

# Enlarging Hydro Production – Position of a Power Company

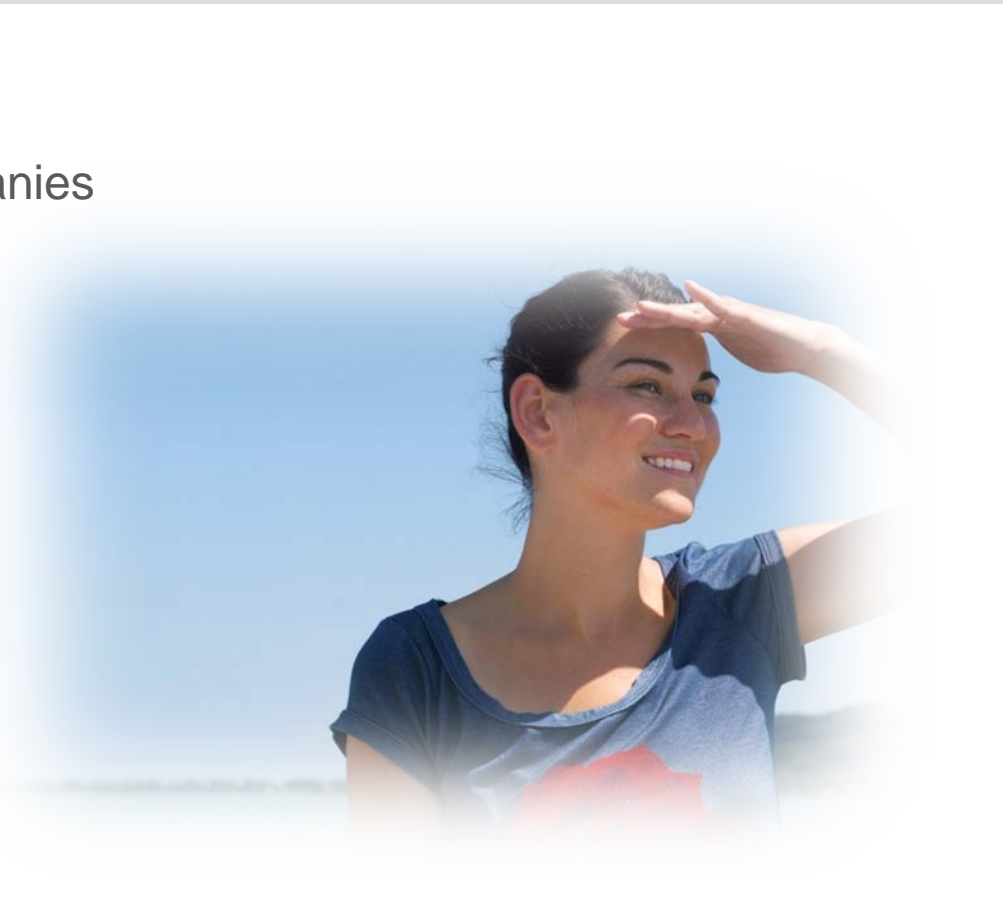
SCCER-SoE Annual Conference 2015

University of Neuchâtel | 10<sup>th</sup> September 2015

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# 1. Market development



# First challenge: Since 2008 the electricity price has been reduced by 71% in Swiss Francs

### Market price base Germany



### EUR/CHF exchange rate



⇒ Total price decrease in CHF: 71%

Most of the assets in Switzerland with Swiss cost structure.

## Four reasons drove the price collapse

- No power growth in Europe (-0.3% p.a.)
    - In 2008 the forecasted power consumption for the year 2015 was higher by 330 TWh (= 11% of the European consumption).
  - Building up of Renewables reduces the demand of conventional power plants by 1.7% p.a.
  - CO<sub>2</sub> price is 5 EUR/t CO<sub>2</sub> instead of 30 EUR/t CO<sub>2</sub> as planned
    - due to this coal is favourable versus gas
  - Coal price is price-setting. Since 2011 it has been halved.
- ⇒ The influence of politics is substantial.
- ⇒ Political planning and market system cannot be easily coupled.
- ⇒ Unintentional market development with fatal consequences for the power industry.

## The market is changing

Market until 2010	Market from today
<p>Classical value-chain with large assets and long-term operation (up to 80 years).</p>	<ul style="list-style-type: none"> <li>• More decentralised production</li> <li>• Secured return by subsidies.</li> </ul>
<p>Electricity as a product, low services.</p>	<p>A wide range of products, often coupled with IT</p>

## 2. Conclusions for power companies



## Conclusions for power companies

- Large power companies are highly exposed to the electricity price. Axpo's portfolio is exposed to 2/3 directly to the electricity price.
- Diversification is necessary but very challenging.
- The development of other business activities cannot take place as fast as it would be desired.
- The diversification can only be accelerated if the share of the portfolio which is exposed to the electricity price will be actively reduced.
- Concessions with a duration of up to 80 years represent a high risk if the long position can not be hedged with a reliable short position.
- Cash flow becomes the key controlling parameter.



### 3. Impact on hydro power



## Impact on hydro power

- Hydro power has low variable cost and therefore will be considered in the Merit Order in most cases.
- Hydro power does not cover its full cost – neither today nor in the near future.
- Many electricity producers have made substantial investments in hydro power. Therefore their hydro power portfolio is dominated by newer power plants with high depreciations.
- Extensions of hydro power plants based on subsidies compete with existing hydro power plants with no subsidies.

## 4. Conclusions



## Conclusions

- Hydro power is the cheapest technology of all Renewables and home-grown.
- Hydro power is and will be the central pillar of the energy mix in Switzerland.
- The large power companies are threatened by low electricity prices and massive structural changes. They need to restructure their portfolio which is strongly focussed on generation units. Hydro power is also affected by this.
- For hydro power the cash flow situation is decisively. Investments are only made very cautiously and only if the cash flow perspective can be improved in short to medium term.

**Many thanks for your attention!**

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