

Project presentation power@work



PROMETEUS
2. International
Workshop Carinthia

Dorian Frieden
JOANNEUM
RESEARCH

5. October 2017



<http://www.hdz2020.at/index.php/energiekonzept-2/grundlage-f%C3%BCr-das-energiekonzept/12-innovationen>

Project power@work

- Exploration project funded by the Smart Cities Demo programme of the Climate and Energy Fund (8. call)
- 4/2017-3/2018
- Partners:
 - JOANNEUM RESEARCH Forschungsgesellschaft mbH, LIFE - Zentrum für Klima, Energie und Gesellschaft (lead)
 - Büro für Erneuerbare Energie – Ing. Leo Riebenbauer GmbH (Technik)
 - Held Berdnik Astner & Partner Rechtsanwälte GmbH (Recht)
- Abteilung 8, Amt der Kärntner Landesregierung (Environment, Water and Nature protection)

Project idea

Background

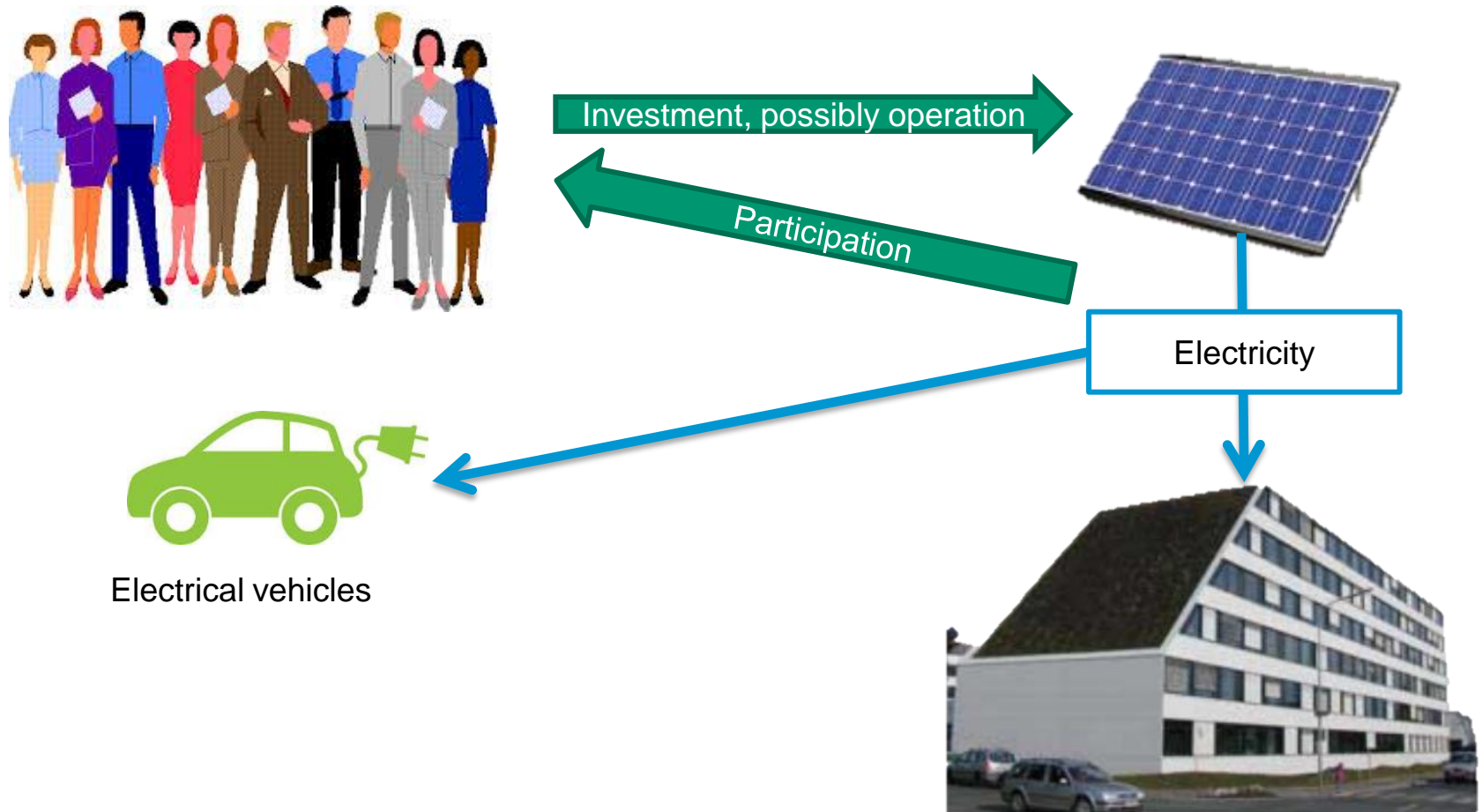
- Major share of roofs in the urban environment are „unproductive“
 - Trend towards e-mobility, political aim to increase share of e-mobility
 - „Dreamteam“ PV based power production and e-mobility often do not match timewise on household level
 - Boom of crowd funding for renewable energy (PV)
- Staff-based combination of PV and e-mobility on company/public administration level
- A couple of comparable projects exist in Germany, broad range of crowd-funding projects in Austria

Project aim

4

- Assessment of implementation options
- Development of a suitable financing and operational model
- Implementation-ready concept at the end of the project

Concept power@work



Benefit for participants

- Shareholding in the PV power plant at the place of work
- Shaping of the work environment
- Possibility for a joint initiative
- Possibility to charge private e-vehicles at the place of work

Federal State of Carinthia and the foreseen location provide for great preconditions

7



- Existing experience with e-mobility
- Large staff pool
- Major share of roofs is suitable
- Potential for a carport
- Governmental targets to increase share of e-mobility and renewable energy (e.g. Energiemasterplan Kärnten)
- High existing engagement in e-mobility support

Example: Universität Bremen SOLAReG

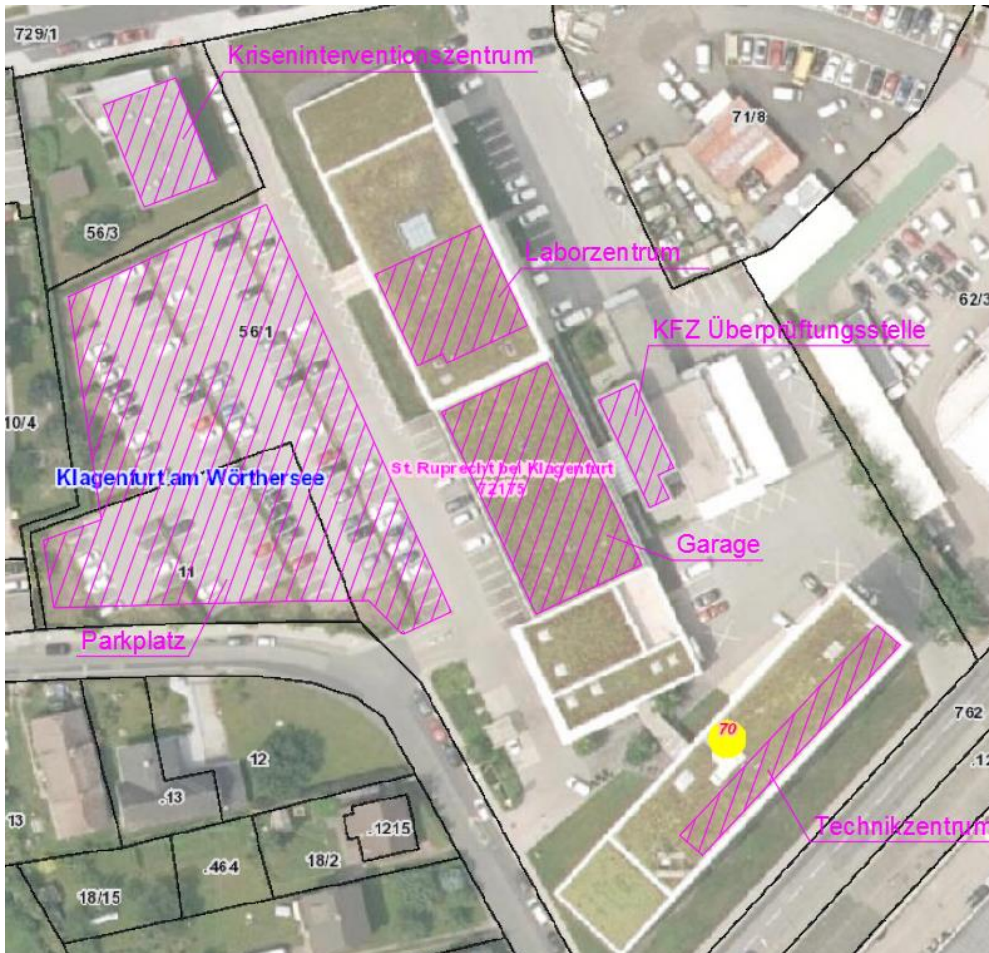
8
UniSolar Bremen

Unser Engagement,
unser Beitrag zur Umwelt,
unsere Sonnenenergie!

www.uni-bremen.de/solargenossenschaft

- 2011 foundation of a cooperative based on internatl initiative (e.g. environmental manager)
- 800kWp installed capacity
- 2014 switch to direct consumption by the university (lease agreement)
- Self-administration of buildings through the university of great advantage
- Approx. 50% equity financing
- Shares between 100 and 10.000€
- Climate Protection Price Bremen 2014

Potential

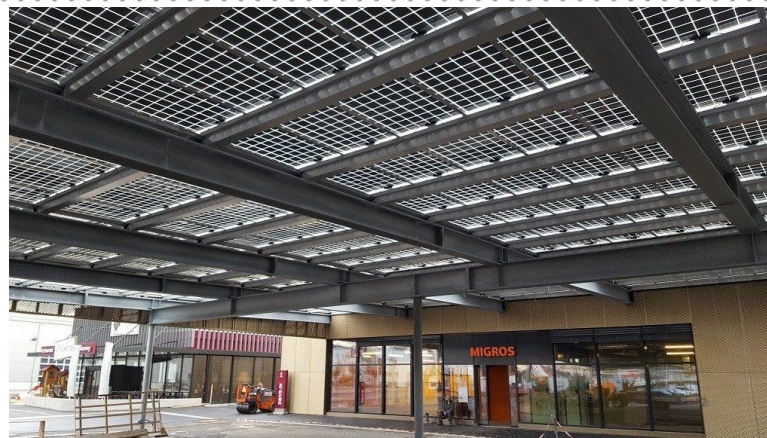


■ KIZ:	19 kWp
■ LZ:	48 kWp
■ KFZ:	15 kWp
■ Garage:	90 kWp
■ TZ:	29 kWp
■ Parking :	234 kWp
<hr/>	
	435 kWp

Potential



©Energieatlas Bayern



©ClickCon GmbH



©PV Büro

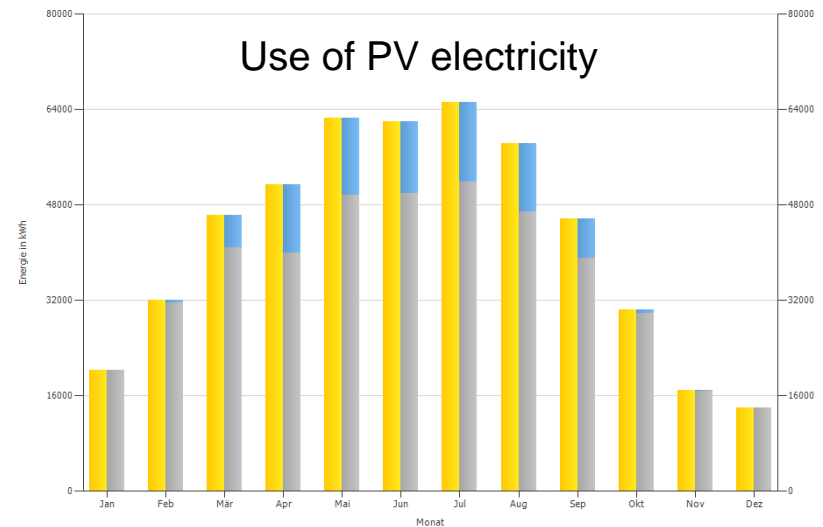
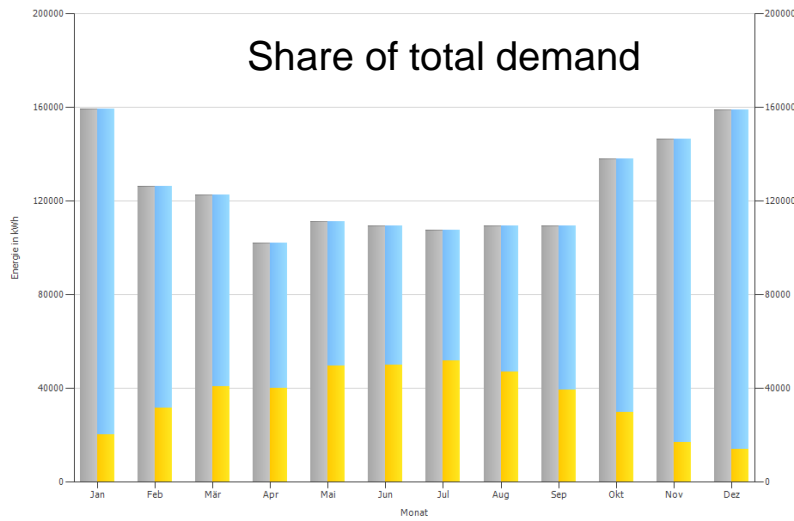
Potential

■ Preliminary costs

Bevorzugte Flächen			
Gebäude	PV Leistung [kWp]	Jahresertrag [kWh]	Kosten PV Module€]
Garage	90	93.624	90.480
KFZ-Überprüfungsstelle	15	15.899	14.820
Technikzentrum	29	30.672	28.600
Laborzentrum	48	51.438	48.100
Kriseninterventionszentrum	19	20.974	18.720
Parkplatz	234	292.025	257.400
Summe PV Anlage	435	504.632	458.120
Stahlunterkonstruktion Carport			432.750
Summe Gesamt			890.870

Potential

- Electricity demand at the site: 1.498.894 kWh (2016)
- Potential PV-electricity generation: 504.600 kWh; direct consumption ~429.000 kWh (= 85%), demand coverage ~28,5%



Staff participation

- Survey on interests and willingness to participate is ongoing (online, paper)
- Staff will be informed accordingly
- Central contact person within the administration

Thanks for your attention



Dorian Frieden, MSc

**JOANNEUM RESEARCH
Forschungsgesellschaft mbH**

**LIFE – Centre for Climate, Energy &
Society**

**SCIENCE TOWER - Waagner-Biro-
Strasse 100, A-8020 Graz**

phone: +43 316 876-7652

e-mail: dorian.frieden@joanneum.at

web: www.joanneum.at/life

<http://www.hdz2020.at/index.php/energiekonzept-2/grundlage-f%C3%BCr-das-energiekonzept/12-innovationen>