Public procurement (GATT/WTO) of electricity: the CSCS approach

EE HPC WG
Ladina Gilly, CSCS
October 3rd, 2018

General Agreement on Tariffs and Trade (GATT)
World Trade Organization (WTO)
Table of Contents

• Background information about swiss energy market, price model, CSCS energy contracts
• Basis for public procurement of energy
• Challenge presented by WTO procurement of energy
• Purchase based on price and single lot for 2018
• Purchase based on price formula for CSCS energy tender 2019 – 2023
• Take home message
Switzerland has been a member of the World Trade Organization (WTO) since July 1st 1995 and has been bound by the Government Procurement Agreement (GPA) since January 1996.

January 2009 liberalization of the Swiss energy market for large consumers (> 100'000 kWh).

The applicability of GPA rules to energy procurements continues to be debated.
Composition of Electricity Price

2018
Energy = 41%
Network = 35%
Taxes = 24%

2017 2018
Contribution to the refurbishment of hydrolic plants 0.1 0.1
Contribution to the cantonal renewable energy fund 0.03 0.03
Contribution to the federal renewable energy fund 1.4 2.2
Supplement for national grid 0.4 0.32
Contribution to public property 0.33 0.32
Network usage 4.37 4.38
Energy 4.17 5.1
**CSCS energy acquisitions 2008 - 2023**

- **Till 2008**: negotiated contract with cantonal energy provider AET, dating back to 1992
- Due to market liberalization CSCS was reassigned to the local provider Aziende Industriali Lugano (AIL) at the end of 2008.
- **2009 – 2013**: standard contract (not negotiated)
- **2014 – 2017**: negotiated contract
- **2017**: decision by ETH Zurich management board that energy should be procured according to WTO process.
- **2018**: WTO procurement; 1 lot purchase
- **2019 – 2023**: WTO procurement; multi-lot purchase distributed over time
Procurements exceeding the following threshold values excl. VAT) are subject to public procurement:
  - Goods > 230’000 CHF
  - Services > 230’000 CHF
  - Building construction > 8.7 Mio CHF

Electricity falls in the category ”Services”
CSCS procures electricity* for ~ 3 Mio. CHF / year
Challenge presented by WTO procurement of energy

Public
- Publication
- Invitation to tender
- 40 calendar-day term
- All vendors can submit offer
- Award
- Max. 30 calendar-day term
- Publication of award decision
- Contract

Selective
- Publication
- Invitation to participate in tender
- 25 calendar-day term
- Invitation to tender
- 40 calendar-day term
- Selected vendors can submit offer
- Award
- Justification of exception

Direct
- Direct award to vendor
- Award
- Justification of exception

Stock market purchase vs. appeal period
Who carries the risk of price fluctuation?

= 20 day appeal period
Purchase based on price and single lot for 2018

Advantages:

- Evaluation criteria very straightforward; price
- Once the contract is signed, both buyer and seller are protected from future price fluctuations and have a firm basis for budget planning.
- One-time purchase – no additional administrative work once contract signed.

Disadvantages:

- Real-time market offer vs. 20 day appeal period → Exposes the deal to price fluctuations that may take place between the moment the offer was made and the contract signature.
- **Purchase after appeal period:**
  - **Price increase risk** between the offer and the contract: the seller cannot pass on the increase to the buyer as he must guarantee offered price.
  - **Price decreases risk** between offer and contract: the buyer cannot benefit from the decrease as he must sign for the originally offered price.
- **Purchase at time of offer:**
  - **Appeal risk:** if appeal is granted, seller gets stuck with energy that he may not be able to sign contract for and has to resell at a potential loss.
  - The seller will want to factor these risks into their offer.
Comparison of offers based on resulting price per MWh on a given submission date.
Price formula:

In which:
- $P_{j,t}$ = procurement price
- (j) = delivery year
- (t) = time of calculation

Market given components:
- $P_{j,t}^{EEX DE BL}$ = Price at moment (t) of the Product „Phelix-DE Baseload Year Future“ for year (j) on the German EEX Market. Best Ask. Offer must be valid for 15 minutes.
- $P_{j,t}^{EEX DE PL}$ = Price at time (t) for product „Phelix-DE Peakload Year Future“ for year (j) on German EEX Market. Best Ask. Offer must be valid for 15 minutes.

Calculated components
- $P_{j,t}^{\text{Nordgrenze}}$: Premium for Switzerland compared to Germany for delivery year(j) at time (t).
- $FX_t$ = exchange rate EUR/CHF

Components defined by bidder
- $\alpha$ = profile factor for baseload
- $\beta$ = profile factor for peak load
- $\gamma_1$ = Premium for required quality of energy in CHF/MWh. (e.g. green energy/hydro)
- $\gamma_2$ = Premium set by seller for handling costs, balancing energy, risk, margin. Indicated in CHF/MWh.
## Distributing purchasing windows over time

<table>
<thead>
<tr>
<th>Lot Nr.</th>
<th>Quantity</th>
<th>Purchasing year 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot Nr. 1/19</td>
<td>6</td>
<td><img src="image1.png" alt="Graph" /></td>
</tr>
<tr>
<td>Lot Nr. 2/19</td>
<td>6</td>
<td><img src="image2.png" alt="Graph" /></td>
</tr>
<tr>
<td>Lot Nr. 3/19</td>
<td>6</td>
<td><img src="image3.png" alt="Graph" /></td>
</tr>
<tr>
<td>Lot Nr. 4/19</td>
<td>6</td>
<td><img src="image4.png" alt="Graph" /></td>
</tr>
<tr>
<td>Lot Nr. 1/20</td>
<td>8</td>
<td><img src="image5.png" alt="Graph" /></td>
</tr>
<tr>
<td>Lot Nr. 2/20</td>
<td>8</td>
<td><img src="image6.png" alt="Graph" /></td>
</tr>
<tr>
<td>Delivery lot Nr. 1/21</td>
<td>9</td>
<td><img src="image7.png" alt="Graph" /></td>
</tr>
</tbody>
</table>
Public procurement **based on price formula** – multi-lot purchase

**Advantages**
- Clear evaluation criteria; price formula
- Buyer can take advantage of market fluctuations and reduce their risk by purchasing energy in lots distributed over time.
- Reduction of risk of having to buy at a high point in the market.
- Seller does not have to bear the risk of price fluctuations or appeals between the award and contract signature.
- The seller will not have to factor price fluctuation risk into their offer.

**Disadvantages:**
- Requires the tendering party to define a price formula.
- The buyer may need to contract with a third party to ensure market observation in order to take advantage of price fluctuations.
Take home message

If you run a procurement based on a price formula:

- Seller not exposed to price fluctuations appeal risks between award and signing of contract
- Removes risk of getting locked into high-price purchase moment
- Takes advantage of market fluctuations and evens these out over time, reducing the risk they pose
- Good budgeting basis by completing purchases for year ahead by end of August

Running such an RFP teaches you a whole lot about the energy market 😊!