

RES CHAMPIONS LEAGUE 2014

The best European Renewable Municipalities



100% RES
COMMUNITIES



Co-funded by the Intelligent Energy Europe
Programme of the European Union



RES CHAMPIONS LEAGUE 2014

The best European Renewable Municipalities

What is 100% RES Communities project?	3
Diffusion of renewable energy in Europe	5
The winners of RES Champions League	10
Special Price of RES Champions League	22
Best practices	24





RES CHAMPIONS LEAGUE 2014 WINNERS AWARDED IN BRUSSELS DURING THE EUROPEAN SUSTAINABLE ENERGY WEEK

All participants wanted to meet the European champions of renewable energies, discover their best practices and network with each other: their annual rendez-vous was **at the 2014 award ceremony of the RES Champions League**. After Dunkerque (France, 2010), Prague (Czech Republic, 2011), Rome (Italy, 2012), Kassel (Germany, 2013), **Brussels** had the privilege to host the fifth ceremony of this European friendly competition on the **25th of June 2014**. At this time, the names of Europe's most inspiring communities in the field of renewable energies were revealed.

Last year, the leaders were mostly issued (no real surprise) from Germanic countries, with a slight advantage to German municipalities and regions: Wildpoldsried (Germany), Saerbeck (Germany) and Bruck Leitha (Austria) ex-aequo, Amstetten (Austria) and the region of Trier (Germany) got the 2013 titles. In 2014, **Austrian communities** took their revenge and won three titles out of four. You will discover their energy strategies and achievements in this report.

A LIVELY CEREMONY TO HIGHLIGHT CHAMPIONS

Mrs **Evelyne Huytebroeck**, Minister of Brussels Region in charge of Energy and Environment, and **M. Vincent Berruto**, Head of Sector "Projects" at the European Agency for Small and Medium Enterprises (EASME) in the European Commission honoured the event with their presence

and introduced the ceremony with keynote speeches.

The **12 champions in the 4 different divisions** (general ranking, small, medium and large communities) had the opportunity to describe the key points of their energy strategy and achievements, providing tangible proofs that their awards were well deserved. The diversity of the natural and cultural contexts in winner municipalities and regions is well described in the short articles of this report. All champions have renewable energy sources, but not all have the same: to every municipality or region its own **energy terroir!**

The award ceremony then turned to a less formal part, however as important: as the cocktail was served, short interviews of all champions were conducted. Then the traditional group photo session was held at the nearby Cinquentaenaire Park. Eventually, all participants were invited to a dinner that took place in a very friendly atmosphere: what a best opportunity to **learn from each other** across borders and possibly initiate **long-lasting partnerships?**



WHAT'S NEW IN RES CHAMPIONS LEAGUE 2014?

After the implementation of some major changes in 2013, this fifth season of the RES Champions League capitalized on the existing framework and let the most time available for the search and identification of active and willing municipalities and regions in all participating countries.

National RES leagues are established in 12 countries (Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, Italy, Poland, Romania, Scotland, Slovenia) and now involve more than **10.000 municipalities** representing **100 millions inhabitants** over Europe. The RES Champions League is the **European reference** for the evaluation of renewable energy development at local level.

Still **northern and southern countries** should join the movement so that the participation of municipalities from the 28 countries is possible tomorrow: **we are waiting for them!** Nothing more than a strong motivation and the will to compare local achievements from communities not only at national level, but also at European level, is required to join our European movement. No barrier to join so, even quite the opposite: our European team will deliver all tools, tips and support



necessary to implement new national RES leagues very easily! What a better opportunity to show that the energy transition is happening widely from the ground, and everywhere in Europe?

SOME KEY RULES IN A NUTSHELL

From 2013, **regional authorities** have been eligible to European awards, whereas only cities and towns were in the past. Urban areas as well as rural territories, grouping several municipalities into a consistent catchment area, are pretty often the level at which a **joint energy strategy** is defined effectively and conducted efficiently.

The **selection process of European champions** is mainly based on the consideration of installed capacity of renewable energy units compared to the population and area, so on concrete achievements and actual quantitative data, not mostly on plans. However, candidate municipalities and regions have also to fill a complete questionnaire based on **30 criteria**: this qualitative information has also an important role in the final decision process.

Despite the subjective correction that jury members can make based on the qualitative information available, the **dramatic difference between the national contexts** in the different European countries leaves only little chance to many communities to reach a European title. This is the reason why, for the first time, the European jury decided to give **special awards** to 4 municipalities and regions that have achieved **remarkable results** for the development of renewable energies.



FINAL PHASES OF THE RES CHAMPIONS LEAGUE 2014

The selection process is well established. The champions were identified through a step-by-step approach successively at national level then European level:

- **Identification of several national challengers:** every national organization running a league selected a few challengers for the semifinal phase in every division. These challengers were identified by the national organization among best-ranked local authorities in the national RES league.
- **National semifinal:** every national organization selected (only) one national challenger for the European final in

every division, based on RES data and the filled questionnaires.

- **European final:** the European jury eventually proceeded to a distant voting process (in two rounds) to select three champions among all finalists, also based on RES data and the filled questionnaires.

The **European jury**, composed of energy experts, networks of local authorities, NGOs, journalists from all participating countries, is also backed by two European organisations working in the field of sustainable energy: Climate Alliance and Rurener network.

More information:

www.res-league.eu

DIFFUSION OF RENEWABLES ENERGY IN EUROPE

COUNTRY	PHOTOVOLTAIC		SOLAR THERMAL	
	MW		m²	
	2011	2012	2011	2012
Austria	187	422	4.718.948	4.927.748
Belgium	2.050	2.581	416.447	477.115
Bulgaria	212	933	80.000	83.000
Czech Republic	1.913	2.022	792.768	892.768
Denmark	17	399	620.000	753.122
Finland	11	11	38.863	44.713
France	2.948	4.027	2.204.051	2.396.313
Germany	25.094	32.698	15.234.000	16.309.000
Greece	631	1.543	4.089.025	4.121.025
Hungary	3	3	127.691	179.858
Ireland	1	1	242.228	262.535
Italy	12.783	16.431	3.070.000	3.400.000
Netherlands	146	365	843.000	868.970
Poland	2	2	909.423	1.211.497
Portugal	172	172	876.818	966.770
Romania	3	3	123.000	143.000
Slovenia	100	100	189.044	202.537
Spain	4.375	4.627	2.735.590	2.964.864
Sweden	16	16	476.000	482.000
United Kingdom	995	1.708	607.822	650.497

* Overseas departments included
Source: EurObservER 2013

COUNTRY	WIND	
2012	MW	TWh
Austria	1.315	2.463
Belgium	1.364	2.750
Bulgaria	657	1.061
Czech Republic	258	0
Denmark	4.163	10.270
Finland	257	0
France*	7.594	15.001
Germany	31.331	50.670
Greece	1.749	3.259
Hungary	331	1
Ireland	1.763	4.010
Italy	8.102	13.407
Netherlands	2.434	4.999
Poland	2.564	4.746
Portugal	4.531	10.260
Romania	1.941	2.923
Slovenia	2	0
Spain	22.775	47.560
Sweden	3.607	7.165
United Kingdom	8.889	19.584

* Overseas departments included
Source: EurObserv'ER 2013

COUNTRY	HYDRO <10 MW	
2012	MW	GWh
Austria	1.184	5.756
Belgium	62	206
Bulgaria	451	649
Czech Republic	311	917
Denmark	9	17
Finland	315	1.733
France*	2.025	5.756
Germany	1.780	7.206
Greece	218	669
Hungary	15	40
Ireland	41	108
Italy	2.905	9.406
Poland	273	940
Portugal	380	627
Romania	425	576
Slovenia	160	297
Spain	1.942	4.316
Sweden	953	4.366
United Kingdom	283	883

* Overseas departments included
Source: EurObserv'ER 2013

COUNTRY	BIOGAS	BIOFUEL	SOLID BIOMASS
2012	GWh	toe	TWh
Austria	636	519.289	4
Belgium	663	329.393	4
Bulgaria	28	9.809	0
Czech Republic	1.467	281.134	2
Denmark	378	229.881	3
Finland	133	212.107	10
France*	1.284	2.709.082	2
Germany	27.239	3.018.321	12
Greece	202	124.606	0
Hungary	234	122.671	1
Ireland	196	84.989	0
Italy	4.619	1.342.885	3
Netherlands	1.008	326.192	4
Poland	564	823.326	9
Portugal	209	287.042	2
Romania	19	210.107	0
Slovenia	153	51.627	0
Spain	933	1.927.325	3
Sweden	22	593.049	10
United Kingdom	5.874	888.435	7

* Overseas departments included
Source: EurObserv'ER 2013

COUNTRY	DEEP GEOTHERMAL		HEAT PUMP	
2012	MW	GWh	NUMBER	ktoe
Austria	1	1	117.950	115
Belgium			16.641	18
Bulgaria			153.711	81
Czech Republic			44.967	63
Denmark			344.454	127
Finland			518.207	352
France*	17	51	1.259.355	1.040
Germany	12	25	459.600	579
Hungary			3.256	2
Ireland			4.835	6
Italy	875	5.592	15.982.300	2.640
Netherlands			189.068	198
Poland			25.994	47
Portugal	29	146	112.065	23
Romania			1.250	1
Slovenia			6.837	30
Spain			202.000	59
Sweden			897.291	717
United Kingdom			86.405	56

* Overseas included. The net capacity is the maximum power assumed to be solely active power that can be supplied, continuously, with all plant running, at the point of outlet to the network.

Source: EurObservER 2013

EMPLOYMENT DIRECT AND INDIRECT JOBS (2012)

COUNTRY	WIND	PHOTO-VOLTAIC	SOLAR THERMAL	SMALL HYDRO	GEOTHER-MAL	HEAT PUMPS	BIOGAS	BIOFUEL	SOLID BIOMASS
Austria	3.900	4.850	3.400	1.050	<100	1.130	1.900	4.580	18.600
Belgium	4.000	20.500	600	400	<100	600	300	9.920	3.300
Bulgaria	830	10.000	100	420	<100	2.400	<50	790	2.925
Czech Republic	500	1.500	1.000	300	<100	700	1.000	2.925	6.460
Denmark	40.500	7.000	1.500	<50	<100	2.700	200	770	3.250
Finland	500	<50	<50	375	0	5.000	<50	1.540	23.500
France*	20.000	39.000	8.200	3.860	1.200	142.380	3.200	30.000	48.000
Germany	117.900	87.800	12.700	7.200	1.400	54.100	51.000	22.700	50.000
Greece	1.500	23.500	3.000	1.250	150	0	1.150	490	3.000
Hungary	150	750	200	400	850	50	130	4.230	4.300
Ireland	2.500	<50	200	115	0	100	110	310	100
Italy	40.000	16.000	4.350	2.730	5.500	116.850	5.000	5.270	12.200
Netherlands	3.500	7.500	350	200	400	5.000	600	700	3.300
Poland	2.815	420	2.540	950	200	560	320	5.480	20.500
Portugal	2.700	3.500	1.100	1.750	<100	700	120	1.830	7.025
Romania	5.000	<50	200	450	200	0	0	925	10.410
Slovenia	<50	2.400	150	380	<100	480	130	200	1.680
Spain	30.000	12.000	4.500	1.500	<100	4.500	520	9.435	14.500
Sweden	5.100	600	150	520	<100	95.107	250	4.140	28.350
United Kingdom	20.500	12.500	900	1.000	<100	1.600	3.500	4.420	7.050

Source: EurObservER 2013

100% RES COMMUNITIES

THE PROJECT PARTNERS



Climate Alliance



AF-CityPlan





LEGAMBIENTE



KÖTSCHACH-MAUTHEN



RANKING	1° - General ranking
STATE	Austria
INHABITANTS	3.409
AREA	155 km²
PHOTOVOLTAIC	140 kW
SOLAR THERMAL	1.372 m²
SOLID BIOMASS	4.282 kW
BIOGAS	750 kW _e + 500 kW _t
SMALL WIND	500 kW
SMALL HYDRO	4.200 kW
MEDIUM HYDRO	4.800 kW
GEOTHERMAL HEAT PUMP	225 kW



RES have been used for more than hundred years in Kötschach-Mauthen, an alpine municipality in southern Carinthia. At the end of the 19th century, the first small hydro power plant was built and supplied the local citizens with electricity. In the following 115 years, 21 small and medium hydro power plants, three ecologically dammed mountain lakes and a wind power plant were built. A biogas plant, various solar thermal systems, PV-installations and three biomass district heating systems followed. The local energy supplier Alpine Adria Energy (AAE) started to sell electricity generated by small hydro power plants to more than 17,000 private clients. By joining Climate Alliance Austria and the e5-network in 2008/2009, the LA complemented its commitment to RES.

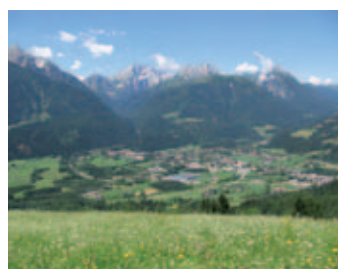
RES self-sufficient Kötschach-Mauthen

The local association "RES self-sufficient Kötschach-Mauthen" comprises local politicians, energy experts, companies, citizens and one manager. Its aim is to improve and implement important RES projects and raise awareness for climate protection issues in the local authority and the region.

Some of the implemented projects: RES Learning Garden, hydro and solar model power plants for visitors (guided tours), change of heating systems, energy actions <https://www.dropbox.com/sh/p1573szlm04gwvr/AACJSKY-ClpemqcyTsc6wmMkBays>.

Energy Inventory

More than 90% of the total energy demand can be met by RES. This applies to the sectors electricity (almost 400%), heat and mobility, the latter being the biggest challenge for the future.



FURTH BEI LANDSHUT



RANKING	2 ^o - General ranking
STATE	Germany
INHABITANTS	3.500
AREA	20,97 km ²
PHOTOVOLTAIC	5.000 kW
SOLAR THERMAL	3.000 m ²
WOOD GAS	2 x 45 kWe / 2 x 100 kWth
BIOGAS	270 kWe + 270 kWth
WOOD CHIP HEATING PLANT	800 kW



FURTH BEI LANDSHUT SETTING AN EXAMPLE FOR STRONG CIVIC SUPPORT OF RENEWABLES

Furth bei Landshut – Setting an Example for Strong Civic Support of Renewables

In Furth solar energy is used for over 40 years. The solar radiation is slightly over average but there is no exploitable hydropower and no suitable site for wind power. In 1996 renewable energies were officially incorporated into the community development strategy and civic participation was promoted. Every decision made, was in favor of renewable instead of fossil energies.

In 1996, one of Bavaria's first local heating supply systems was established in Furth. This system was supplemented by combined heat and power with wood gas. Later other, smaller wood chip and pellet plants were added to supply individual houses, groups of houses or business companies with heat. The use of heating pumps in private houses without connection to the district's heating system has been increased. The municipal share of renewable heat supply is at about 80%. Further a municipal agency consults citizens how to save energy, how to refurbish their homes and heating systems and how to integrate more efficient electronics. Municipal buildings are energetically refurbished and new buildings almost obtain passive house standards. Almost all municipal buildings are heated with renewables and where possible, roof tops were equipped with PV systems.

Because of an early transition to renewable energies as well as other important activities, 30,000 people have visited Furth in the past years.



ATTERT



RANKING	3° - General ranking
STATE	Belgium
INHABITANTS	5.000
AREA	70 km ²
PHOTOVOLTAIC	1.974 kW
SOLAR THERMAL	551 m ²
SOLID BIOMASS	774 kWe + 1.984 kWt



ATTERT SHOWS ITS WAY TOWARDS 100% RES

The sound intuition of Attert, a small village near the Luxembourg border, was to initiate a territorial collaboration with its foreign neighbor - the county of Redange (L)- on energy issues. This dynamic led both regions win a first European project and finance a resource in a local structure. Four years later, they're four.

'Au pays de l'Attert' is the energy locomotive of the Village. Initiated by the municipality, the NGO employs 4 people dedicated on energy. It informs citizens, realizes analyses and feasibility studies, runs EU projects and facilitates the realization of RES projects such as the heat district network for Attert's administrative buildings.

Since 2008, the municipality and its NGO organize conferences, dedicated trainings, courses in schools and on site visits in order to help households invest in their RES and energy efficiency, while educating tomorrow's adults.

To act on the financial constraints, Attert is setting a citizen investment fund based on a local currency. Less wealthy households are also considered as personalized counseling is given for free by the NGO.

To reach their 100% RES target, Attert sought to structure its actions and join the Covenants of Mayors. Its SEAP contains several projects, some of them - like the creation of trans-border wood supply chain- are already under finalization. "Here, the major challenge is to help households retrofit their houses and reduce their energy needs. It's the only way to reach our 34 % CO₂ reduction goal by 2020' says Kevin Mathu, coordinator of the SEAP team.



ST JOHANN IM PONGAU



WINNER

RANKING	1° - Small Cities
STATE	Austria
INHABITANTS	10.745
AREA	78 km ²
PHOTOVOLTAIC	420 kW
SOLAR THERMAL	7.130 m ²
SOLID BIOMASS	12.300 kW
SMALL HYDRO	1.080 kW
MEDIUM HYDRO	32.200 kW
GEOTHERMAL HEAT PUMP	450 kW



For more than 20 years the town of St. Johann im Pongau in the state of Salzburg has been strongly engaged in sustainable politics. The LA has always involved local stakeholders (politicians, citizens, schools and kindergartens, enterprises). In 1998, St. Johann joined Climate Alliance Austria and a few years later the e5-network.

Targets to be met by 2020

In 2011, the LA agreed on a RES road map. Its target is to reach RES self-sufficiency by 2020 in the sectors electricity, heat, sustainable transport and mobility by enhancing energy efficiency in all sectors, increasing energy production from local RES, developing sustainable transport and mobility systems and involving local enterprises and the strong tourism sector.

Implemented projects (sample)

Public buildings: Eco-electricity for schools, kindergartens and sports facilities, Citizen participation for PV-installations and small hydro power plants, Energy accounting, LED public lighting, Biomass district heating for all public buildings.

Urban planning: Town centre revitalisation measures, integrated shopping centre, Subsidies for private solar panels, PV-installations and biomass heating.

Mobility: City-bus, Free e-bike rental system for citizens

PR: Energy Days (RES Day, Mobility Week...), Regular coverage of RES topics in the local magazine.



SMALL CITIES

THE WINNERS OF RES CHAMPIONS LEAGUE 2014

ALHEIM



RANKING	2 ^o - Small Cities
STATE	Germany
INHABITANTS	5.100
AREA	63,85 km ²
PHOTOVOLTAIC	7.637 kW
SOLAR THERMAL	678 m ²
SMALL HYDRO	8 kW
BIOGAS	765 kWe - 765 kWth



DARING TO BE MORE DEMOCRATIC AND RENEWABLE

Alheim is a rural community located in the centre of Germany's Pro Region Central Fulda Valley. It covers 63.85 km² and has appr. 5,300 inhabitants. It belongs to the district Hersfeld-Rotenburg. In 1997 Alheim started its citizen-orientated campaign "Daring to be more democratic" to meet its responsibilities towards future generations. This campaign consists of a social energy policy, economic growth, sustainable education for all generations and creation of the ZuBRA, a cooperative effort with the neighboring communities of Bebra, Rotenburg/ Fulda.

The goal of *"covering 80% Alheim households' energy consumption by RES"* - set up in energy guidelines in 2004 - has already been exceeded. Now, the Community intends to become energy self-sufficient by the year 2030.

The process started is both sustainable and exemplary! The company Kirchner Solar alone created more than 150 new in-house jobs plus a biogas plant, that also supplies thermal energy at low cost via the local heating plan to local businesses. Some of the new RES facilities have been built on polluted areas to ensure a future agricultural use.

Alheim's answers to demographic and social energy challenges show that an economic development is also possible by creating a citizen-carried Energy and Education Region for young and old.

On this background, Alheim and its two partners inside the mentioned ZuBRA are currently setting up the masterplan for Energy and implementing the Education Plan.



CC THOUARSAIS



RANKING	3° - Small Cities
STATE	France
INHABITANTS	36.382
AREA	620 km²
PHOTOVOLTAIC	2.237 kW
SOLAR THERMAL	991 m²
SOLID BIOMASS	4.090 kW
BIOGAS	3.820 kWe + 3.500 kWt
WIND	36.000 kW
SMALL WIND	2 kW
HYDRO	110 kW



THE THOUARSAIS TERRITORY: A LOCAL DEVELOPMENT POLICY FOR ENERGY AUTONOMY

Wishing to show commitment in the struggle against global warming, the Thouarsais territory has developed a real dynamism concerning energy and greenhouse gas emissions in an attempt to turn this challenge into a vector of economic and social development in the **North of Deux- Sèvres** département. Since 2007, 70% of the 125 projects included in the sustainable energy action plan have already been carried out. It concerns all sectors: communities, companies, artisans, farmers... The result (35.000 teq of CO₂ saved in 5 years) is the fruit of everybody's involvement, with communities first and foremost in setting the example.

The region takes the lead in a real development policy favoring local production based on various energy sources. Projects are multiplying, from the individual pellet wood boiler to the collective wood heating networks, from "CAPTER" methanization (500 kW) to the **centralized methanization unit "TIPER"** (3 MW) grouping around 50 farmers, small wind turbines in enterprises to the 36 MW wind park, from photovoltaic installations for individuals to the photovoltaic roof of the Super U supermarket and also a plan for a ground plant with a capacity of 10 MW. The combination of all these infrastructures has made it possible today to cover 35% of the building sector's needs (heating, specific electricity, hot water). Today, all the projects associated to the dynamic of consumption reduction have opened the path to turn the Thouarsais territory into a positive energy territory.



VILLACH



RANKING	1° - Medium Cities
STATE	Austria
INHABITANTS	60.223
AREA	134 km ²
PHOTOVOLTAIC	1.420 kW
SOLAR THERMAL	13.237 m ²
SOLID BIOMASS	7.538 kWe + 40.040 kWt
BIOGAS	721 kWe + 2.857 kWt
SMALL HYDRO	1.700 kW
MEDIUM HYDRO	11.900 kW
GEOTHERMAL HEAT PUMP	1.245 kW



The central element of Villach's energy strategy has been a combination of EE-measures and attempts to develop RES for more than 20 years. Being the second biggest town in Carinthia with 60,000 citizens, Villach has integrated different RES in addition to its excellent "traditional" hydro power supply based on the river Drau and other smaller rivers. Thus, this year all private households could be supplied with electricity from local RES and 80% of district heat comes from biomass and solar thermal energy.

Being a member of Climate Alliance Austria since 1992, Villach joined the e5-network in 2009 and, recently, the Smart City initiative.

Ambitious goals for Villach. The following goals were set in the town's ambitious smart city vision 2050: Reduction of GHG emissions per capita by 30% until 2020 (base year 2010!), Share of 50% in renewable energy production by 2020 (gross energy consumption), Increase of energy efficiency by 20% until 2020 (base year 2010).

Decentralised sustainable electricity production

- Steady increase in the number of private PV-installations – subsidised by the LA
- PV-installations on public buildings and areas (currently 500 kWp will be installed)
- Smart City project focuses on energy storage and smart grids

Heating based on RES

- Increase of the RES share
- Free EE-checks of private heating systems

Research and education

- Close collaboration with the University of Applied Sciences Kärnten (focus: energy and technology)
- High-quality information programme and business incubator aimed at creating green jobs and promoting sustainable technologies under way.



RHEIN-HUNSRÜCK-KREIS



RANKING	2° - Medium Cities
STATE	Germany
INHABITANTS	99.950
AREA	963 km ²
PHOTOVOLTAIC	64.583 kW
SOLAR THERMAL	13.646 m ²
SOLID BIOMASS	54.060 kWt
BIOGAS	4.726 kW
WIND	498.850 kW
GEOTHERMAL HEAT PUMP	5.103 kWt



INNOVATIVE, RENEWABLE AND SOON TO BE “ZERO-EMITTER”

Since 1997 the District of Rhein-Hunsrück has pursued the goal to become “Reference Region for Climate Protection and Innovative Energy Concepts”.

Since 1999, the District practices energy monitoring of its own buildings. From 2002 on, the district-owned buildings have been converted to a renewable energy supply step by step. 33 of them are already heated with local tree- and shrub-cuttings. Currently 10 local bio-heating networks are operated within the district and another 7 local bio-heating networks are in development. The massive expansion of photovoltaics is supported by a solar cadastre. Here the district serves as an example for the construction of renewable energy facilities for private consumption.

In 2011 the district council unanimously voted for an integrated climate protection concept. Since 2012 the district has been a calculatory exporter of electricity. About 149% of the electricity requirement is covered by renewable energies. The next aim is to become a calculatory “Zero-Emission-District” by 2020. This development is based upon pioneer-like showcase projects, implemented by private, commercial and public actors. The goal is to convert 250 million € of yearly costs for energy imports into local jobs and added value. By signing a “Future-Protocol” in 2013, the district and a number of associations of communities have committed themselves to sustainably shape innovative public services by energy saving, energy efficiency and utilization of renewable energies.



DUMFRIES AND GALLOWAY



RANKING	3° - Medium Cities
STATE	Scotland
INHABITANTS	149,000
AREA	3,000 km²
PHOTOVOLTAIC	200 kW
SOLAR THERMAL	togliere solar thermal
SOLID BIOMASS	3,200 kW
SMALL WIND	670 kW
GEOTHERMAL HEAT PUMP	2,150 kW



Dumfries and Galloway Council is the unitary local authority for the sparsely populated rural region of South West Scotland. People live mainly in small communities of less than 4,000. The largest town is Dumfries, population of 31,630.

D&G has attractive natural landscapes and a population with strong community pride. The region already makes the most of these Eco Tourism assets, such as the internationally famous 7 Stanes mountain bike trails and Mull of Galloway RSPB.

There is a wide range of large & small scale renewable energy projects which have been undertaken by business, communities and individuals, and supported by national schemes: Feed in Tariff and Renewable Heat Incentive. Our region already has significant deployment of large scale wind energy, hydro & biomass electricity and heat generators and an increasing amount of small scale schemes through individuals and SME's.

The authority signed Scotland's Climate Change Declaration in 2007, developed its own Carbon Management Plan in 2011, and signed the Covenant of Mayors in 2012.

In 2013 D&G Council (managed by the Sustainable Development Team) with 10 communities developed local and regional Sustainable Energy Action Plans facilitated through the 100% Renewable Energy Sources Project –a partnership between D&G Council and Community Energy Scotland. There is a substantial mix of expertise within each RES community with many accessing grants from Climate Challenge Fund & Scottish Governments CARES scheme to set up community projects and renovate community buildings.

Further actions include development of a Renewables Energy Action Plan by the D&G Council Economic Development Department to engage business stakeholders in the further development of renewable generation.



REGION OSNABRÜCK



WINNER

RANKING	1° - Large Cities
STATE	Germany
INHABITANTS	350.000
AREA	2.121,59
PHOTOVOLTAIC	211.000 kW
SOLAR THERMAL	60.000 m²
SOLID BIOMASS	260.000 kWt
BIOGAS	50.000 kWe
LARGE WIND	180.000 kW
SMALL HYDRO	309 kW
GEOTHERMAL HEAT PUMP	4000 kW



“REGION OSNABRÜCK: CLIMATE PROTECTION - RIGHT HERE, RIGHT NOW!”

Region Osnabrück provides excellent conditions to become a “Winner-Region” along the “Energiewende”. Renewable energy production, energy efficiency and an overall sustainable economy have already become an important part of the 350.000 residents’ every-day decision-making. More than 8.000 renewable energy plants are located all over the area. The region combines the strength of a rural landscape with a plentitude of natural resources with a robust economy and modern agriculture.

Latest findings show that Osnabrück Region has the potential to become 100% renewable and to save up to 88% of today’s emissions. The target of 100% renewable energy dates back to 2010 and has been part of municipal policy-making since then. Currently more than 50 different projects, planning or research endeavors are conducted and coordinated at the local “Energy and Climate Protection Department”.

Many activities are targeting private households and the building sector. One of the most important topics is the repowering of wind energy. New developing areas have been laid down in 2013 as a result of renewable energy policy. Energy and climate policies are well integrated within political parties and usually subject to overall agreement. In 2012 Region Osnabrück was recognized as a member of the national „Masterplan Program“. This group composed of 19 cutting edge municipalities is supported by the German government to maintain and improve its efforts and become a role model for other regions worldwide.



LARGE CITIES

THE WINNERS OF RES CHAMPIONS LEAGUE 2014

PILSEN



RANKING	2 ^o - Large Cities
STATE	Czech Republic
INHABITANTS	165.238
AREA	138 km ²
PHOTOVOLTAIC	12.961 kW
SOLAR THERMAL	1.169 m ²
SOLID BIOMASS	13.500 kWe + 38.500 kWt
BIOGAS	1.410 kWe + 654 kWt
HEAT PUMPS	9.256 kW
HYDRO	2.296 kW



WITH A SUPER BIOMASS POWER PLANT

The 4th biggest city of the Czech Republic (165.238 inh.) dominates by the biggest biomass power plant with co-generation (13,5 MWe, 38 MWt). The heat is used in the city district heating system. Pilsen was also the first big city in the CR, which developed energy concept structured by city parts. It wanted to get rid of a label "black Pilsen" obtained by smog. Thanks to monitoring and subsidising of solar thermal installations (ST) for a few years in the past (primarily due to activity of the city energy division led by F. Kůrka) got the city several awards in the Czech Solar league as well as the bronze ranking in the RES Champions League 2010. Nowadays they have in evidence 1169 m² of ST and photovoltaic installations (PV) with an output of 12.961 kW. RES mix complement 15 small hydro plants (2.296 kW), 585 private heat pumps (9.256 kW), biogas cogeneration (1.410 kWe, 654 kWt) at the city wastewater treatment plant.

The PV (20 kWp) on the roof of the technical university is among the most interesting and visited RES systems in the city. Students learn from permanent watched data and from different colour designed panel samples too. Experts are captivated by a "small perpetuum mobile" located on a roof of a private residential house at Resslova street. You can see here ST (17,8 m², 800 liters tank) and also 12 unique combi-moduls of water cooled PV (2,1 kWp). They warm up the water and produce electricity more effectively – this novelty was recently awarded at the Hannover fair!



HIGHLAND



RANKING	3 rd - Large Cities
STATE	Scotland
INHABITANTS	211,340
AREA	30,659 km ²
PHOTOVOLTAIC	390 kW
SOLAR THERMAL	0,6 MW
SOLID BIOMASS	12,600 kWe + 40,040 kWt
BIOGAS	721 kWe
SMALL WIND	130 kW
SMALL HYDRO	1,620 kW
HEAT PUMP	3,113 kWt



Highland Council serves a third of the land area of Scotland – including the most remote & sparsely populated parts of the UK. It has the 7th highest population in Scotland.

Highland Council Carbon Management Plan (2013-20) sets out a strategy & action plan for Highland Council to reduce carbon emissions by at least 3% per annum between 2013/14 to 2019/2020. Achieving this target will ensure Highland Council achieves its duty as a "Major Player" in terms of Scotland meeting its targets. The Highland Renewable Energy Strategy & Planning Guidelines (HRES) was formally approved by the Council. The main thrust of the document is to identify the capacity in the Highlands for a range of renewable energy targets & provide local guidance & support development. The Council has provided a range of planning documents that support renewable energy in Highland -

- Local Development Plan 2012
- Onshore Wind Energy Interim Supplementary Guidance 2012
- Small-Scale Wind Turbine Proposals Interim Supplementary Guidance 2012

There has been substantial development across the Highlands with all forms of renewables with on/off shore & hydro developments; i.e.

- 100 kW Hydro scheme on Allt na Guile at Carbost
- 800 kW scheme - Dunmaglass Estate
- 15 kW scheme - Arisaig
- 600 MW pump storage scheme - Coire Glas
- Offshore wind consents - Moray Firth t 2500 MW

HRES has targets for onshore wind energy which should increase capacity by 80MW p/a. Actual capacity has increased by 200MW p/a.

Highland Council has developed standards to be followed by developers when preparing 'visualisations' of proposals & have also developed The Highland Council Panoramic Viewer:

The Council have developed a host of micro-renewables & work closely with communities on local generation & heat schemes.

[GENERAL RANKING]

KRŠKO SLOVENIA

Municipality Krško (MK) in the region of Spodnje Posavje has signed the Covenant of Mayors in 2012 and accepted The Sustainable Energy Action Plan (SEAP) in which it took up the obligation to reduce CO₂ emissions by 20% till 2020. It has 27.586 inhabitants on 345 km². It is an important Slovenian energy center because of HPP Krško (39 MW) and nuclear power plant NEK Krško (696 MW). MK has founded Local energy agency Dolenjske (LEAD) which is performing roles of energy manager, public energy adviser and SEAP animator. Public buildings in MK are systematically energetically renovated. Biomass as energy source is produced from local forests and residual woods at the river dam of HPP. Public buildings are equipped with solar power plants (800,4 kW in 2012) and with solar heating system (274 m² in 2012). With energy efficient public street lighting CO₂ emissions will be reduced by 741 t/a. Public transport is subsidized with 102.000 €/a. MK has 27 km of cycle paths and has a plan to build another 22 paths (length: 78 km).



[SMALL CITIES]

MUNICIPALITIES OF PRIMIERO AND VANOI VALLEYS ITALY

Rewarded by Comuni Rinnovabili 2014, they are eight Municipalities of Primiero and Vanoi Valleys (10.000 inhabitants), in the province of Trento, with a mix of 5 renewable technologies: a district heating network of 45 km and a public electricity network, 9 hydroelectric plants of 145 MW and 4 MW of photovoltaic, 996 mq of solar thermal and 22 MW of biomass, three micro hydroelectric plants from 80, 55, and 35 kW, connected to the public water supply, that has produced 729 MW of energy in 2012. There are two biomass plants of 22 MW and 1 MW of electric cogeneration, connected to a district heating network of 45 km. This territory also has ownership of 374 km of electric network "to island": 120 km of average-tension and 254 km of low-tension, and district heating network which guarantee at the citizens a bill savings of 20%. The project "Green Way Primiero" aims to innovate the production and use of energy, there is the installing of 16 electric charging for electric vehicles, and the purchase of 17 electric vehicles.



[MEDIUM CITIES]

ALBA IULIA ROMANIA

Alba Iulia is a beautiful town from Transilvania, the capital city of the Alba County and at the same time, an important historical center of Europe. It's the most beautiful stronghold in Romania and the largest citadel from central and eastern Europe (<http://www.apulum.ro/video.htm>). Alba Iulia became member of the Covenant of mayors since 2010 and in 2011 submitted its SEAP. Year by year, municipality acts were made to achieve the targets of reducing the CO₂ emissions by at least 24% until 2020. The community participates for the second time in RES Champion League and its progress is remarkable.

In the 2013 competition, in the city were produced 250KW through photovoltaic panels, now more than 4000 panels were added and the total electricity they produce is around 1250 kW. New biomass heating systems were mounted and according to the date offered by Alba Local Energy Agency, 820 kW is the total power of these systems. The area of solar thermal panel also increased until it reached 50 m².



[BIG CITIES]

PÉCS HUNGARY

The local authority of Pécs decided to become one of the greenest cities in Hungary. Since November 2013 100% of the district heating demand of Pécs is covered by biomass. With the installation of the unit, 80.000 m³ of natural gas will be replaced and CO₂ emissions will be reduced by 150.000 tonnes on a yearly basis. The treatment of the sewage of the city will be solved by a biogas plant which is expected to start its operation by the end of 2014.

The local authority implemented several energy efficiency measures, for example the modernization of the lighting system in 109 public institutions. Under the so-called "panel program", hundreds of blocks of flats were insulated. A research center of the university was constructed in 2012 in a building heated by heat pumps. Smart city technologies are among the main fields of research in accordance with the R&D&I strategy of the university. The local authority of Pécs joined the Covenant of Mayors in 2013.



BRUMOV-BYLNICE CZECH REPUBLIC

The town reconstructed its heating plant on biomass (3 MW) in 2010. DHS supplies 12 flat and 10 public buildings. At the same time municipal council developed effort to improve energy efficiency of buildings so the heat production has dropped by 43%. A Bio-mass Action Plan was developed in the frame of BioRegions project (approved in 2012). It aims at covering of 1/3 of region energy consumption from RES, mainly biomass. The town has registered 4.581 kW of biomass, 929 kW of PV and 72 m² of ST installations so far. Energy Agency of Zlin Region takes care about education and consultancy.



BUCHAREST DISTRICT 1 ROMANIA

District 1 of Bucharest is an administrative unit of Romania's capital city, member of CoM since 2009. Thanks to an investment program all administrative buildings have been rehabilitated and 80% of residential buildings have energy certificate. 2900 kW are produced from photovoltaic panels and 5400 m² of solar collectors are installed. The citizens are financial sustained for installing heat pumps. A lot of bicycles are available for citizens and information campaigns in the area of RES were conducted.

CIUGUD VILLAGE ROMANIA

Ciugud has signed the Covenant of Mayors in 2013. The village has implemented an exemplary project for the production of electricity which consists of a combined system – a small wind power plant and a system of photovoltaic panels which provide electricity for the local public lighting in a large area of Ciugud. Thus, the village administration manages to save almost 12000 lei per month of the local budget, money which are used for the development of new RES systems in the village.



DIVAČA SLOVENIA

Municipality Divača (MD) has 3944 inhabitants in an area of 145 km². For production of its energy, MD uses the power of wind – the only two wind PP in Slovenia (large – 2300 kW; small – 2,6 kW), sun (PV: 402 kW; ST: 288,5 m²) and biomass (3,05 MW) that comes from local woods. Households use wooden biomass for heating (48%) which exceeds Slovenian average for 17,6%. MD is systematically renovating public buildings to reach RES objectives within SEAP and plans to diminish its GHG emission for 22,9% by 2020.



FRASNES - LEZ - ANVAING BELGIUM

While a joint SEAP for Wallonie Picarde is being drafted, support actions have been set and activated on the ground: a school contest on renewables and a HYPERLINK "<http://citiesengage.eu/>" \"_self\"citizen mobilisation campaign, a wooden energy stand in the town hall, electric plugs at strategical places, an energy counselor, an energy buying group for citizens as well as financial aids for solar thermal panels. The municipality also inaugurated in 2013 a wind parc. One of the 3 turbines is owned by a local cooperative.



GRAND DOLE FRANCE

Grand Dole has committed for sustainable energy by signing the Covenant of Mayors and heads for the « 3x20 » targets by 2020. The community created an energy service to follow and manage the energy consumptions of its assets. Dole city has a biomass district heating network that was fully renovated in 2012 and always more public buildings are connected. After a deep evaluation on wind potential, the community is about to issue a call for expression of interest towards developers, including criteria on the degree of citizens and communities' participation.



GRENOBLE FRANCE

In September 2008, the city of Grenoble strengthened its contributions towards positive action in the areas of energy and climate by making 32 concrete commitments and by adopting "Grenoble Factor 4". At the end of 2013, the last assessment for the mandate program was presented and approved by the city council. To spark a pro-active energy policy, the town relies on two local mixed-economy public limited companies, Gas Electricity of Grenoble and the Heating Company, the official energy distributors, producers, and suppliers in the territory.



JINDŘICHOVICE POD SMRKEM CZECH REPUBLIC

The town reconstructed its heating plant on biomass (3 MW) in 2010. DHS supplies 12 flat and 10 public buildings. At the same time municipal council developed effort to improve energy efficiency of buildings so the heat production has dropped by 43%. A Biomass Action Plan was developed in the frame of BioRegions project (approved in 2012). It aims at covering of 1/3 of region energy consumption from RES, mainly biomass. The town has registered 4581 kW of biomass, 929 kW of PV and 72 m² of ST installations so far. Energy Agency of Zlin Region takes care about education and consultancy.



LITOMĚŘICE CZECH REPUBLIC

Around 95% of coal boilers was forced out of the town (24 388 inh.) through gasification in nineties. Townhall has been subsidized private solar thermal installations (since 2000). It brought the town awards from both the Czech Solar and the RES Champions leagues (2010) too. Nowadays the town has 1750 m² of ST inst., small hydro plants (8.7 MW) and PV inst. (1.216 MW). Since 2008 they have been preparing ambitious geothermal heating plant with an output of 40 MWt and 5 MWe. They are still looking for finances for this plan.



MÓRAHALOM HUNGARY

In Mórahalom public buildings are heated by a geothermal district heating system. At the location of the geothermal wells a CHP unit using the accompanying gas is installed and a new heat-pump system (700 kW) was established in the New Town Centre. Within the GEOCOM project, public buildings were energetically refurbished. The decision makers of the town are enthusiastic about innovative technologies: the town installed a PV LED public lighting system.



PEGLIO ITALY

For Peglio energy self-sufficiency of municipal utilities through saving and the production of renewable energy has become the challenge to achieve. Tour of Waters Energies Rarities Safety, a true container of planning that ranges into all environmental fields. The idea of the project is small municipalities becoming a beacon of social development. The towers and fortresses of small towns, outposts for a time to sight enemies and to alert friends, today they become witnesses of the history and of the local culture.



PITVAROS HUNGARY

Compared to the number of the inhabitants of Pitvaros, the village reached a very significant share of renewable energy sources. In 2009 the town elaborated a study about the potential of alternative energy utilization in public buildings. In 2010, with the support of the European Union, several investments were implemented: solar thermal systems were installed on the school and the community center to provide the domestic hot water demand of the buildings. The heat demand of the buildings is supplied by a heat pump system developed by Hungarian experts. Biomass is also used in the village as the village purchased biomass boilers in the framework of a common project of the micro-regional settlements. In the future the construction of a biomass processing and recycling plant is planned.



PRATO ITALY

In this city have been realized thermal solar fittings for a total of 242 m² and fittings photovoltaic from 40,6 MW (of which 598 kW on public buildings and 7,1 in substitution to eternit), and a geothermal pump to low enthalpy from 50 kWt. The energy estemed that will be produced by the fittings it is of 152.000 annual kWh, that is equivalent to saving of methane emission equal of 21.5000 annual Sm³.



SAINT JEAN LACHALM FRANCE

The village of Saint Jean Lachalm became interested in renewable energies in 2000, when the village hall was being built and the type of heating had to be decided. Then the council rapidly decided to turn the winter winds to its advantage and harness this rich source of electricity generation, leading to a wind park of 18 MW. At the end of 2013, the commune created a mixed economy society (SEM) "SJL energies", together with the village's 5 farmers, in order to develop and run a methanisation unit.



ZLATNA ROMANIA

In this city have been realized thermal solar fittings for a total of 242 m² and fittings photovoltaic from 40,6 MW (of which 598 kW on public buildings and 7,1 in substitution to eternit), and a geothermal pump to low enthalpy from 50 kWt. The energy estemed that will be produced by the fittings it is of 152.000 annual kWh, that is equivalent to saving of methane emission equal of 21.5000 annual Sm³.



100% RES COMMUNITIES ACTION

The RES Champions League action is a very effective way of collecting RES data at local level in a bottom-up approach and making front running communities widely visible across Europe. It allows to identify communities with a good level of achievement on RES and enroll them in a networking process.

In Europe, rural communities join national clubs associated with Rurener network. They are encouraged to sign the Covenant of Mayors and supported in the fulfillment of their commitment.

The elaboration and implementation of joint sustainable energy actions plans (SEAP) in rural communities at territorial level has been experimented and resulting guidelines are developed.

A common European framework allows identifying and highlighting "100% RES Communities" as being communities willing and capable to cover their overall energy consumption from local renewable energy sources in a near future, while applying regional development and territorial cohesion approaches to their energy transition.

Eventually, all European 100% RES Communities will be visible on a common map and characterized following a standard structure. While gathering more members, the movement gains legitimacy to work for a better political representation of rural communities heading for 100% RES at European level.

The action "100% RES Communities" is financed by Energy Intelligent – Europe programme of the European Commission. It will last 3 years (April 2012 to March 2015). 13 partners from 10 countries are involved.

www.100-res-communities.eu
www.res-league.eu



Co-funded by the Intelligent Energy Europe
Programme of the European Union