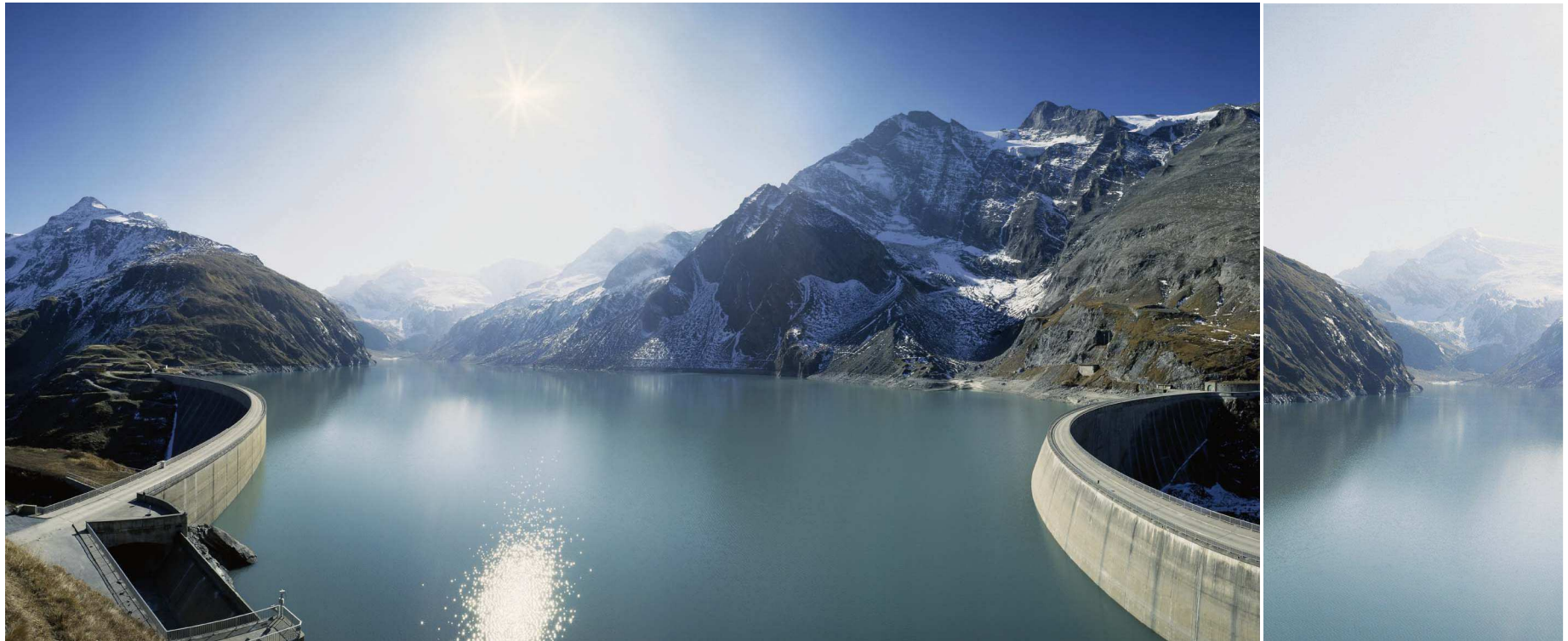


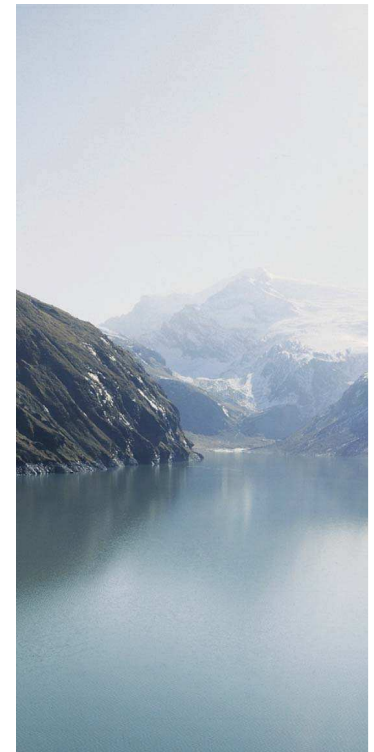
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Hydropower – cost efficient power generation

Roland Langthaler, VERBUND
Brussels, 28 November 2012



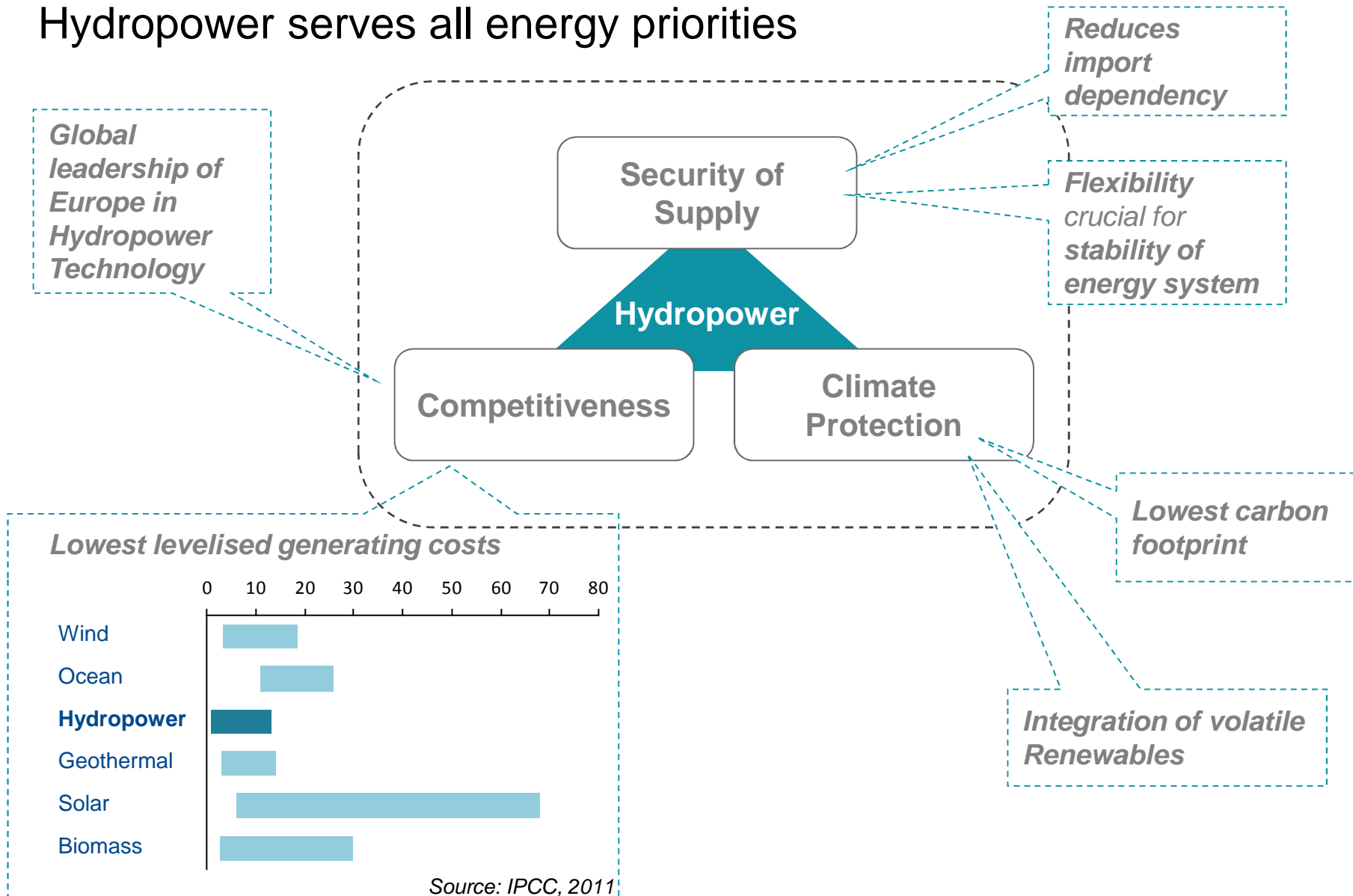
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VERBUND is

- Austria's leading electricity company with some 3,000 employees
- One of the most climate-friendly electricity generators in Europe, covering some 40% of Austria's electricity demand – 4/5 renewable hydro power production
- Active in generation, electricity trading and supply; operating Austria's high voltage power grid
- Listed on the stock exchange since 1988; 51% of the share capital is owned by the Republic of Austria.

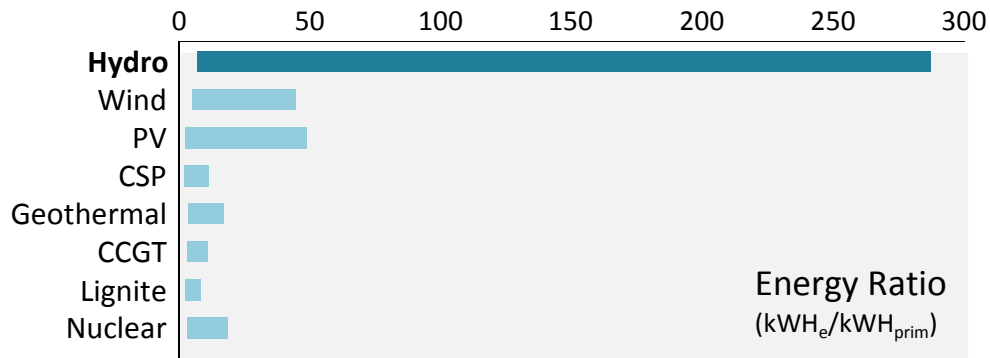


Hydropower serves all energy priorities



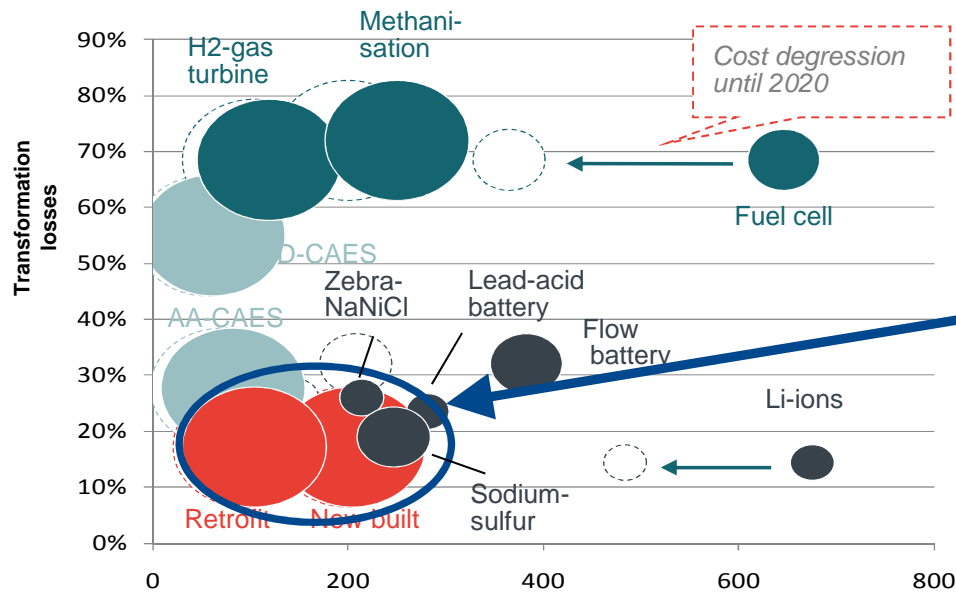
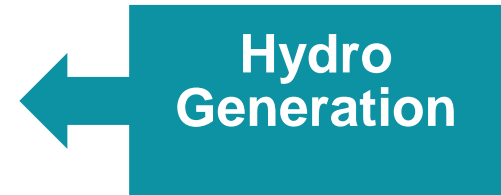
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Hydropower = Efficiency



Energy payback ratio

(Source: Eurelectric (2011), Life Cycle Assessment of Electricity)

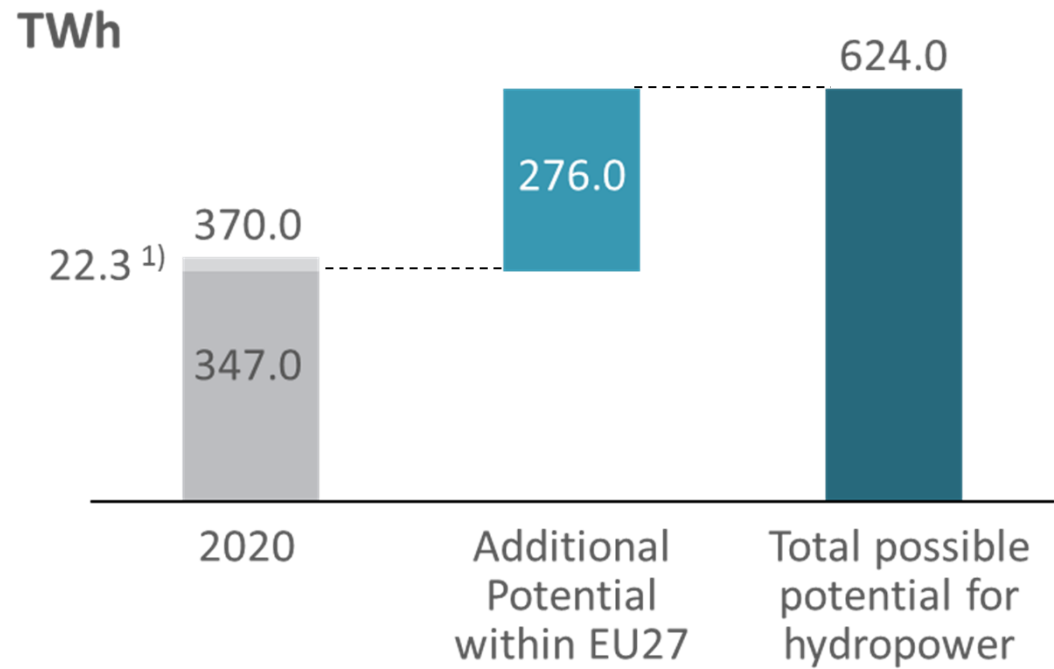


Efficiency of Storage Technologies

(Source: Frontier Economics)



Hydropower potential in Europe



¹⁾ According to national renewable action plans

Source: Eurelectric

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Remove barriers for Hydropower and Pumped Storage

Market!

- Make the market function!

Level Playing Field

- **No undue subsidies** for single technologies in order to avoid market distortions
- Swift **integration of new technologies** in the market

Policy-Balance

- **Balance** between conflicting policy goals: environment/climate protection/energy

Grid-Development

- **Accelerate investments in new transmission lines** (within countries and cross border)
- Speeding up of **permit-granting procedures**

Harmonisation of Regulation

- **Harmonization of grid fees** for pumped hydro storage (no double tariff charges, grid fees for PHS > 3x grid fees for wind in Austria)
- Improve possibility for cross-border marketing of balancing power → **harmonization of balancing regimes**

Verbund

Thank you for your attention

Roland Langthaler

Head of Legislative Affairs

roland.langthaler@verbund.com

www.verbund.com



Hydro Power Plants in Austria and Europe

		Number	Capacity	Total Production
Austria & Bavaria				
	Hydro power plants	103	6,774 MW	21,648 GWh
	Hydro power plants (inc. subscription rights)	20	591 MW	2,569 GWh
	Total	123	7,365 MW	24,217 GWh
International via Joint Ventures				
	Turkey	6	313 MW	
	Italy	4	33 MW	
	Total	10	346 MW	