



# Creation of a Sustainable Energy Network

## Energy Vision Murau – Heading to 100% Renewable Energy Josef Bärnthaler

RES and RUE Stimulation in Mountainous - Agricultural Communities  
towards Sustainable Development  
Gospić, 29 September 2009



# Working fields of the Energy Agency

## Renewable Energy Sources RES

biomass, biogas, solar, wind

## Rational Use of Energy RUE

building sector, SME's

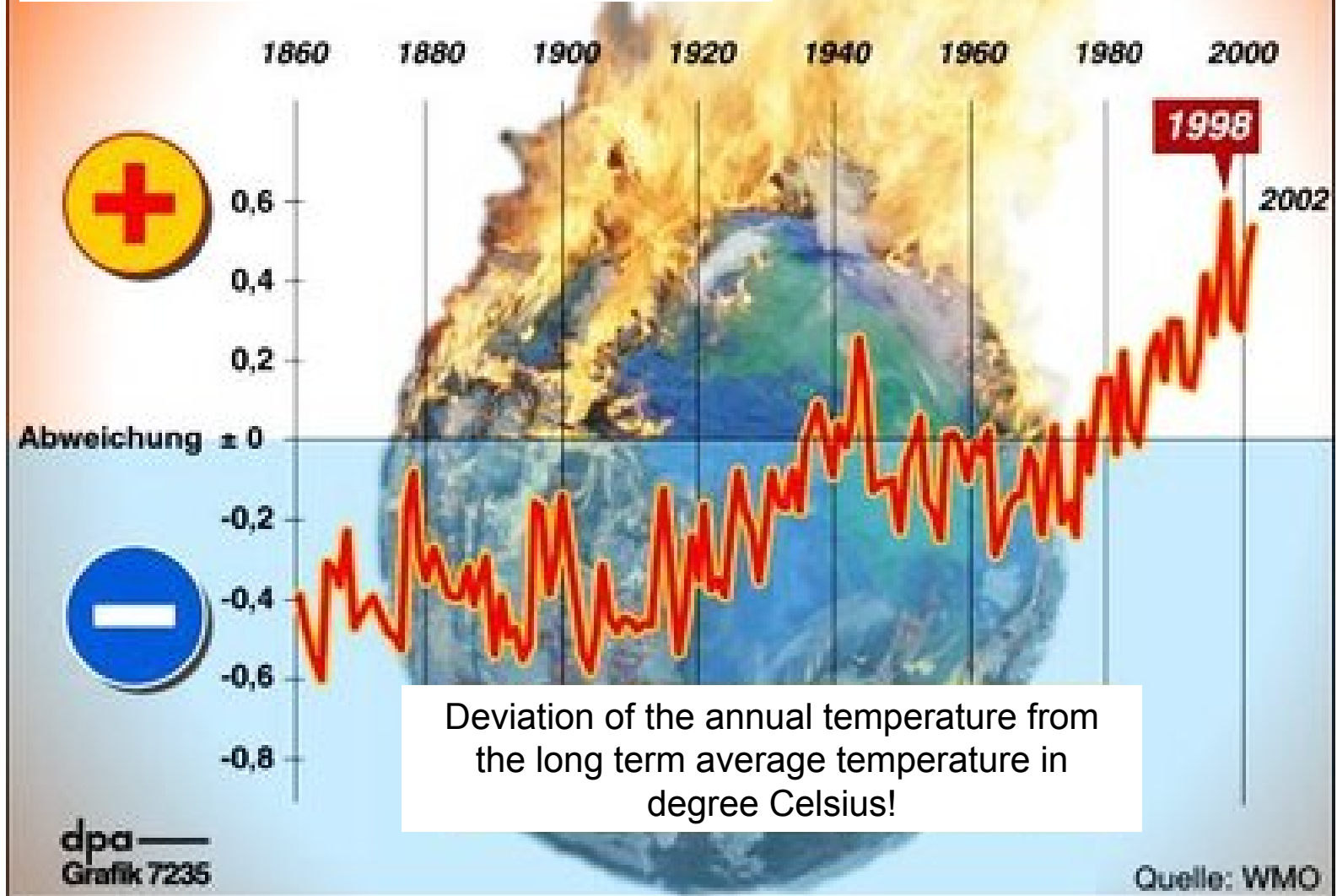
Contracting, monitoring

Training

Target groups: private, municipalities, SME's

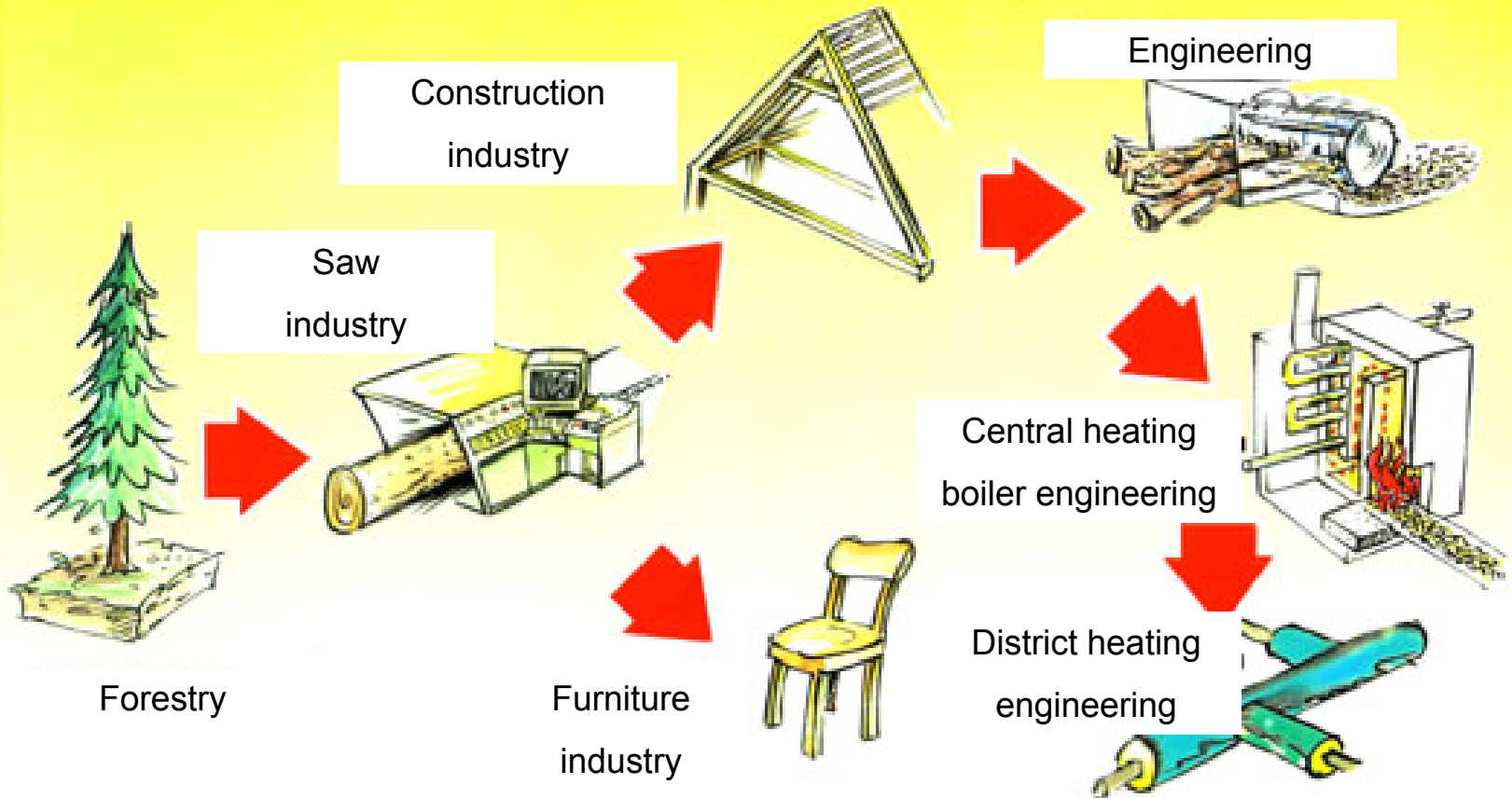


# The world is getting hot!



# Added value chain of native bio-energy

100% im Inland, 90% in der Region



# Safeguarding of jobs through target-oriented energy policy



Heating Oil



Natural gas facilities



Wood chips-, pellets-, split logs tiled stoves

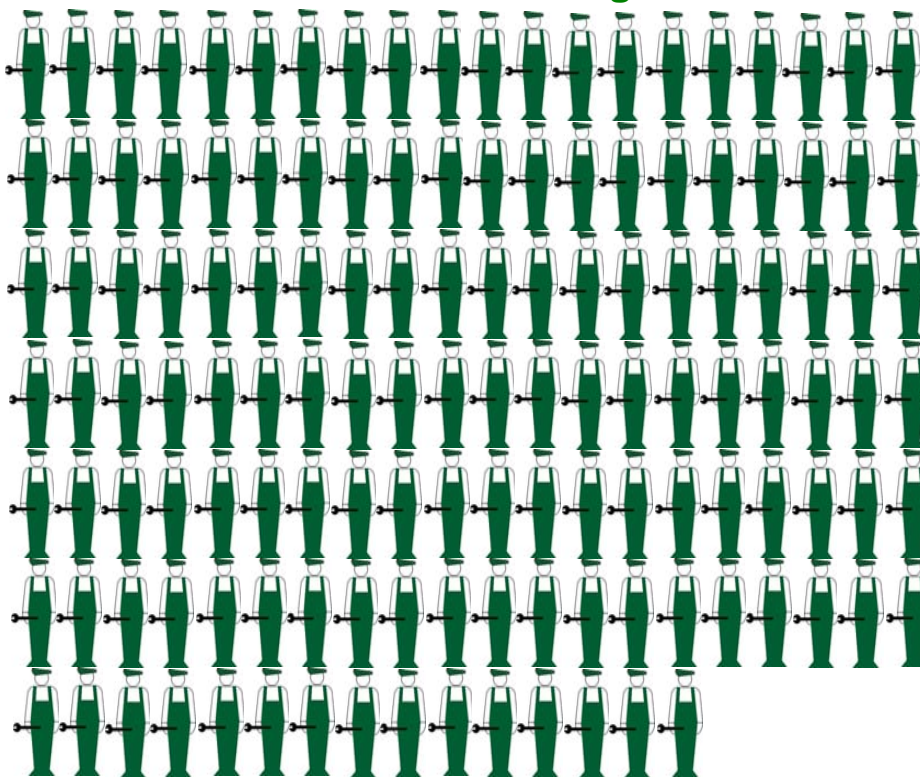


biomass-district heating



Micro net contracting

9



1  
3  
5

## Example:

Municipality with 10.000 inhabitants,  
4.000 apartment units,  
communal- & industrial buildings,  
40 MW heating power



# Mountain RES/RUE: WP 5

- Establishment of an “Early Warning System” for the continual stimulation of local involved players for the adoption of RES and Rue in implementation communities
  - Platform for disseminating news on RES, RUE development opportunities;
  - Network for coordinated cooperation between the key players of a region.
- Development of a sustainable design for the establishment of the first “European Sustainable Energy Network in Mountainous and Agricultural Areas”
  - Design based on the continual cooperation between RES, RUE communities, as well as experience and the “lesson learned” with existing networks;
  - Aimed at the exchange of experiences, as well as best practices;
  - Cooperation between implementation and dissemination communities;

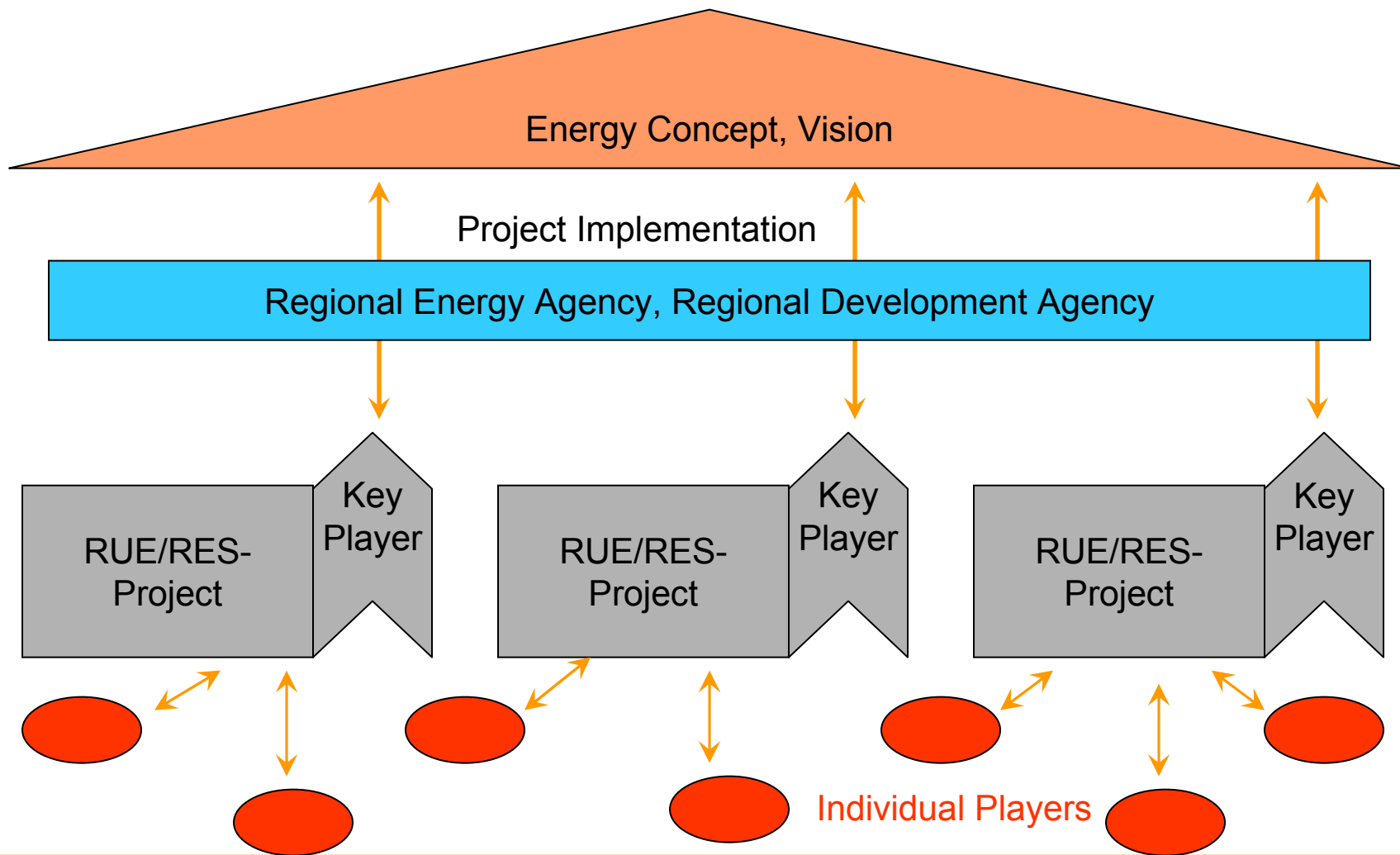


# Energy Network: Early Warning System

- Identify major regional stakeholders in completed and ongoing projects
- (Re-) Establish contact to these Key Players and record them according to their interests and experiences
- Present the idea of sustainable development to them and encourage them to participate
  - Build up the awareness that the region will be stronger by cooperation and exchange of experience, common regional strategy;
  - Align the implementation of RES RUE projects in the community with the interests of the stakeholders
- ➔ News about opportunities for the development of RES / RUE will disseminated quickly and reliably
- ➔ Exchange of experience between various regional EWS for continual stimulation of the network

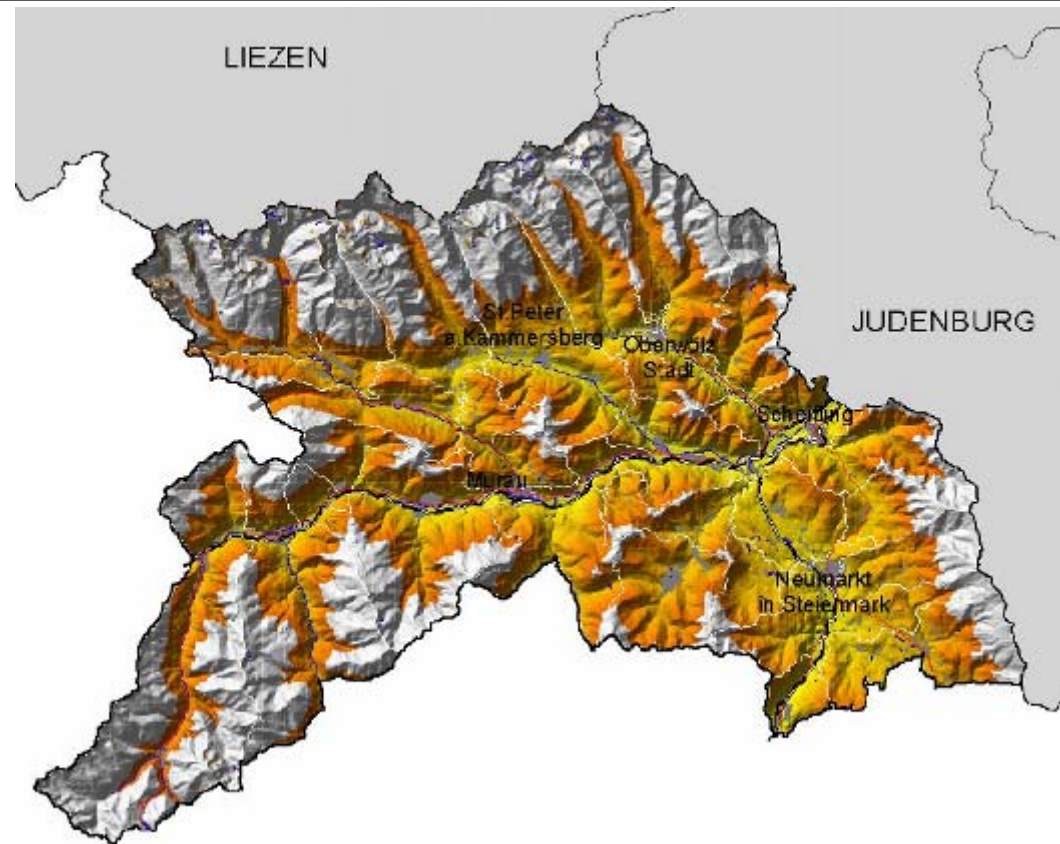


# Energy Network: Regional Early Warning System



# District of Murau

**rural region**  
**~ 61% forest**  
**~ 1400 km<sup>2</sup>**  
**~ 30.000 inhabitants**

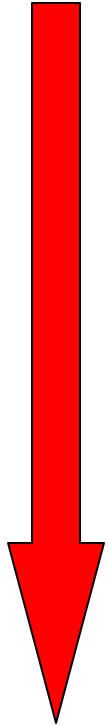


# Core Interests in the Project Energy Vision

- How can we create a regional strategy from single activities, to create synergies?
- How can we get citizen´s energies for the energy issues throughout the district?



# Overview on the workflow of the projekt



**Collection of basic data** (clear and brief, low effort!)

**Interviews with important regional key players**

**Conception with regional core team** (clarification of proceedings)

**Realisation of „Energy Meetings“**

(event in order to discuss objectives and measures based on a broad dialog)

**Thematic working groups** (measures of implementation)



# The relevance of social processes

## **What ? = *technical process***

**technical content**

**technical integration**

**technical output**

**technical planning**

## **How ? = *social process***

**relationship between players**

**acceptance, intention**

**capacity of implementation**

**planning of communication**



# Realisation of the „Energy Conferences“ in Murau



# Energy results 2015 - Murau

- **Murau is self sufficient in terms of heat and power (100% renewable energy sources for heat + power)**
- Murau has an increased awareness of a closed loop energy recycling management (awareness rising starting in elementary schools)
- **Murau has built up an energy platform**
- Murau has created an active and prosperous small structured and regional economic cycle
- **Murau creates a value added through the export of energy over spills**



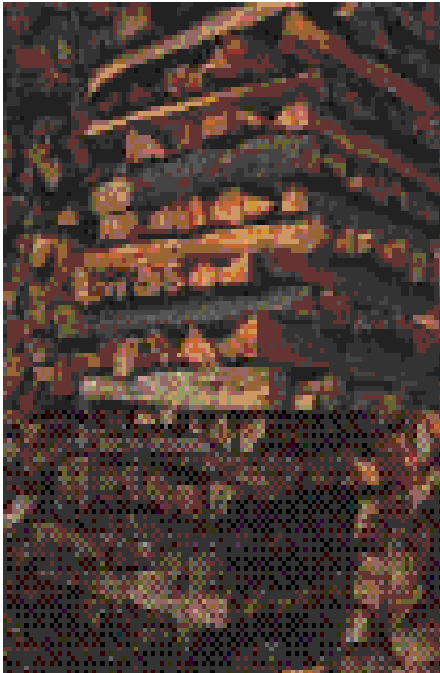
# Process of continuation – steps of implementation

- **Continuation of the whole process via**
  - **Steering group = planning (regional core group)**
  - **General meeting = decision making (regional group)**
- **Thematic working groups**
  - **Moderation and support of groups**
  - **Support based on content and technical implementation**
- **Support of players which are important for the success of the implementation**
- **Decision of the Energy Vision as a part of the official regional guidelines „Leitbilder“**

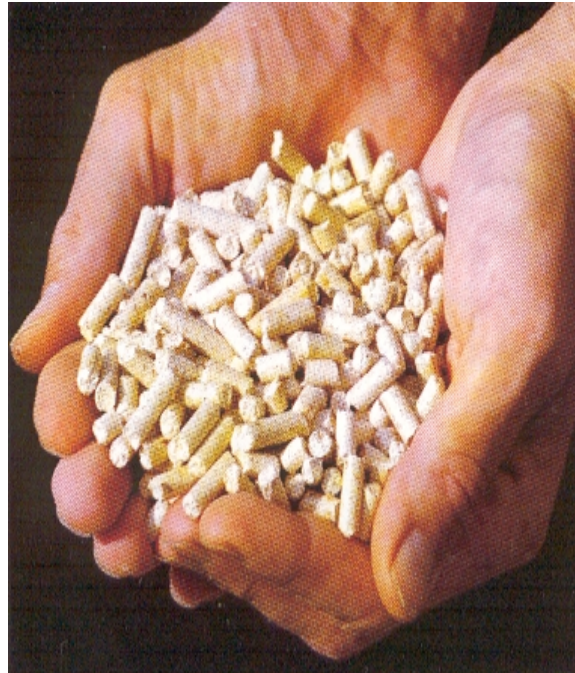


# Wood heating

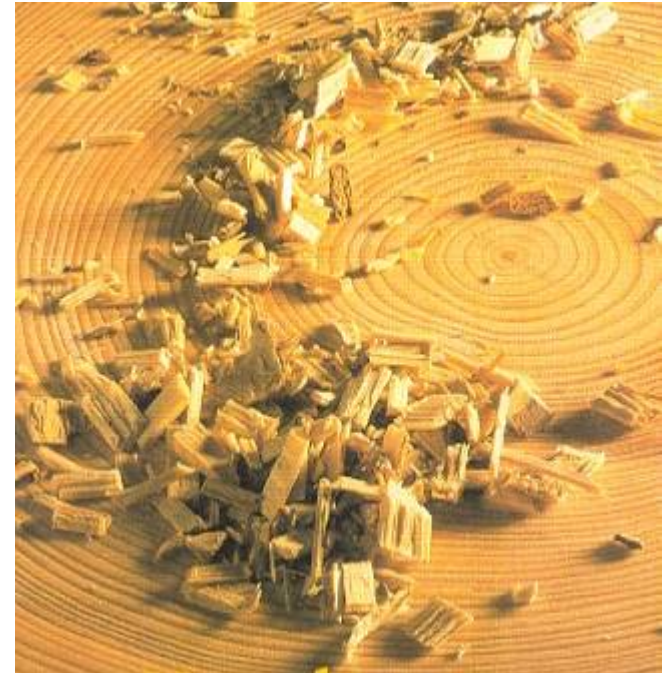
## Split logs



## Pellets



## Wood Chips



➤ Consulting, Seminars

# Biomass district heating and micronets

## Advantages for clients

- high comfort
- competitive price
- renewable energy source
- CO<sub>2</sub>-neutral
- Support of regional recycling management



# Logistics of wood chips





- Delivery service of „NATURWÄRME“
- Wood Chips ÖNORM W 30
- 37m<sup>3</sup> container
- Dust-free filling of wood chip bunker

## ... plus solar systems



... or like this



# Individual major projects

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- biomass district heating
- solar: thermal and photovoltaic
- wind
- biogas
- small-sized hydropower plants
  
- experts, individual consulting, network



# Holzinnovationszentrum „wood innovation center“

- A cooperation of 10 municipalities for the establishment of new companies in the wood sector

-Wood-Pellets production (50.000 tons/year)

-CHP facility (ORC-module)

-Thermal power: 9 MW

-Electrical power: 1.5 MW

-Biomass consumption: 100.000 Srm/year

-Raw material: bark and reprocessed wood



-A realisation of sustainable material and energy cycles



# Biogas plant on the military airbase Zeltweg

- New innovative contracting model
- No risk for client
- Key data
  - Raw material: grass, energy crops
  - Electric power: 490 kW
  - Thermal power: 550 kW
  - Biogas production: 1.4 Mio. m<sup>3</sup>
  - CO<sub>2</sub>-reduction: 4012 tons/year



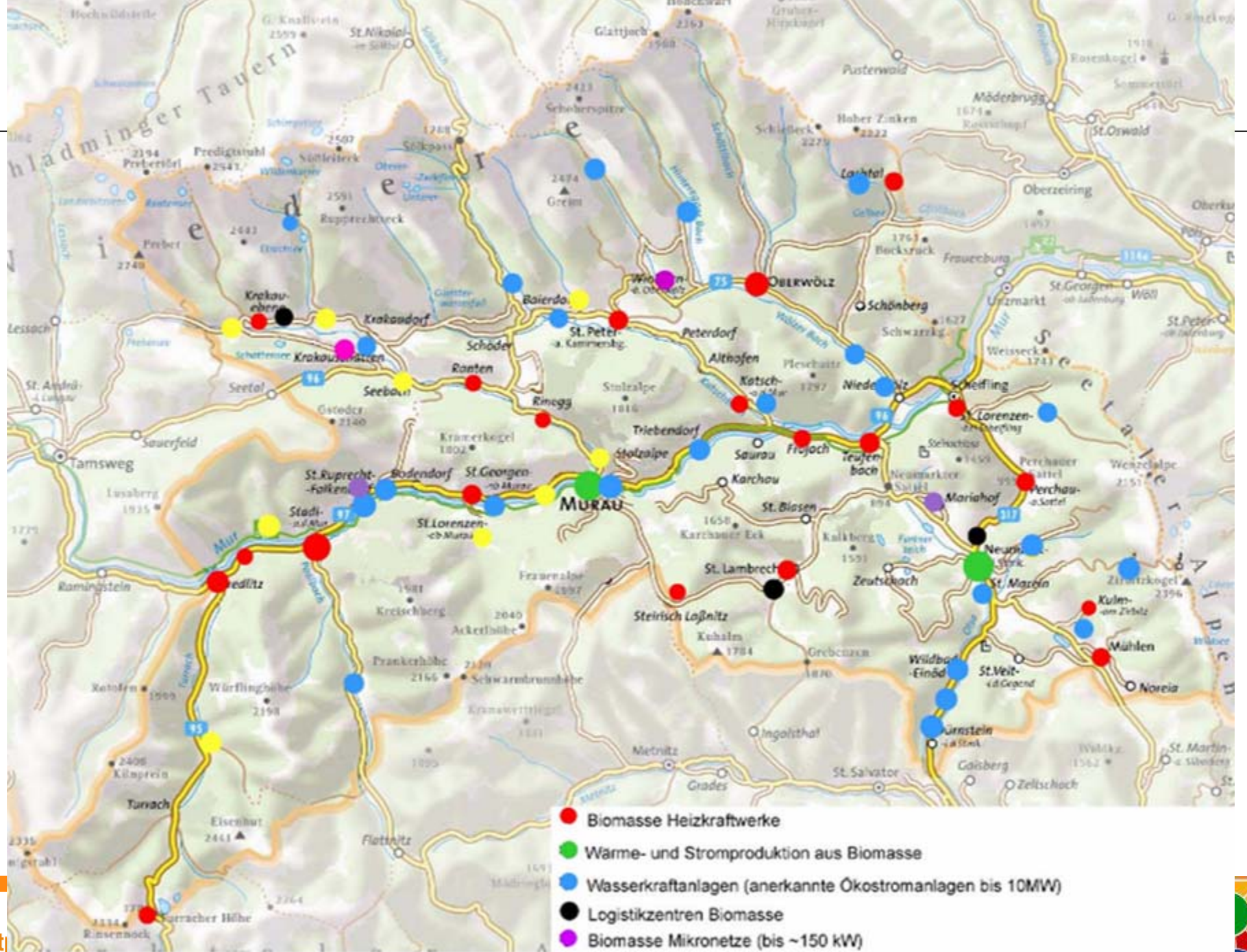
# Tauern Wind Park

**13 Windmills, each 1,75 MW**

**Total: 22,75 MW**

**Elevation: 1900 m**





# Energy Network: International Cooperation

Existing Networks:  
ManagEnergy, CIPRA, Carpathian Foundation

Region 2:  
Expert in Wind  
Energy

Region 1:  
Expert in  
Biomass

SUSTAINABLE  
ENERGY  
NETWORK

Region 3:  
Expert in  
Geothermics



# Energy Network: Possible Follow Up

- Updating of the regional early warning system's databases by Mountain RES/RUE for the next two years
- Production of 2 newsletters annually with the activities in the local communities and relevant events
- Update of the project site with the relevant upcoming news and events in European mountainous – agricultural communities
- Circulation of all dissemination material received among the network's registered local experts
- Circulation of identified project ideas among the network for the potential identification of interested stakeholders



# Energy Networks: Participating Networks

- Project Communities:
  - Karditsa (Greece)
  - Mounts of Ardèche (France)
  - Murtal (Austria)
  - Rõuge Municipality (Estonia)
- Online Networks:
  - Mountain Forum Europe
  - Carpathian Foundation
  - ALPARC- Alpine Network of Protected Areas
  - Euromontana
  - NENA

# Energy Network: Supporting Tools

- “Proposals for the Formulation of a Sustainable Energy Network”:
  - Proposals of best practices for the promotion of RES and RUE
    - Summary of the document in the background material
- “Integrated Sustainable Design Document”
  - Concise and transparent Sustainable Design network Document in 7 languages
- Mountain RES/RUE website as information exchange platform
- “Guidelines towards Sustainable Energy in Mountainous and Agricultural Communities”
  - Summary of the document as handout in the workshop
  - Case studies on project communities in the background material

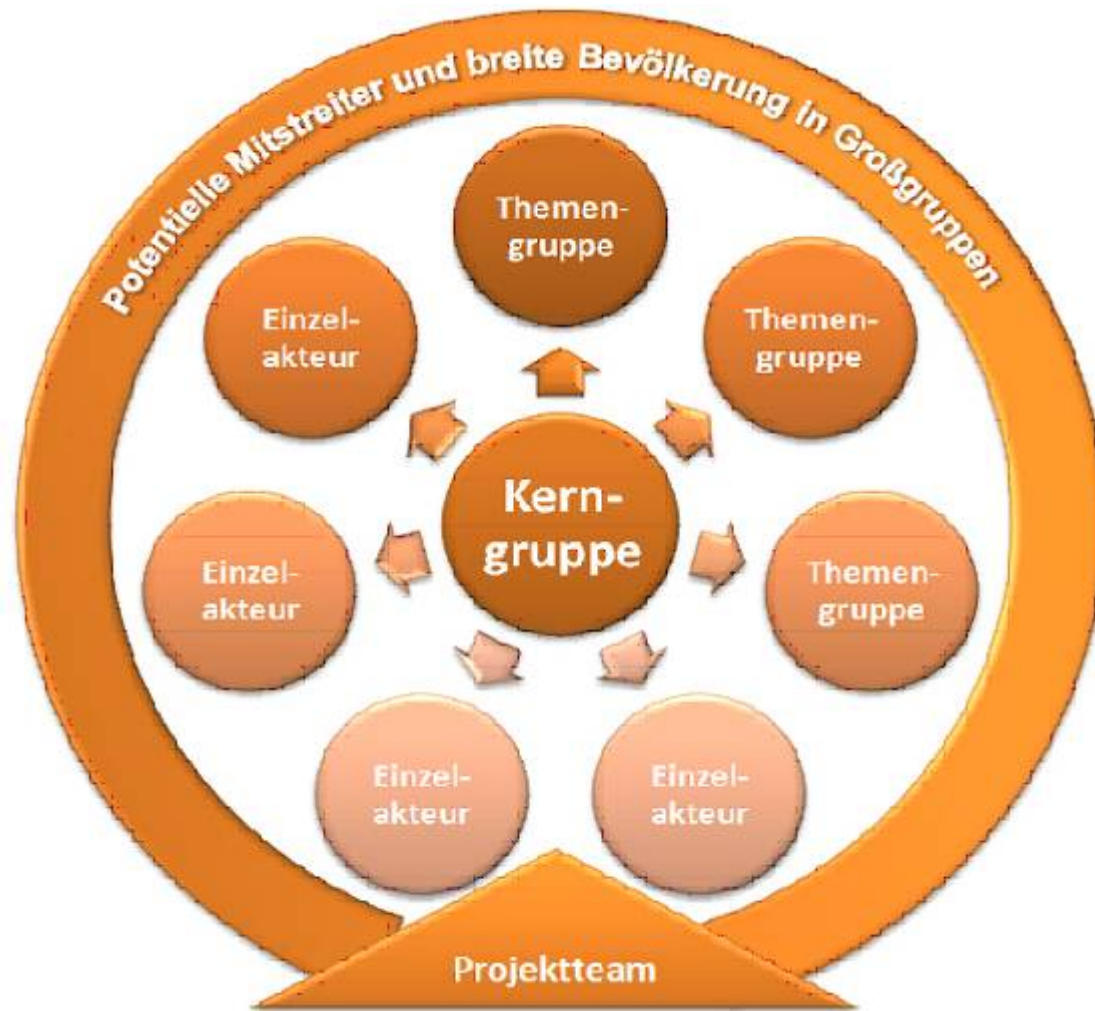


# Energy Network: Proposals for Promotion

- 1) **Energy Assessment**, Energy Balance Study
- 2) **Workshops**: Creating Guiding Principles; Charter, Memorandum, SEAP
- 3) **Project Integration**: RES/RUE Projects linked to Programs from other Sectors
- 4) **Cooperation with other Local Partners**; Promotion by Business Relationships
- 5) **Excursions**, Field Visits to Best Practice Examples
- 6) **Public Presentation** Event of RES/RUE – Technology
- 7) **Dissemination of Information** by Leaflets, Folders, Brochures, Flyers
- 8) **Articles in Local Media**: Newspaper, Regional Radio, TV and Internet
- 9) **Public Participation**; Involving Concerned Citizens
- 10) **Implementation of Demonstration Projects**, Pilot plants
- 11) **Training Programs**: Installation and Maintenance of RES/RUE - Technologies
- 12) **Communication with other RES/RUE Organizations**



The key to sustainable development towards RES & RUE in any community is the cooperation of the active and potential players within the area.



**The key to sustainable development towards RES & RUE in any community is the cooperation of the active and potential players within the area.**

- Participation - The greater goal of every project is shared by as much people as possible.
- Benefit - Everyone is aware of the direct benefits of the project for the region.
- Citizenship - The project becomes part of the self-conception of the community.
- Awareness – All people in the community are aware of the possibilities of Renewable Energy Sources and Rational Use of Energy.

Any approach for the sustainable implementation of RES /RUE projects pursues these goals as well!



# Thank you for your attention



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