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Hydropower and social acceptance – Environmental NGOs

naturemade basic ! naturemade star !

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Agenda

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- About **naturemade**
- Success factors and common mistakes
- Three positive examples
- Conclusion

Association for Environmentally Sound Energy (VUE)

- VUE is the inventor and owner of the quality label *naturemade basic / star*, founded in 2001
- *naturemade* promotes new renewable energies and ecological energy products
- Number of members 2015: 180

Board:

- Consumer and environmental organizations (ENGOs)
- Large, medium and small energy producers and suppliers
- Renewable energy associations
- Major energy consumers

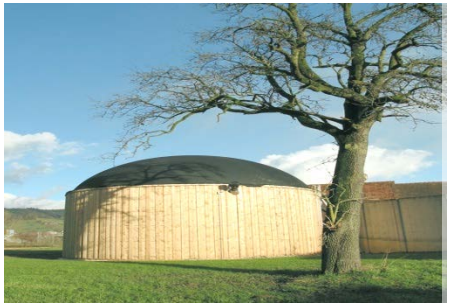
Certifiable energy systems

Electricity **(2015: 12’835 GWh/a)**

- Hydropower, wind, PV, biomass

Heat **(2015: 337 GWh/a)**

- Wood fuels, waste



Biomethane **(2015: 266 GWh/a)**

- Wood fuels, green waste, agricultural biogas, sewage gas

One Label – Two Qualities

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naturemade basic !	naturemade star !
protecting the climate	protecting the climate + sustainable on global / regional / local level
➡ **renewable!**	➡ **green!**

Renewable vs green electricity

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Green electricity?

Green electricity!

My role and perspective

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- VUE typically not involved in concession processes for new hydropower plants
- But close collaboration with involved ENGO's and power plant operators in the context of certifications of hydropower plants
- Focus on hydropower (due to my position and tasks within VUE), but most principles may also apply for wind energy projects
- Focus on environmental non-governmental organizations (ENGOs), but most principles also apply for other NGO (e.g. heritage society)

Simplified concession process and constraints/stakeholders

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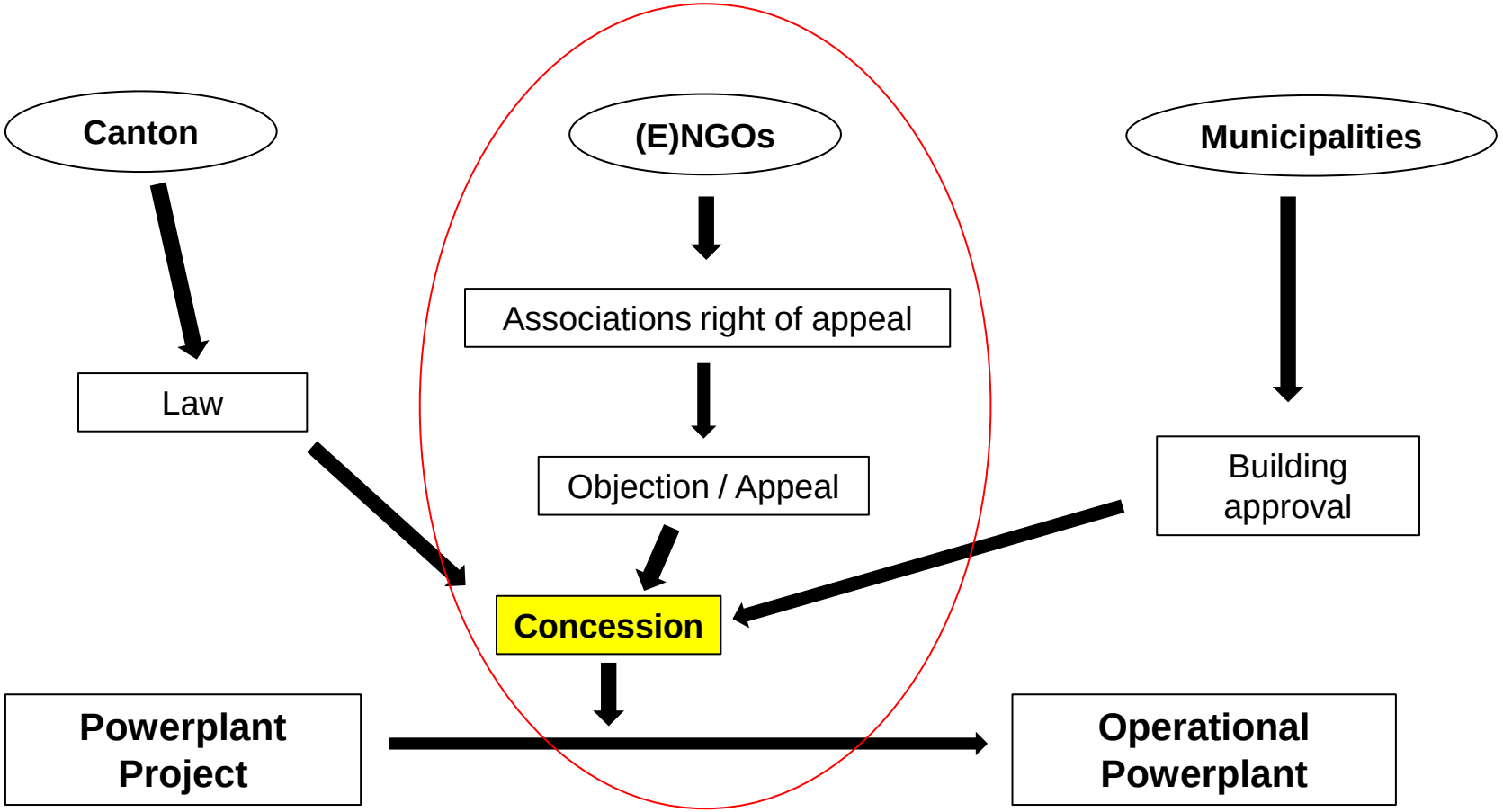

Success factors

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- **TRUST** (ENGOs, powerplant operators, cantons)
- Inclusion of all stakeholders (mutual process design and externa
- Project is **legal compliant** (often strained: Derogations as defaul inventories)
- **Completeness of documentation** (most of all: environmental studies)
- Tendentially, **larger projects** are **prefered over small projects** (energy production vs. environmental damage)
- Gaining acceptance for the **rehabilitation/expansion of existing power plants** is **easier** than for new power plants in an intact environment

Common mistakes

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- General unreadiness to collaborate with ENGOs
- Late inclusion of ENGOs in a project/process and then put pressure on ENGOs
- Non-transparency, e.g. withhold important information
- Information of ENGOs only when decisions are already taken

Examples – Preliminary remark

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- Only positive examples presented in the following, since
  - (negative) details are often not public and
  - I was not involved in the processes
- Details on following examples are based for the most part on information provided by involved ENGO's (WWF, Pro Natura)
- Generally: not many white or black sheeps among hydropower plant operators, they are mostly grey
- In the past, the inclusion of ENGO mostly only took place as a resultat of ongoing/lost lawsuits or objections from ENGOs in a concession process

Example 1 – Linthal 2015

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Axpo, + 1000 MW, pumped storage, CHF 2.1 bil

- Early inclusion of ENGO, first time in history of Swiss hydropower plant construction
- Initial internal resistance (Axpo, canton, ENGO)
- Compensatory measures, e.g. removal of Linth gorge water catchment
- **Concession granted, no objections from ENGO!**

Project status: Commissioning is planned for end of 2015

Photos: Axpo

Example 2 – Lago Bianco

Repower, 1000 MW, pumped storage, CHF 2.5 bil

- Early inclusion of ENGO
- Mutual concession project optimisation:
  - Hydropeaking problem in Poschiavino river can be solved at lower cost than initially planed
  - Projected water level in reservoir could be reduced
  - No need for relocation of Bernina railway (UNESCO)
- Compensatory measures
- **Concession granted, no objections!**

Project status: 2nd phase of approval procedure

Photos: Repower

Example 3 – Realp II

EW Urseren, 2.7 MW, run-of-river, CHF 17 mio

- Voluntary inclusion of ENGO at an early stage
- Mutual project optimisation
- Protection and utilization plan elaborated (minimum flow)
- **Concession granted, no objections!**

Project status: Construction works will start in summer 2015, commissioning is planned for end of 2017

Conclusion

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- Early and credible inclusion of ENGO promotes a smooth and fast concession process (-> broad support)
- Collaboration based on trust as a key success factor
- Naturemade/VUE supports trust building process through institutionalized inclusion of ENGO's and voluntary commitments of power plant operator and provides a platform for discussions on eye level

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Thank you for your attention!

Licenced production quantities abroad (31.12.2014)

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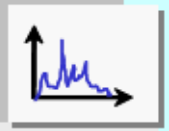
Energy system	Country	Quantities 2014 (GWh/a)
Electricity *naturemade basic*		24.3
Hydropower	Liechtenstein	24.3
Strom *naturemade star*		532.4
Photovoltaic	Liechtenstein	12.7
Hydropower	France, Liechtenstein	29.2
Wind	Germany, Norway	490.6
Biomethane *naturemade star*		151.0
Grüngutvergärung	Germany	151.0
Total		**707.7**

	Minimum flow regulations (Ch. 9)	Hydropeaking (Ch. 10)	Reservoir management (Ch. 11)	Bedload management (Ch. 12)	Power plant design (Ch. 13)
 Hydrological character	MF1-MF3	HP1-HP3	RM1-RM3	BM1	PD1-PD2
 Connectivity of river systems	MF4-MF6	HP4	RM4-RM6	none	PD3
 Solid material & morphology	MF7	none	RM7-RM8	BM2-BM5	PD4
 Landscape & biotopes	MF8-MF9	HP5-HP6	RM9-RM10	BM6	PD5-PD6
 Biocoenoses	MF10-MF11	HP7	RM11-RM13	BM7	PD7

Vergleichbare Beurteilungskriterien

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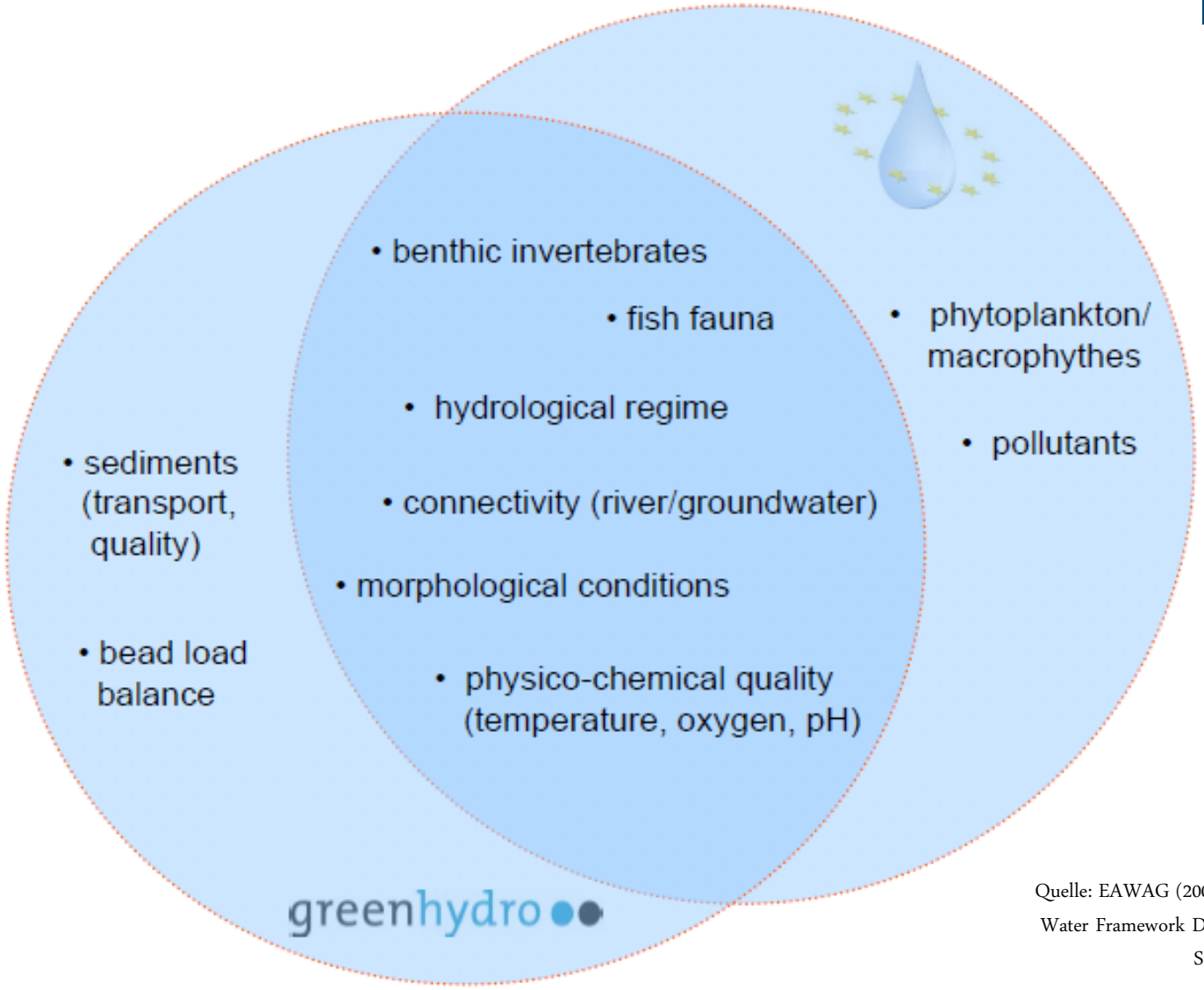

Quelle: EAWAG (2007): «Integration of the EU's Water Framework Directive and the greenhydro Standard»