S-PARCS

Envisioning and Testing New Models of Sustainable Energy Cooperation and Services in Industrial Parks

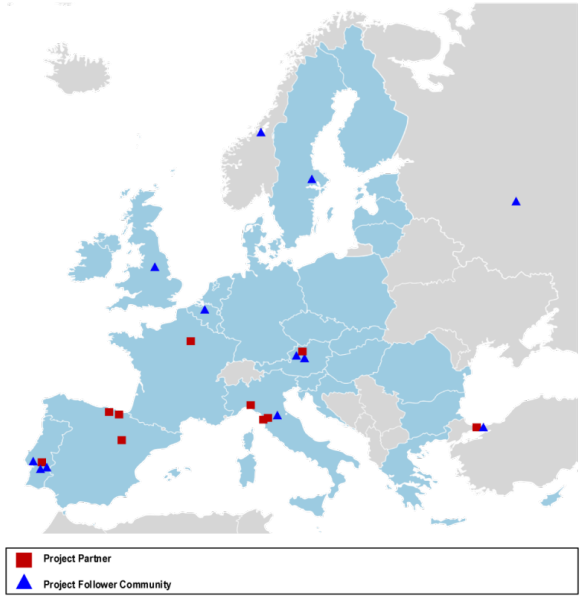
Presenter: Matthias Linhart

Authors: Valerie Rodin, Simon Moser
Energieinstitut an der Johannes Kepler Universität Linz, Austria

This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 785134.

Full title:	**Envisioning and Testing New Models of Sustainable Energy Cooperation and Services in Industrial Parks**
Type of funding:	CSA
Topic addressed:	Energy efficiency of industrial parks through energy cooperation and mutualised energy services
Runtime:	March 2018 – February 2021
Coordinator:	**Energieinstitut an der JKU Linz, Austria**
Partners from:	Austria, Spain, Portugal, Italy, France, Turkey
Website:	https://www.sparcs-h2020.eu/

Overview: The S-PARCS Consortium



- 6 Countries
- 7 Lighthouse Parks
- 2 Universities
- 4 Research Institutes
- 1 Communication Expert
- 22 Followers

S-PARCS

ENNSHAFEN CASE STUDY

INSIGHTS INTO REAL-LIFE INDUSTRIAL ENERGY COOPERATION DEVELOPMENT

This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 785134.

- What is **Industrial Symbiosis (IS)?**
- What is **Industrial Energy Cooperation (EC)?**

➔ **Industrial EC is part of IS !**

GOAL

- Testing of theoretical energy cooperation solutions
- Identifying possible barriers
- Definition of instruments to overcome barriers
- Draw generalizable conclusions for other parks

➔ Gain knowledge on how to trigger and maintain industrial energy cooperation

DESCRIPTION OF ENNSHAFEN INDUSTRIAL BUSINESS PARK

Source: Google Maps; https://www.ennshafen.at/ansiedler/

METHODS

- Literature research
- Company (expert) interviews
- Workshops
- Questionnaire

QUESTIONNAIRE CONTENT

1. Generic questions on the business of the company
2. Key figures on employees and production data
3. Questions on
   - energy audits
   - energy efficiency measures
     - identified
     - implemented
     - rejected measures and the underlying reasons
4. Detailed questions on
   - specific energy and resource flows
   - load profiles
   - waste streams
5. Questions concerning energy cooperation
   - position
   - state of knowledge
   - interest of the company

RESULTS (1/3)

- Barriers derive from various scientific areas
- Around 50% of barriers also relevant for intra-company energy measures
- Other 50% only occur in case of cooperation
- Some barriers are tightly connected to specific countries/regions/markets
  - Legal barriers
  - Economic barriers
- Often technical or economic barriers are seen as the most relevant barriers
- Followed by legal / framework barriers
- **Social / organizational and information provision barriers**

RESULTS (2/3)

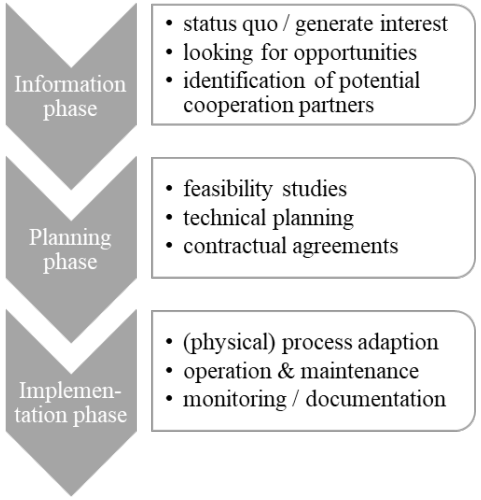
- Some shared infrastructure
- Hardly any business relations
- Heterogeneous composition of park
- Negligible competing interests
- Broad variety of processes, energy demand, temperature levels and waste heat potentials and room for improvement with respect to optimization
- Consumption data provides little information
- Additional impediments: Land, infrastructure ownership, physical distances
- Most likely results: Bilateral physical exchanges of energy, sharing of logistical infrastructure & knowledge transfer

RESULTS (3/3)

- **Realized projects**
  - Park-internal energy working group
- **Projects under development**
  - Inter-company waste-heat utilization
  - Joint strategy on e-mobility charging infrastructure → Charging infrastructure
  - Joint strategy on optimizing heavy transport → LNG/CNG infrastructure
  - Shore side electricity for anchoring ships
- **Projects in discussion**
  - Joint purchase of energy
  - Discussion on the purchase of PV power plants → Next workshop topic
- **Necessity for**
  - Providing (more) information
  - Focus on communication & networking on energy topics
  - Recording of and documenting information and success stories
  - Ensure trust between companies and with respect to data handling
  - External facilitators

CONCLUSIONS

- **Companies are generally open for energy cooperation**
- **Active promotion and implementation** of an energy cooperation network is recommended
- **External facilitators** recommended
- Economic, environmental and social impacts and **benefits should be documented and analyzed**
- **Inclusive and interactive methods** are most promising
- Role of facilitator active → less active
- More research necessary



Become a member of the S-PARCS Follower Community!

Various institutions are already part of the S-PARCS Follower Community –
From industrial parks to museums in the United Kingdom, Sweden, Turkey, Russia, Italy, Portugal, Austria, Spain and Norway!

Don‘t miss out the latest project results!

- → **Invitations to workshops**
- → **Be among the first to test the results of the S-PARCS project, such as the Initial Assessment Tool for energy cooperation**
- → **Utilize new knowledge to make your site more attractive to companies and municipalities!**

https://sparcs-h2020.eu **#sparcsh2020**

Questions?

Energieinstitut an der Johannes Kepler Universität Linz
Altenbergerstraße 69
4040 Linz
Austria
www.energieinstitut-linz.at

Contact:
Dr. Andrea Kollmann
e-mail: kollmann@energieinstitut-linz.at
phone: +43 732 2468 5660

Mag. (FH) DI Matthias Linhart
e-mail: linhart@energieinstitut-linz.at
phone: +43 732 2468 5648

Valerie Rodin, MSc.
e-mail: rodin@energieinstitut-linz.at
phone: +43 732 2468 5671

https://sparcs-h2020.eu

#sparcsh2020