

IEA PVPS

Grid parity in focus – calculating the full retail electricity cost

PVPS

Pius Hüsser Nova Energie GmbH, Switzerland



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

AUS	AUT	CAN	CHE	DNK	DEU	ESP	FRA
10-14,2	22	6,4-	~12,5	28,7	26	11-13,7	18,2
		13,3					
GBR	ITA	JPN	KOR	NOR	PRT	SWE	USA
21,9	23,3	13,7	26,9	11,9-	16,4	25,1	10,2
				15,4			





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

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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

Average Price

Service charge

Variable costs/a

Fixed costs/a

3000 KWh

CHF 0.14/KWh

CHF 12.50/Month

CHF 420.- (74%)

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

Consumption 300 000 kWh

Average Price CHF 0.11

Service charge/Month CHF 0.0

Costs/kW (Peak Power) CHF 10.-/month

Variable costs/a
CHF 33 000.- (87%)

Peak Power costs/a CHF 4 800.- (13%)





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