



Interessenverband Schweiz. Kleinkraftwerk-Besitzer

Association Des Usiniers Romands



Hydropower Development

The perspective of the ISKB

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SCCER-SoE Annual Conference
10 September 2015, Neuchâtel

Interessenverband Schweizer Kleinkraftwerk-Besitzer ISKB

Association des Usiniers Romands ADUR

- Founded 1982 on the Engstligenalp (BE)
 - ADUR – Section Romande of ISKB
- Based in St. Gallen (since 2013)
- 360 members
 - Most of them are independent power producers
 - Suppliers, planners, ...
 - Individuals

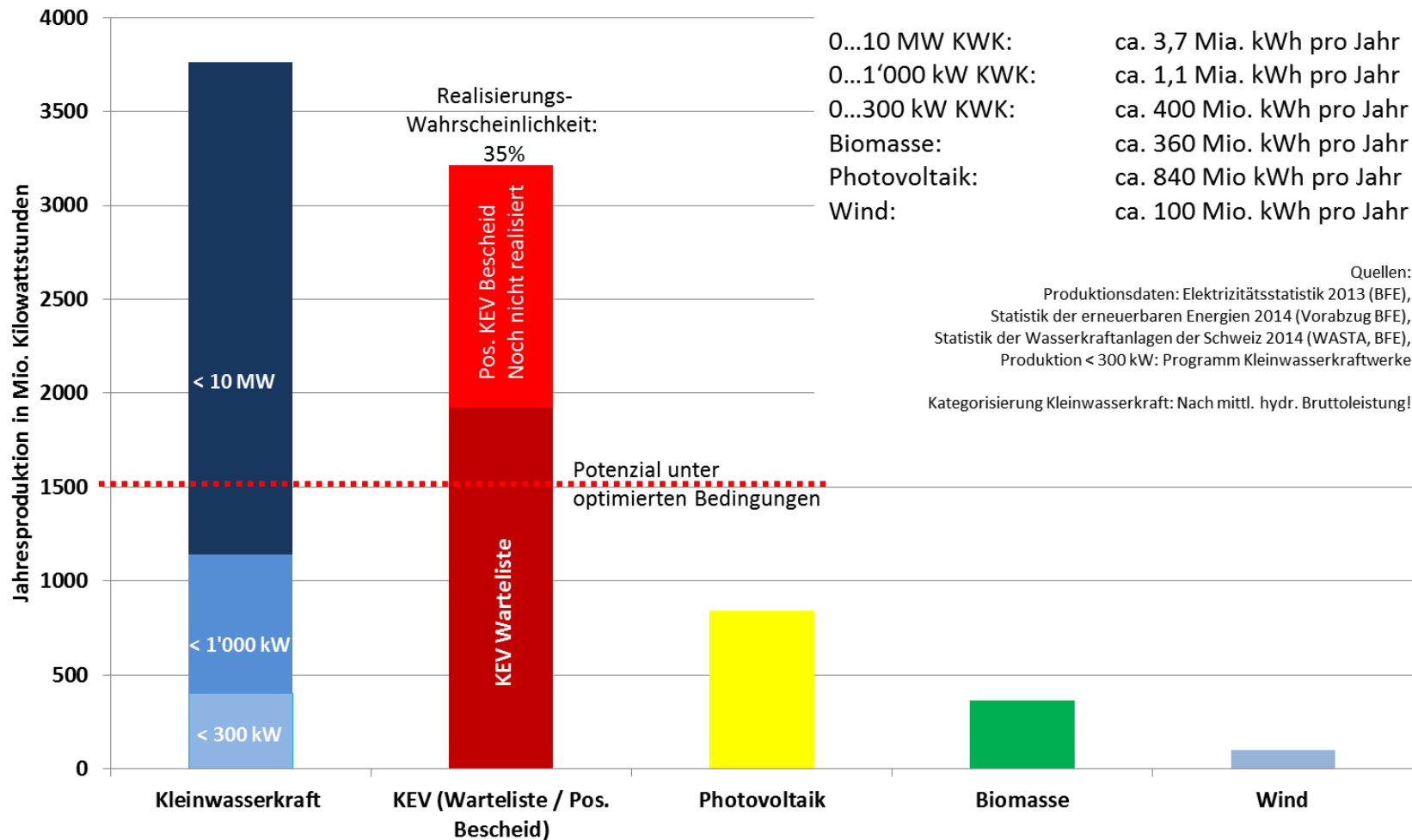
Hydropower Potential

- **Production (average) in 2010: 35.4 TWh**
 - Additional Potential Large and Small Hydropower: 3.2 TWh/a
 - Ambitious! 50% from SHPP
 - Influenced by higher environmental requirements and climate change

	Heutige Nutzungsbedingungen	Optimierte Nutzungsbedingungen
<i>Neubauten Grosswasserkraft</i>	770	1'430
<i>Kleinwasserkraft</i>	1'290	1'600
<i>Aus- und Umbauten, Erweiterungen Grosswasserkraft</i>	870	1'530
<i>Auswirkungen GSchG</i>	- 1'400	- 1'400
Total Wasserkraftpotenzial	1'530	3'160

→ + 45%!

Jahresproduktion - Technologievergleich (2014)



What has been achieved until end of 2014?

- Gross increase according to KEV/RPC statistics
 - 382 Small Hydropower Plants (SHPP)
 - 217 MW, **776 GWh/a**
- Net Increase according to WASTA (BFE/ OFEN, 01.01.2008 – 31.12.2014)
 - 155 new Small Hydropower Plants
 - + ca. 83 MW, **+256 GWh/a**

Development of the Frame Conditions for SHPP in Switzerland

- Renaturation of Open Water Bodies
 - Initiative «Lebendiges Wasser»
 - Counter proposal of the Parliament
 - → New water protection law in 2011
- KEV/RPC and adaptations of the Energy Ordinance
- Energy Strategy 2050

Opposition

Support

Energy Strategy 2050 (1)

- Currently treated in the Council of States
- Decision of the Parliament expected end of 2015 – Referendum?
- Fundamental change of the frame conditions for SHPP
 - Various obstacles for SHPP development!
 - Financial contribution (instead of KEV/RPC) for modernisation and extension of existing SHPPs
 - Effective from 2017 - Referendum expected

Until then: No incentives for investment into new projects !

Energy Strategy 2050 (2)

Impact on SHPPs

- Art. 19 New constructions: No support for SHPPs with an annual production of less than **2,0 Mio kWh («<300kW»)**
- Art. 28 Extension oder Modernisation: No support for SHPPs with an annual production of less than ca. 2 Mio. kWh («< 300kW») **→ Mid term: – 450 GWh/a**
- ~~Art. 22 max Tariff of 20 cts./kWh~~
- **Art. 17 Grid access / guaranteed Tariff: only up to 3 MW / 5 Mio. kWh**



Energy Strategy 2050 (3)

Expected impact on the Small Hydropower Production:

- 450 Mio kWh instead of + 1'600 Mio. kWh

→ Gap of 2 Billion kWh (ca. -3%) !

Summary

- High pressure on **existing SHPPs** from the water protection law
→ Ecologic rehabilitation until 2030
- **Small SHPPs** (< 300 kW / < 1'000 kW):
 - Lower KEV / RPC since 01.01.2014
 - New categories create uncertainty
 - Heavily under pressure within the Energy Strategy 2050
- **Projects which are ready for construction** are prioritized on the KEV / RPC waiting list
- But: for **new projects** high uncertainties, need risk capital
 - Availability of KEV/RPC funds?
 - Future within the Energy Strategy 2050?
 - Larger projects are blocked by NGO's



Approaches and Challenges (1)

- Environment friendly applications
 - Derivational plants → New ultra low head solutions
 - Combined with ecological upgrading at influenced water bodies → renewal and modernisation
 - Integrated Powerplants, Multipurpose Power plants (Drinking water, Waste water, residual water, ...)
- Research! - environmental impact of SHPPs
 - Including the perspective of hydro power utilization!
 - Prediction of environmental impacts instead of banning generally the technology
 - Improved concepts for protection and utilization





Approaches and Challenges (2)

- Cost efficient projects
 - Standardisation
 - Cost- and energy efficient solutions for fish migration
 - Efficient and effective licence procedures
- Increased public acceptance
 - Information and media work
 - Acceptance for Micro Hydropower on the political and administrative levels

Approaches and Challenges (3)

- Support from other associations
 - Change perspective from environmental protection to Sustainability!
 - Cooperation and participation in working groups

Thank you for your attention!

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