IEA PVPS

Grid parity in focus – calculating the full retail electricity cost

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PVPS Trends Report 2008:
Typical residential kWh price expressed in USD cents (1 USD/100),
including all taxes but not including variations due to time of use,
total electricity consumption or any fixed rates

<table>
<thead>
<tr>
<th></th>
<th>AUS</th>
<th>AUT</th>
<th>CAN</th>
<th>CHE</th>
<th>DNK</th>
<th>DEU</th>
<th>ESP</th>
<th>FRA</th>
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<tbody>
<tr>
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<td>10-14,2</td>
<td>22</td>
<td>6,4-13,3</td>
<td>~12,5</td>
<td>28,7</td>
<td>26</td>
<td>11-13,7</td>
<td>18,2</td>
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<tr>
<td>GBR</td>
<td>21,9</td>
<td>23,3</td>
<td>13,7</td>
<td>26,9</td>
<td>11,9-15,4</td>
<td>16,4</td>
<td>25,1</td>
<td>10,2</td>
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</tbody>
</table>
Components of electricity costs (1)

- Generation costs (Central stations)
- Transmission lines (Medium/High-Voltage)
- Distribution (Retail)
Components of electricity costs (2)

• Taxes, Fees (VAT, concession fee for the use of natural resources, concession fee at the community level)
• Support measures (EEG in Germany)
• Net profits
• ........................
• ........................
Cost structure of a public retailer in Switzerland

- Energy purchase .................. 65%
  incl. federal taxes & fees
- Grid maintenance & ............. 18%
- Administration
- Fees and taxes .................... 4%
  at the community level
- Depreciation, reserves for ..... 13%
  future investments
More than 30% of the costs are not directly depending on the amount of electricity sold!
Income statement (public retailer)

Fixed income (Service fees) 10%

Variable income (per kWh) 90%
The customer’s perspective
Household electricity bill (1)

- Consumption 3000 KWh
- Average Price CHF 0.14/KWh
- Service charge CHF 12.50/Month
- Variable costs/a CHF 420.- (74%)
- Fixed costs/a CHF 150.- (26%)
Household electricity bill (2)

- Consumption: 6 000 kWh
- Average Price: CHF 0.14
- Service charge/Month: CHF 12.50
- Variable costs: CHF 840.- (85%)
- Fixed costs: CHF 150.- (15%)
## Industrie electricity bill

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Consumption</td>
<td>300,000 kWh</td>
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<tr>
<td>Average Price</td>
<td>CHF 0.11</td>
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<tr>
<td>Service charge/Month</td>
<td>CHF 0.0</td>
</tr>
<tr>
<td>Costs/kW (Peak Power)</td>
<td>CHF 10.- /month</td>
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<tr>
<td>Variable costs/a</td>
<td>CHF 33,000.- (87%)</td>
</tr>
<tr>
<td>Peak Power costs/a</td>
<td>CHF 4,800.- (13%)</td>
</tr>
</tbody>
</table>
Let’s face the facts:

The fixed income does not cover the service costs for local utilities.

Residential net metering will create losses at the utility level.

The company must negotiate PPA with the utilities: Worth of peak power Shaving, other added values.