetta Nervina (IM) Italy
Rincine (FI) Italy
Bajardo (IM) Italy
Casarza Ligure (GE) Italy
Molini di Triora (IM) Italy
Bagnolo Cremasco (CR) Italy
Cofienza (PV) Italy
Cilavegna (PV) Italy
Robbia (PV) Italy
Marchtrenk Austria
Schwertberg Austria
Obermuhl Austria
Peilstein Austria
Berg bei Rohrbach Austria
Engerwitzdorf Austria
Altenmarkt Austria
Enns Austria
Klaffer am Hochficht Austria
Scharnstein Austria


Indicators for biogas installations
€/kWtot
€/MWh
Investment €/kWtot
Investment €/MWh total, annual
16 000
14 000
12 000
10 000
8 000
6 000
4 000
2 000
0
1800,0
1600,0
1400,0
1200,0
1000,0
800,0
600,0
400,0
200,0
0,0
Sweden
Sweden
Sweden
Sweden
Sweden
Sweden
Sweden
Sweden
Sweden
Sweden
Austria
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Austria

Lessons learned and experiences

The work carried out in this work package has been very straight forward and a lot of contacts has been taken with key stakeholders as technology and know-how suppliers as well as existing and potential plant owners and operators and interested persons and organisations.

The approach of analysing the situation and select one or two technologies for targeting the actions has been a suuceesful way of operations. This has narrowed our actions in terms of persons to get in contact with, actors and networks or alike to cooperate with and technology facts to analyse and to get a better understanding of.

This approach has led to a substantial amount of personal face to face advisory sessions which hopefully end in the implementation of RES-e installations. In addition to this lot of the hotline inquiries in WP1 have been in the same technology field as the ones selected in this WP.

During the implementation of the tasks the know-how and regional network in the technology areas has improved which also increases the prospects for forthcoming actions in this field.

The support actions have been very appriciated amongst key stakeholders and the dissemination of the tools will carry on beyond the project.

The benchmarking activities resulted in quite a lot of interesting data for a range of RES-e installations in the regions. However, when compiling the figures and analysed them by specific benchmarking indicators very few similariities could be seen between different regions and installation sizes. This most probably depends on the different stages of the market development, support schemes and other national, regionla ocr local specific circumstances.