

Deployment of renewable energy sources in Austria: example of climate and energy model regions

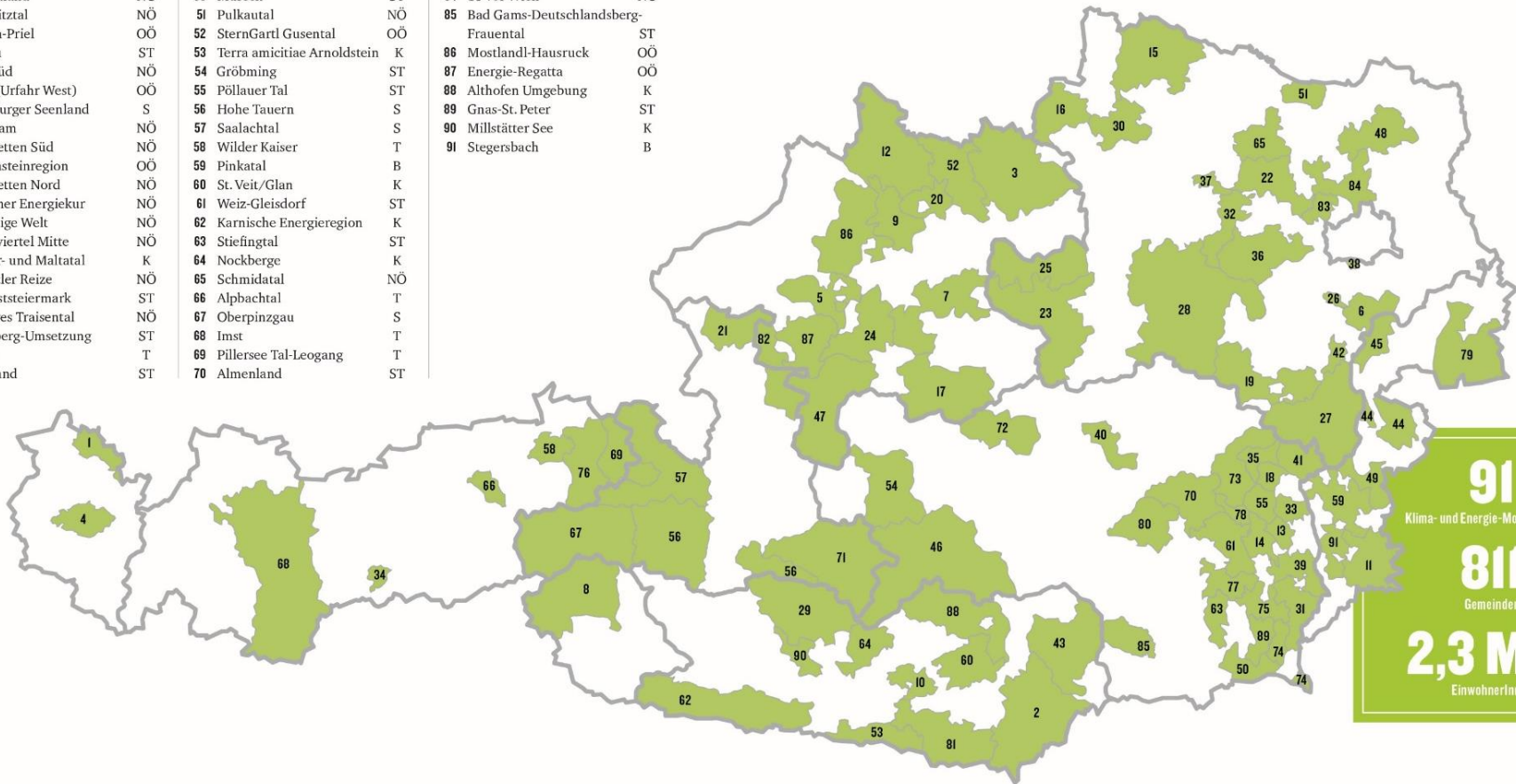
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Key facts

- 70 % RE electricity – target 100 % by 2030
- Low electricity prices
- No nuclear
- 34 % RE in total
- 1,8 % electric vehicles registrations
- 1 GW photovoltaic
- 9.4 t CO₂ per capita
(EU:8.4, global 6.4)

Modellregionen in Österreich (KEM)

1	Vorderwald	V	36	Elsbeere Wienerwald	NÖ	71	Lungau	S
2	Südkärnten	K	37	Krems	NÖ	72	Gesäuse	ST
3	Freistadt	OÖ	38	Vösendorf	NÖ	73	Joglland West	ST
4	Großes Walsertal	V	39	Fürstenfeld	ST	74	Thermenregion	
5	Vöckla-Ager	OÖ	40	Lamingtal	ST		Südoststeiermark	ST
6	Ebreichsdorf	NÖ	41	Wechselnd	ST	75	Raabtal	ST
7	Traunviertel Alpenvorland	OÖ	42	Wiener Neustadt	NÖ	76	Leukental	T
8	Osttirol	T	43	Lavanttal	K	77	Hügelland	ST
9	Eferding	OÖ	44	Mittelburgenland	B	78	Anger-Floing	ST
10	FEnergieereich	K	45	Leithaland	B	79	Seewinkel	B
11	Güssing	B	46	Murau	ST	80	GU-Nord	ST
12	Donau-Böhrmerwald	OÖ	47	Inneres Salzkammergut	OÖ	81	Carnica Rosental	K
13	Kaindorf	ST	48	Leiser Energieberge	NÖ	82	Mondseeland	OÖ
14	Kulmland	ST	49	Geschriebenstein	B	83	Tullnerfeld OST	NÖ
15	Thayaland	NÖ	50	Mureck	ST	84	10 vor Wien	NÖ
16	Lainsitztal	NÖ	51	Pulkautal	NÖ	85	Bad Gams-Deutschlandsberg-	
17	Pyhrn-Priel	OÖ	52	SternGartl Gusental	OÖ		Frauental	ST
18	Vorau	ST	53	Terra amicitiae Arnoldstein	K	86	Mostlandl-Hausruck	OÖ
19	NÖ Süd	NÖ	54	Gröbming	ST	87	Energie-Regatta	OÖ
20	uwe (Urfahr West)	OÖ	55	Pöllaer Tal	ST	88	Althofen Umgebung	K
21	Salzburger Seenland	S	56	Hohe Tauern	S	89	Gnas-St. Peter	ST
22	Wagram	NÖ	57	Saalachtal	S	90	Millstätter See	K
23	Amstetten Süd	NÖ	58	Wilder Kaiser	T	91	Stegersbach	B
24	Traunsteinregion	OÖ	59	Pinkatal	B			
25	Amstetten Nord	NÖ	60	St. Veit/Glan	K			
26	Badener Energiekur	NÖ	61	Weiz-Gleisdorf	ST			
27	Bucklige Welt	NÖ	62	Karnische Energieregion	K			
28	Mostviertel Mitte	NÖ	63	Stiefingtal	ST			
29	Lieser- und Maltatal	K	64	Nockberge	K			
30	Zwettler Reize	NÖ	65	Schmidatal	NÖ			
31	Südoststeiermark	ST	66	Alpbachtal	T			
32	Unteres Traisental	NÖ	67	Oberpinzgau	S			
33	Hartberg-Umsetzung	ST	68	Imst	T			
34	Trins	T	69	Pillersee Tal-Leogang	T			
35	Joglland	ST	70	Almenland	ST			



91

Klima- und Energie-Modellregionen

811

Gemeinden

2,3 Mio.

EinwohnerInnen

Requirements

- Region with max. 60.000 inhabitants and min. 2 municipalities
- min. 10 concrete actions per phase (3 years)
- min. half time employed
- office with fixed public opening hours
- obligatory education
- quality management / monitoring

Linking Climate Change Mitigation, Energy Security and Regional Development in Climate and Energy Model regions in Austria (LINKS)

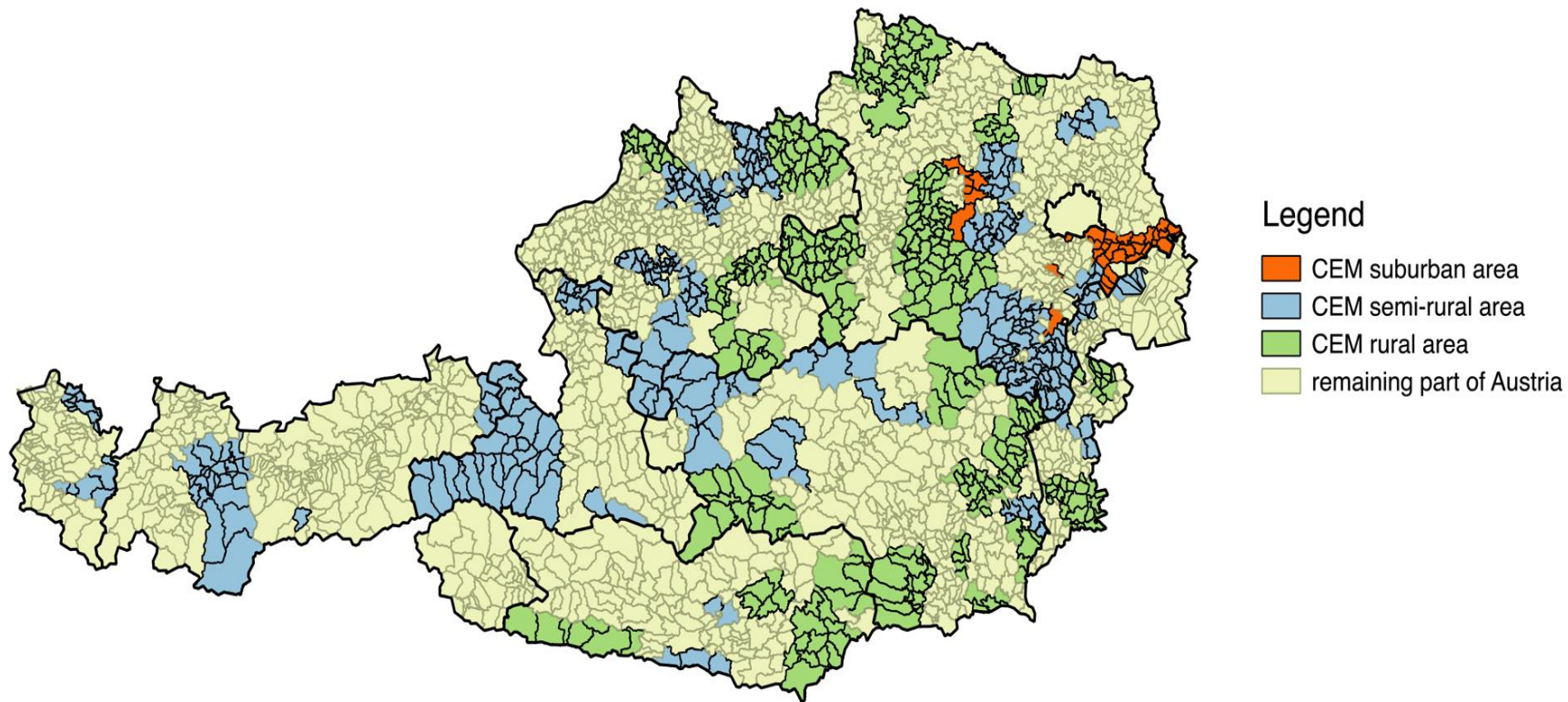
- Can investment into renewable energies be a driver for socio-economic development, and what are the pros and cons for Austria, financial or otherwise, of pursuing regional energy independence through renewable energy?
- How much political will is there behind the deployment of capital-intensive renewable energy sources? To what extent is there public acceptance of renewable energy infrastructure, and how does this relate to stakeholders' and consumers' willingness to pay for it?
- To what extent can the Austrian experience be transferred to other regions? How can the Austrian-Moroccan dialogue be promoted in order to stimulate mutual learning, participation and the co-production of knowledge?

Methods

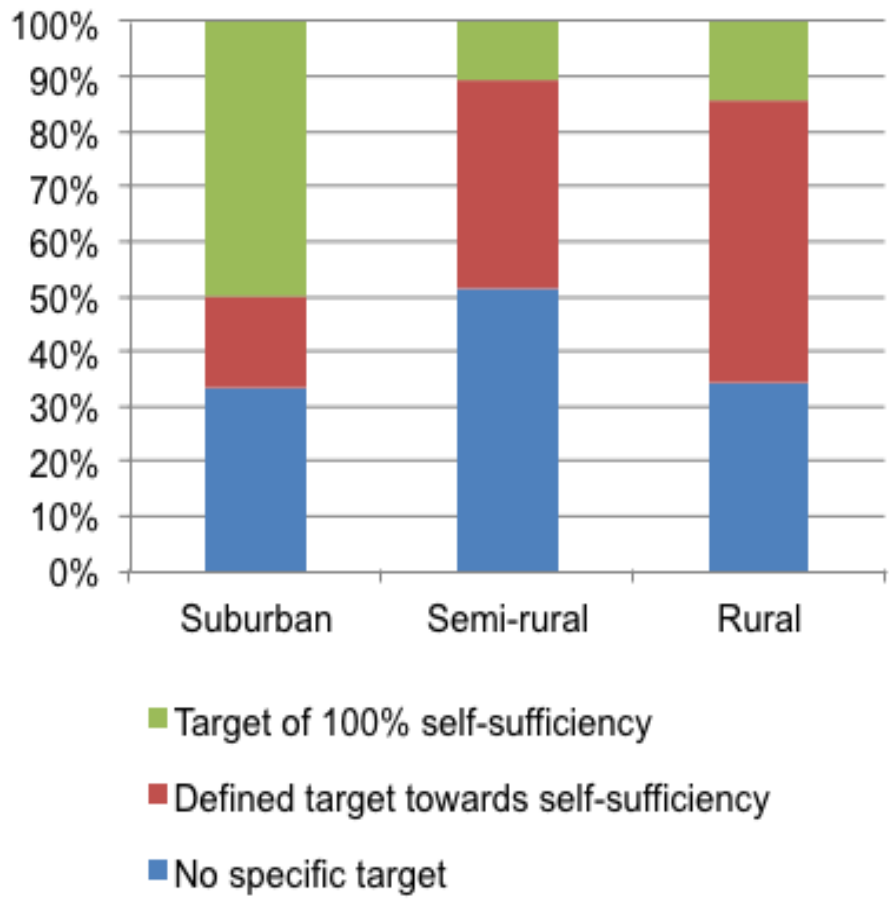
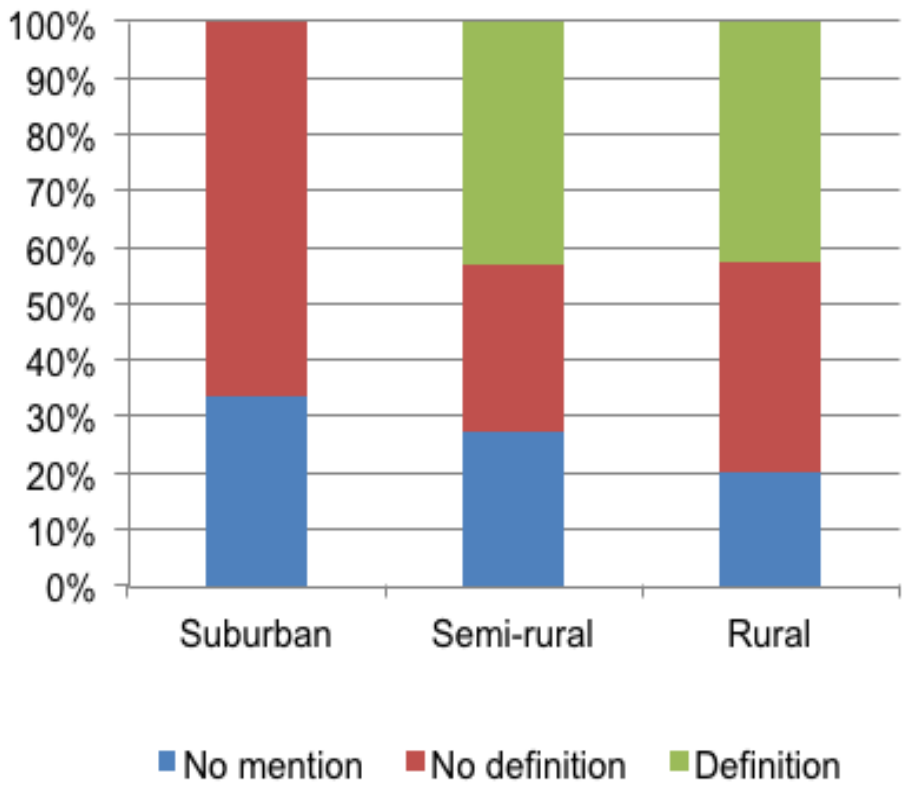
- Scientific literature + media analysis (over 100 local and national newspaper articles (2008-2016))
- Stakeholders mapping, face-to-face in depth two-hour stakeholders interviews (over 20), observations of stakeholders events such as CEM management meetings, networking events for energy groups, public information events
- Survey in two case regions: Freistadt and Amstetten, 4.500 questionnaires sent out in Freistadt (7%) and 30.000 questionnaire in Amstetten (1.2%), questionnaires printed out in local newspapers of 25 communities in Freistadt and 19 communities in Amstetten, followed by web-based questionnaires, 240 web interviews in Amstetten and 322 web interviews in Freistadt, beginning of January a task force of 5 people was in Freistadt and Amstetten 5 days each to conduct interviews

	Amstetten	Freistadt	Total
mail out	354	316	670
Web	240	322	562
face-to-face	207	162	369
Total	801	800	1601

CEM clusters in Austria



Concept of energy autarky found in implementation concept (left), specification of target (right)



Stakeholders involved into energy transition

National level

Austrian Federal Ministry
for Transportation,
Innovation and
Technology

Austrian Federal
Ministry of Agriculture,
Forestry, Environment
and Water Management

Climate and Energy Fund

Scientific Partners,
Universities

CEM Region Freistadt / Energiebezirk Freistadt

- CEM management
- Board

HELIOS Sonnenstrom GmbH

State level

Regional development agencies and
programs (RMOÖ, LEADER,...)

State of Upper
e.g. *Energy savings association*

Chamber of Agriculture, Economic
Chamber

Energy supplier (e.g. LINZ AG)

27 municipalities

residents

private Helios investors

16 energy groups

Regional banks

Rooftop providers for Helios

Regional energy suppliers

Bezirksabfallverband

Partnership companies

Local level

Participation according to the Ladder of Arnstein

LEVEL OF PARTICIPATION (ARNSTEIN 1969)	TOOLS/INSTITUTIONS	COMMENTS
MANIPULATION	--	
THERAPY	Round table on wind farm	To cure fears of wind energy and not in my backyard, project was stopped.
INFORMING	Climate Schools, Media reports, Awareness raising campaigns	One way information on renewable energy sources, climate change etc. to raise awareness, insulation seminars, housebuilding seminars
CONSULTATION	Survey by EBF	
PLACATION	--	
PARTNERSHIP	EBF	Established in a bottom up process, is highly influencing decision making/legislative developments but political representatives have final decision making power
	Helios	Only financial partnership of citizens, local residents invest but have no real decisive power
DELEGATED POWER	Energy groups	Energy groups constitute of interested residents, they have the possibility to act autonomously, have also small influence on activities of EBF, focus on two way mode of communication
CITIZEN CONTROL	--	

Results

- Over 90% of respondents attribute climate change to man-made activities,
- 61% of respondents support the deployment of renewable energy sources and technologies as a viable climate mitigation strategy,
- Over 70% rejected the deployment of nuclear energy as a climate mitigation strategy
- Social acceptance is given as far as it does not impact normal expenses and everyday life style
- Willingness to pay of 10% for renewable energies and additional 10% if renewable energies come from the region. Transparency is a requirement here



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