



The
Cambridge-MIT
Institute
Electricity Project

*The Consequences for
Consumer Welfare of the 2001-
2003 Electricity Distribution
Price Review in the Netherlands*

www.econ.cam.ac.uk/electricity/publications/wp/ep50.pdf

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Plan

- History of link with Dutch sector
- Benchmarking and Regulation
- Electricity Regulation in the Netherlands
- The process of setting the X factors
- Four X factors and consumer welfare
- Conclusions
- Consequences

Benchmarking and Regulation

- Frontier based benchmarking
 - DEA, COLS, SFA
- Non-frontier methods
 - TFP, Yardstick regulation, reference firm, sliding scale
- Other methods
 - Value chain method, partial benchmarking

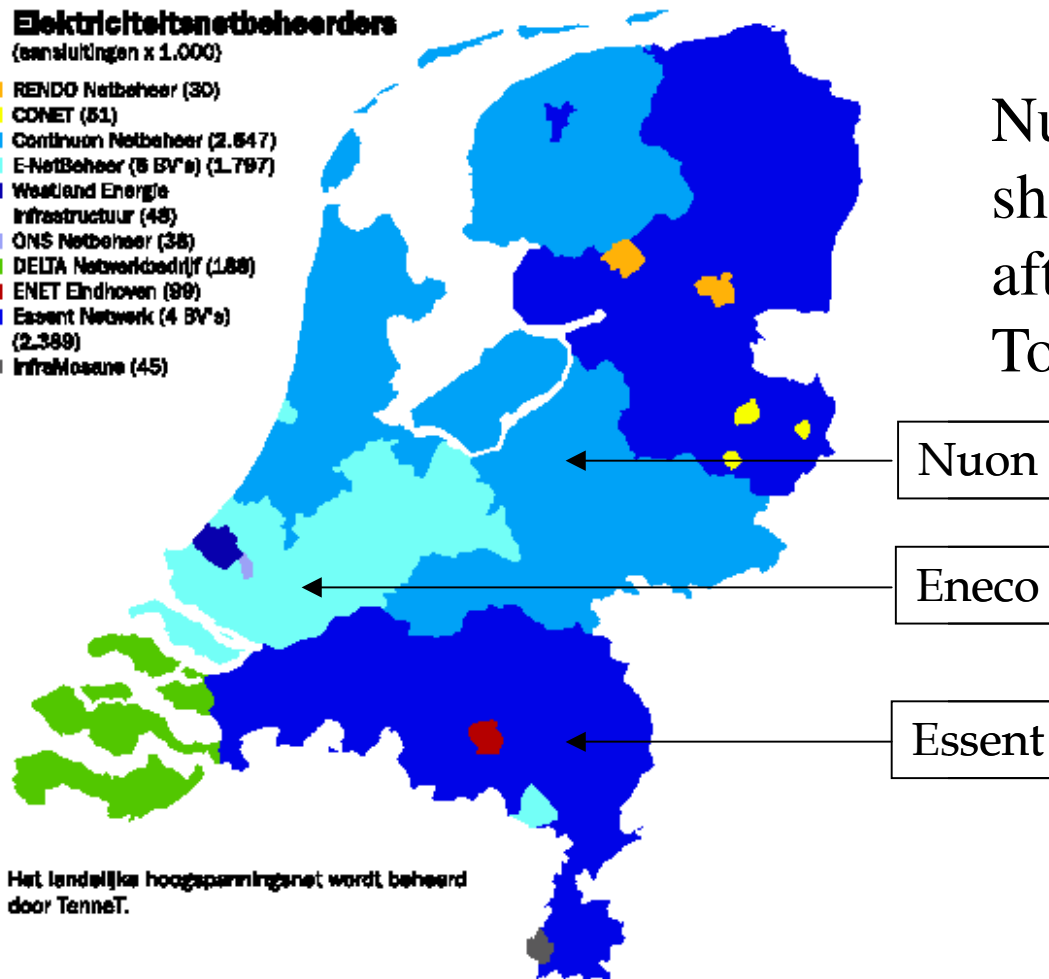
X factors and gaming

- True vs virtual improvements
- Influence at method adoption stage
- Timing of cost reductions (Di Tella and Dyck, 2002)
- Two types of strategic behaviour (Jamasb, Nillesen and Pollitt, 2004):
 - Presentational change
 - Distortion of actual efficiency

Dutch Electricity Distribution

Elektriciteitsnetbeheerders (aansluitingen x 1.000)

- RENDO Netbeheer (30)
- CONET (51)
- Continuon Netbeheer (2.547)
- E-NetBeheer (6 BV's) (1.797)
- Westland Energie
Infrastructuur (45)
- ONS Netbeheer (38)
- DELTA Netwerkbedrijf (1.88)
- ENET Eindhoven (99)
- Essent Netwerk (4 BV's)
(2.389)
- InfraMossion (45)



Nuon and Essent 33% market share and Eneco around 25% after wave of mergers.
Total customers = 7.3m

Dutch Electricity Regulation

- Electricity distribution and transmission in public ownership
- Full market liberalisation 1 July 2004
- 1998 E-Act set regulation for sector
- X factors to be set from 2001-2003
- Regulated by DTe
- Appeals to NMa (competition authority) and then CBb (special tribunal for business)

The First X factors for electricity distribution

- July 1999 Consultation Document
 - Outlines use of comparative benchmarking
- Feb 2000 Consultation Document
 - Use of DEA
 - Not to be a mechanistic approach
- Sept 2000 X factors
 - 20 separate networks benchmarked
 - X factors capped at 8%
 - DEA used on total expenditure
 - Scores applied directly to give X factors
 - WACC 6.6%

Example X-factor calculation

Table 1: Allowed revenue (DTe 2000 X-Factors) for Essent companies (x 1000 €)

<i>€x1,000</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>X-Factor</i>
Essent Brabant	289,907	293,748	297,640	301,584	-1.3%
Essent Friesland	11,401	10,348	9,393	8,526	9.2%
Essent Limburg	172,306	171,916	171,528	171,139	0.2%
Essent Maastricht	12,950	12,439	11,948	11,476	3.9%
Essent Noord	256,482	249,668	243,035	236,578	2.6%
<i>Total</i>	743,046	738,120	733,543	729,303	-

X-factors Version 1

Table 2: 2000 X-Factors

Company	Number of customers (x 1,000)	Starting revenue (€ mln.) (2000)	Effective X-Factor	Total cum. rev. Reduction (€ mln.)	Total cum. savings per cust. (€)
<i>Eneco</i>	1,792	484	8.1%	205	114
<i>Essent</i>	2,374	743	0.6%	26	11
<i>Nuon</i>	2,656	671	7.7%	270	101
<i>Sector</i>	7,280	2,025	5.1%	511	70

Note: X-Factor for sector is customer-weighted, according to customer numbers per individual network operator.

X-factors Version 1

- Companies except Essent appeal to the Dte
- NMa announces decision in Sept 2001
 - Regulator asset base method struck down
 - Mistakes in data corrected
 - No ‘Reformatio in Peius’

X-factors Version 2

Table 3: 2001 X-Factors

Company	Number of customers (x 1,000)	Starting revenue (€ mln.) (2000)	X-Factor	Total cumulative revenue reduction (€ mln.)	Total cumulative savings per customer (€)
<i>Eneco</i>	1,792	394	7.0%	146	82
<i>Essent</i>	2,374	743	0.6%	26	11
<i>Nuon</i>	2,656	572	7.2%	217	82
<i>Sector</i>	7,280	1,795	4.4%	376	52

X-factors Version 2

- Certain revenue (e.g. TSO charges) excluded
- Companies still unhappy with mechanistic nature of the benchmarking exercise.
- Appeal to CBb
- X factors Version 1 still applied.
- In a separate process retail tariff X factors set.
- Small company Rendo appeals against these.
- CBb (Feb 02) rules that law allows only one X.
- Corrected decisions process for distribution X factors announced by DTe. New X factors in Aug 02.

X-factors Version 3

Table 4: 2002 X-Factors

Company	Number of customers (x 1,000)	Starting revenue (€ mln.) (2000)	X-Factor	Total cumulative revenue reduction (€ mln.)	Total cumulative savings per customer (€)
<i>Eneco</i>	1,792	311	4.4%	74	41
<i>Essent</i>	2,374	584	4.7%	147	62
<i>Nuon</i>	2,656	465	6.8%	168	63
<i>Sector</i>	7,280	1,463	5.1%	384	53

X factors Version 3

- Essent not subject to No Reformatio in Peius.
- Eneco and Nuon have lesser revenue reductions.
- In Nov 02 CBb rules that only one X factor can be applied for electricity distribution.
- New director of Dte from Jan 2003
- Moves to negotiate settlement in May 2003
 - This fixes X factors for 2001-03 and agrees 2004-06.
- Legislation on X factors repaired in August 2003.

X-factors Version 4

Table 6: Final 2003 X-Factors including no Reformatio in peius based on X-Factor 2001

Company	Number of customers (x 1,000)	Starting revenue (€ mln.) (2000)	Effective X-Factor	Total cumulative revenue reduction (€ mln.)	Total cumulative savings per customer (€)
<i>Eneco</i>	1,792	482	3.2%	83	46
<i>Essent</i>	2,374	743	0.6%	26	11
<i>Nuon</i>	2,656	657	3.2%	114	43
<i>Sector</i>	7,280	1,970	2.0%	209	29

X-factors Version 4

- 3.2% was the agreed common X factor.
- However No Reformatio in Peius had to be applied to Essent.
- The result is much lower revenue reductions than initially planned.
- Initial publicised saving 511 Euros
- Final saving 209m Euros

X-factors: summary

Table 7: X-Factors for the first regulatory period

<i>Company</i>	<i>X 2000</i>	<i>X 2001</i>	<i>X 2002</i>	<i>X 2003</i>
Eneco	8.1%	7.0%	4.4%	3.2%
Essent	0.6%	0.6%	4.7%	0.6%
Nuon	7.7%	7.2%	6.8%	3.2%
Sector	5.1%	4.4%	5.1%	2.0%

X-factors: Consumer savings summary

Table 8: Revenue reductions from starting year 2000, as a result of different X-Factors during first regulatory period

<i>Company</i>	<i>X 2000</i> <i>€ mln.</i>	<i>X 2001</i> <i>€ mln.</i>	<i>X 2002</i> <i>€ mln.</i>	<i>X 2003</i> <i>€ mln.</i>	<i>% change 2000-2003</i>
Eneco	205	146	74	83	-59%
Essent	26	26	147	26	0%
Nuon	270	217	168	114	-58%
Sector	511	376	384	209	-59%

Conclusions

- Unusually poorly handled price review:
 - Badly drafted legislation
 - Ambitious timetable (less than 18 months)
 - Poor discussions with companies
 - Initial mistakes compounded by No Reformatio in Peius
 - Customers lost out on 300m Euros

Consequences

- Interventiewet Bill introduced on 29 July 2004
 - Tightens regulatory framework
 - Fines up to 10% of group revenue
 - Network operator to have control of balance sheet
- Ministerial plan for full ownership unbundling of network and retailing by 1 July 2007, with networks remaining in public ownership.
- The cost of this is estimated at 1.5bn Euros, of which direct costs are around 370m, cross border lease costs 500m, cost of capital 600m.
- This looks like over-reaction to initial regulatory problem.