

TAKING
COOPERATION
FORWARD



Train the Trainer 1
Rottenburg, 28-29th November 2019



TT1 - Possible drivers and how to reach them?



ENTRAIN | Solites | Patrick Geiger

TT1 - POSSIBLE DRIVER AND HOW TO REACH THEM

Target Groups

Stakeholder/
Driver

Possible Operator

How to reach
them?

Support for
Drivers and
Operators

Obstacles and
Barriers
Opportunities
and possibilities

Best Practice



TARGET GROUPS

- Energy agencies (regional, local)
- Municipalities (administration, mayor, ...)
- (Interested/possible drivers and operators)



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Stadtverwaltung Rottenburg am Neckar /
Steffen Schlüter



POSSIBLE OPERATORS

- (Citizens‘) energy cooperative
- Municipal utilities
- Utility companies
- Municipal company
- Contractor



Bürger Energie St. Peter eG



Schmid energy solutions



STAKEHOLDER/DRIVER

- Policy makers, e.g. federal or national government
- Municipal authorities, e.g. Mayor
- Company, e.g. Operator of an already existing biogas plant
- Citizen/inhabitant
- Interest group/community of interests
 - Citizen movement



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Who was a **supporter**?

Who was a **thwart**er?

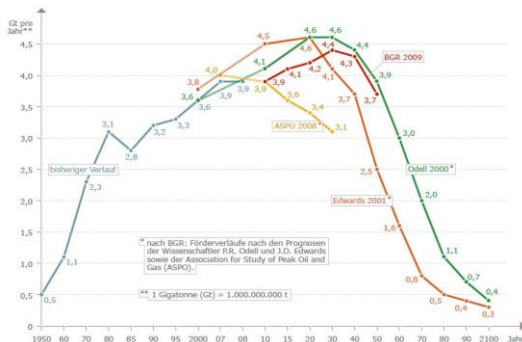
Who was neutral?



1. Keeping up the same old energy politics?

ENTRAIN

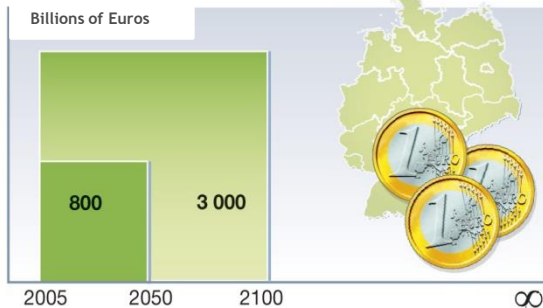
finite nature of fossil fuels



Climate change causes billions of costs for the German economics

Cumulative costs of climate-damages

Billions of Euros



Source: German institut of economic research (DIW) 2007

effects of carbon dioxide on the climate



Estimate: 50 - 150 million climate refugees
(5 - 6 times more than war refugees)

dependence from energy-exporting-states



Explosive development of energy costs (in Cent / Euro)

Goals of the German Federal Government

	Efficiency	Share of renewables in electricity	CO ₂
Goal of German Federal Government 2020:	20 %	35 %	40 %
Goal of German Federal Government 2050:	50 %	80 %	80 %

Year	1 liter of fuel oil	1 kWh power	1 liter of gasoline
1967	4,6 Cent	7 Cent	30 Cent
2000	30 Cent	15 Cent	70 Cent
2013	95 Cent	26 Cent	155 Cent
Estimation 2020	140 Cent	35 Cent	210 Cent

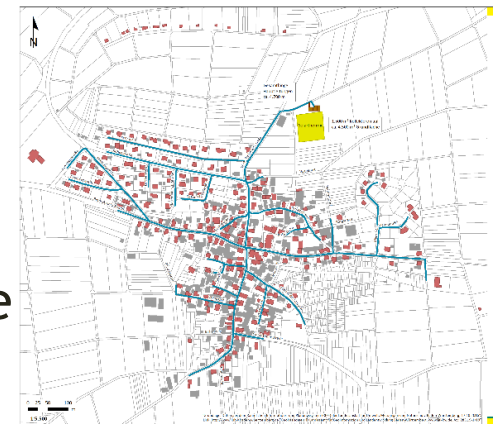


District Heating

- Dependence of operators
 - Municipality as role model
 - Soft start into public events with economical narratives
- Skepticism towards new and unknown
 - Showing the limited availability of fossil resources
- Lack of operators experience
 - Relying on the experience of existing in-house companies
- Existing gas grid
 - Complex production of biogenic raw materials



Guido Bröer



KEA BW



District Heating

- High capital expenditure
 - Trustworthy operators and planner
 - Start manageable
- Refusal to full-cost accounting
 - Calculate (full-)costs for end user with a heat cost calculator
- Overpriced
 - Utilize cost synergies (broadband, sewers, ...)

Ihre Abrechnung für Heizung, Warmwasser, Kaltwasser und Betriebskosten 2018

Liegenschaft V

Ihre Kosten	
Kosten für Heizung	
Grundkosten	
Verbrauchskosten	85,00 m ² Nutzfl
Summe Kosten für Heizung	5.395,84 Einheit
Kosten für Warmwasser	
Grundkosten	
Verbrauchskosten	85,00 m ² Nu
Summe Kosten für Warmwasser	22,00 m ³
Kosten für Kaltwasser	
Verbrauchskosten	
Betriebskosten	39,40 m ³
Betriebskosten	
Gartenpflege	85,00 m ²
Allgemeinstrom	85,00 m ²
Grundsteuer	85,00 m ²
Abrechnungsservice Betriebskosten	85,00 m ²
Summe Betriebskosten	1,00 m ²
Ihre Gesamtkosten	
abzüglich Ihrer Vorauszahlungen	
Ihr Guthaben	

Minol



Availability of solar thermal areas

- Usage competition
 - High usage pressure on limited land
 - Concern at loss of agricultural land
- Economic considerations
 - High property prices demanded
 - Sale of agricultural land -> majority of profits to tax office
- Aesthetic concerns
 - Resistance from politics and population against the loss of „free“ nature
 - Reservations against the disfigurement of the landscape by technical installations



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Availability of solar thermal areas

- Prioritisation of land use
 - Discussion processes
 - Political support from above (e.g. mayor)
- Multi-utilization
 - Area with contaminated sites/landfill site
 - graze sheep
 - Search for areas in (rural) neighbouring communities



Solites



Availability of solar thermal areas

- Handling of land use competition
 - Avoidance of using commercial areas
 - Negotiations with owner about realistic price expectations
 - Comprehensive assessment of alternative areas
 - Decision of the owner and/or local council on change of use
 - Early contact with regional associations and nature conservation authorities (removal and exchange of areas)
- Information
 - Water protection areas: technical alternatives
 - Regular information of the public about the project



Availability of solar thermal areas

- Legal instruments (still to be created)
 - Explicit building law privileges for solar thermal systems in external areas according to BauGB
 - Development of a municipal „heat plan“ (e.g. within the framework of a municipal climate protection programme)



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BEST PRACTICE - HALLERNDORF



Ritter XL Solar

- 130 buildings
 - 29 new family houses, existing buildings and all municipal properties
- Wood chip, pellets and solar thermal energy

- 3 GWh/a heat demand
- 880 kW biomass generation capacity
- 1.304 m² collector area (264 collectors)
- 85 m³ heat storage
- Operator: Naturstrom AG (suppliers of electricity and gas)



BEST PRACTICE - RADOLFFZELL-LIGGERINGEN



Stadtwerke Radolfzell

- 1.100 m² collector area
 - 90 buildings
 - Operator Stadtwerke Radolfzell
 - Challenge: difficult search for land
- Long negotiations with superordinate planning authorities



BEST PRACTICE - NEUERKIRCH/KÜLZ

- 143 buildings
- 3,1 GWh/a heat demand
- Wood chips 2x 1,2 MW
- 1.422 m² collector area
- 120 m³ heat storage
- Investment costs: 4,8 Mio. €
- Municipal company
- The project developed a strong village community
- Many joint projects:
 - E-Bike cargobike
 - LED-street lightning
 - LED-exchange day
 - Purchase of a „village E-Car“
 - ...



Ibs energie



- Büsingen (Baden-Württemberg)
- Ellern (Rheinland-Pfalz)
- Mengersberg (Hessen) <https://www.youtube.com/watch?v=ig-BGwnvy2Q>
- Breklum (Schleswig-Holstein)
- Gimpweiler (Rheinland-Pfalz)



HOW TO REACH THEM?

- Economical!
- Environment and climate protection - only when mandatory?
- Investment into the future
- Make the place fit for future (not only energetically)
- Use synergies (like: renewal of street lightning, sewers, ...)
- Information events
- Personal conversation
- Policy decisions (incentives by subsidies,...)



- Further information about technology, implementation, ...
- Transfer of knowledge
- Enlightenment about possible alternatives (take the blinkers off)
- Consultation
- Support during the implementation
- Trustworthy planner and project partners
- Exchange of experience
- Excursion to best practice projects





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