

Pilot area Vorarlberg / Leiblachtal

“Sample Hectare” to debate the conflict between wind-power and ESS

1. Introduction of main scenarios of the pilot area

The province of Vorarlberg has set the ambitious goal of achieving energy autonomy by 2050.

Currently a thorough survey of energy consumption data and energy potentials is being done in the sub-region Leiblachtal.

In the context of recharge.green conflicts between use of wind energy and ecosystem services are analyzed in the Leiblachtal. From pre-surveys it turns out that the use of wind power is potentially interesting. At present, wind measurements are being carried out, these serve to clarify the economics and the potential dimensioning of wind turbines.

The Leiblachtal has approximately 15,000 residents distributed across five villages. The region borders Germany in the North, Lake Constance in the West, and in the East and in the South the mountain Pfänder (1064 meters) forms a natural border.

The Leiblachtal is also home to people working in the economic center of the Rhine valley. The mountain communities are agriculturally oriented with some income from tourism. The lower communities have numerous commercial enterprises.

2. Conflicts in the pilot area between ecosystem services and renewable energy for the main scenarios

Influences on

- **Landscape**
- Recreational features of the landscape
- Sound and noise
- Animals cruising radius, particularly birds
- Flight paths of birds
- **Site** qualities due to the new facilities and access roads

3. Maps which locate the conflicts

Wind power station on the mountain Pfänder



4. Regional communication strategy: how the pilot area involves stakeholders and citizens?

The communication strategy contains several levels:

- **Local population:** Invitation to discussion events, thematic information on the potential location of wind turbines, population interviews, citizen information through website, film, media reports, excursions, integration of local organizations in catering for event participants
- **Political representatives** at municipality level in the region Leiblachtal: Political decision making for the development of the energy region Leiblachtal, draft of projects in the context of the energy region, financing pre-study on wind power use, informative events and excursions
- Representatives at the provincial level of Vorarlberg: regular co-ordination meetings, presentation of project ideas, invitation to participate in project meetings
- **Media work:** regular reports and press texts about activities

Informing the public



Informing the regional population



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5. Ideas/ solutions to solve the conflicts

The decision support tool “Sample Hectare” is being developed in the project recharge.green. „Sample Hectare“ assists decision makers in making decisions about development and use of renewably energies.

The conflicts between the use of wind energy and ecosystem services are represented and judged transparently and comprehensibly. The uses of different renewable energy sources are compared when planning the attainment of energy autonomy.

A schematic representation of the trade-offs between eco system services and renewable energy forms is produced as shown in the graphic.

Existing ecosystem services in different locations are evaluated by the participants in workshops. Afterwards an assessment of these sites is repeated after theoretical further development and use of various renewable energy sources. Finally a comparison of potential locations and theoretical consequences of development and use of renewable sources of energy is carried out.

These workshop results are compared against results of expert interviews and scientific analyses of the respective ecosystem services.

The “Sample Hectare” is a method which can be used for balancing an integration of the public interest in planning procedures without disregarding the necessary technical expertise. “Sample Hectare” can be used for interviewing laymen and community members. Furthermore, the results can be included in a project exhibition and serve as the basis for a possible referendum.

The overall picture in Vorarlberg arising from this process shall be compared with other pilot areas in recharge.green.



Einschätzung der Ökosystemdienstleistungen:

	gut	mäßig	schlecht	k.A.	Anmerkungen
Erholungswert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ästhetischer Wert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Land-/Forstwirtschaft, Produktion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Schutz vor Naturgefahren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bereitstellung sauberen Wassers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Klimaregulierung/CO ₂ Speicher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Habitatqualität/Biodiversität	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

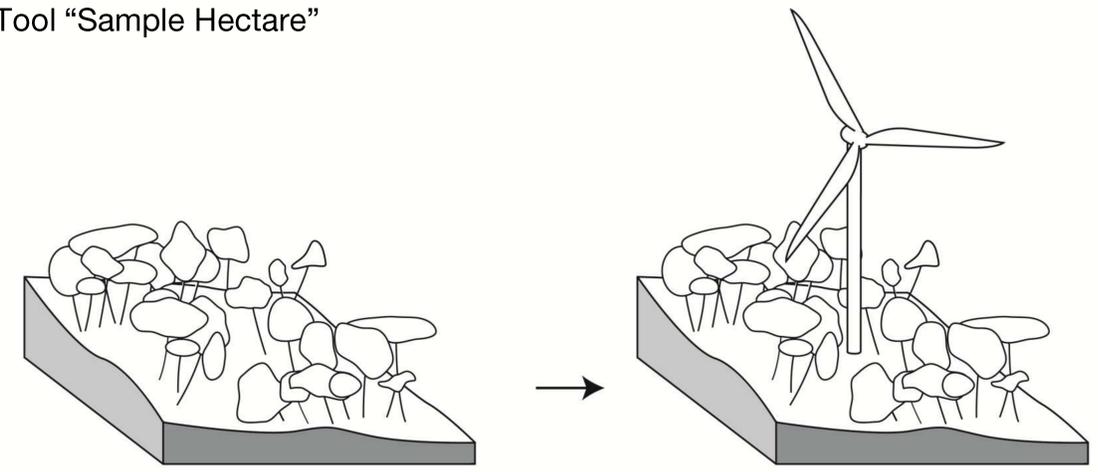
Neue Einschätzung der Ökosystemdienstleistungen
(Veränderung relativ zur heutigen Situation):

	besser	gleich	schlechter	k.A.	Anmerkungen
Erholungswert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ästhetischer Wert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Land-/Forstwirtschaft, Produktion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Schutz vor Naturgefahren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bereitstellung sauberen Wassers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CO ₂ Speicherung/Klimaregul.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Habitatqualität/Biodiversität	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Empfinden sie dieses Szenario allgemein als wünschenswert?

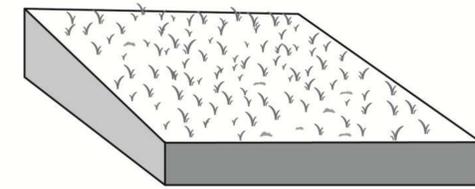
(wünschenswert)	(nicht wünschenswert)	Was spricht Ihrer Meinung nach für/gegen dieses Szenario?
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Tool “Sample Hectare”

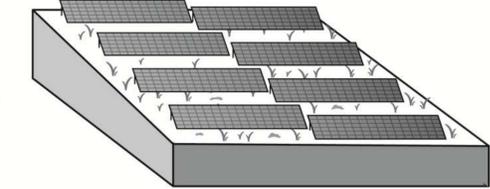


Sample hectare 1
1 ha of forest in a secluded location
(on mountain Pfänder)

Scenario wind:
energy yield ca. 300 MWh/ha/a



Sample hectare 2
1 ha grassland close to settlement
(in the village Hohenweiler)



Scenario photovoltaic in open fields
energy yield ca. 400 MWh/ha/a

Sample hectare X:
specific location description

Sample hectare X:
another energy scenario

Assessment of the actual situation with regard to ecosystems services (by decision makers, experts, inhabitants,...)

Assessment of the new situation: ecosystem services, gains and losses for the region, social acceptance, energetic benefit,...(by decision makers, experts, inhabitants,...)