



Why Switzerland?
The Argument for Consolidating
Data Centre Activities in Switzerland

Safe Host SA

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September, 2006

Revised

January, 2011

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1.0 Overview

Switzerland is the ideal location for establishing or consolidating your pan-European data center operations. Over the next 25 years, it will continue to provide a stable, low-risk environment with a consistent and abundant source of available power.

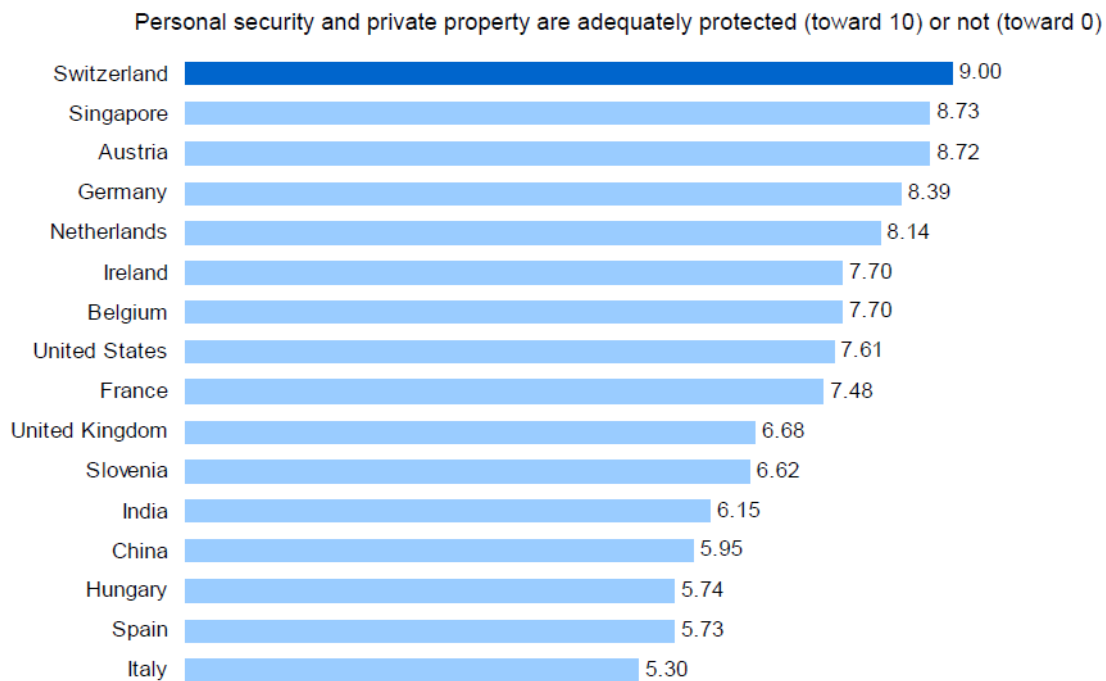
This document provides an assessment of Switzerland's risk, competitiveness and its government flexibility, while also giving an overview of the other advantages of the Swiss market such as abundant, low-priced and clean electricity. It provides statistical evidence and uses external sources to support the argument that Switzerland is the ideal location for your data centers.

2.0 Risk

2.1 Introduction

Switzerland offers a very low-risk environment. In 2008, The Institute for Management Development (IMD) ranked Switzerland top of the European table for Personal Safety and Security. These rankings were based on: relationships with other countries, internal stability, crime, law enforcement, censorship and limitations on personal freedom.

Graph 9.2.4: Index of personal security and private property protection

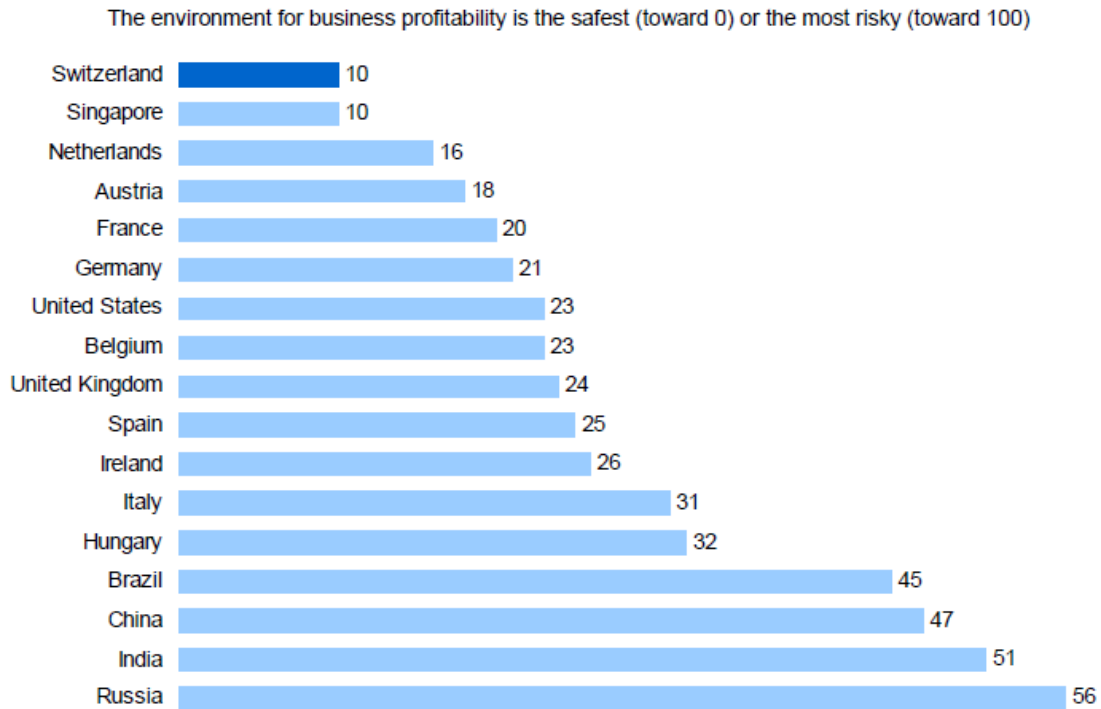


Source: International Institute for Management Development (IMD), *The World Competitiveness Yearbook 2008*, Lausanne (www.imd.ch/wcc)

The *World Bank Policy Research Working Paper Series* ranks Political Stability as one of six governance indicators. It measures the likelihood of credible threats to, or changes in, the government in power. These credible threats include coups, domestic violence, terrorism etc.

The rankings range from +2.5 to -2.5, with high scores being better. For 2004: France 0.53, Germany 0.92, Italy 0.31, **Switzerland 1.44** and United Kingdom 0.77.

As measured in the Economist Intelligence Unit's Risk Briefing in 2010, Switzerland has the lowest risk environment of any nation.



Source: Economist Intelligence Unit, *Risk Briefing*, January 2010 (www.economist.com)

Note: The overall scores are an aggregate of underlying scores for ten categories of risk: security, political stability, government effectiveness, legal and regulatory, macroeconomics, foreign trade and payments, financial, tax policy, labour market, and infrastructure.

2.2 Terrorism, Civil Unrest, Labour Conflict and Accidents

The threat of terrorism, civil unrest, labour conflicts and accidental explosion are all but unknown in Switzerland.

Chart B: Recent Terrorism, Civil Unrest, Labour Conflicts and Accidents in Europe

(Source: Safe Host Internal Document, 2006-2011)

Date	Location	Event
7/7/2005	London, England	Bombs on bus and underground system
7/21/2005	London, England	Failed attack on the underground
Various	London, England	Labor Unrest - Tube, Cabin Crew Strikes
11/3/2004	Madrid, Spain	Bombs on a train
11/7/2006	Dortmund & Koblenz, Germany	Suitcase bombs fail to explode on 2 trains
2000-2001	Hamburg, Germany	Al-Qaeda cell linked to 9-11 events in USA
10-11/2005	Paris, France	Rioting also in 14 other cities
4/11/2006	France, Germany, Italy, Spain +	Power failure disrupting a million plus people

In countless other countries, including France and the UK, strikes hit sectors including transportation and electricity. For example, in January 2005, BBC News reports "Rail workers also began their one-day action late on Tuesday, that is set to bring chaos to France's railways. Electricity workers will stage walkouts on Wednesday, with teachers and other civil servants protesting on Thursday."¹ In 2010, there were numerous anti-austerity strikes across the European Union. For example, on 6th September², 3rd October, 3rd November and the 28-29th November 2010, Tube lines in London came to halt as unions went on strike.

Great Britain - December 11, 2005. "A series of large explosions have occurred close to Hemel Hempstead Hertfordshire, UK. The source of the explosions has been confirmed as the Hertfordshire Oil Storage Terminal (HOSL), Hemel Hempstead, known locally as the Buncefield complex. Up to 150 fire fighters are reported to be at the scene with 10 fire appliances and 1 specialist foamer. Houses half a mile away have had windows smashed and garage doors blown in. BBC News24 (UK) reported that a nearby building was destroyed, it is possible that this may have been a building belonging to Geest Limited. Police said at a news conference that 36 people were injured, four of them seriously. Police later revised the numbers to 43 injured, two seriously. A fire service spokesman said that the explosions caused a "fairly major fire at a factory" on the adjoining industrial estate³.

Germany, 9 April 2006. German Flooding Reaches Record Levels. The swollen Elbe river on Sunday rose to record levels in parts of northern Germany. Flooding on the Rhine between Koln, Dusseldorf and The Netherlands also occurs.

¹ BBC News, Tuesday, 18 January, 2005, 23:59 GMT

² <http://www.telegraph.co.uk/travel/travelnews/7986025/Tube-strike-millions-hit-by-travel-chaos-with-nine-lines-affected.html>

³ BBC World News

3.0 Competitiveness

3.1 Media Reports

3.1.1 World Economic Forum

The Financial Times⁴ wrote, “The US has been knocked off the top spot in a closely watched annual ranking of competitiveness... being overtaken by Switzerland.”

“The WEF’s ranking is one of the more significant measurements of countries’ economic potential since it aggregates an extensive number of different indicators to arrive at its overall score. The ranking has been revised for 2010-2011, the WEF said, incorporating many new indicators of competitiveness and improving its accuracy as a guide to the medium and long-term economic performance of different countries

Global Competitiveness Index

	Rank (out of 139)	Score (1-7)
GCI 2010–2011	1	5.6
GCI 2009–2010 (out of 133).....	1	5.6
GCI 2008–2009 (out of 134).....	2	5.6
Basic requirements	2	6.1
1st pillar: Institutions	7	5.8
2nd pillar: Infrastructure.....	6	6.1
3rd pillar: Macroeconomic environment.....	5	5.8
4th pillar: Health and primary education	7	6.6
Efficiency enhancers	4	5.4
5th pillar: Higher education and training.....	4	5.8
6th pillar: Goods market efficiency.....	4	5.3
7th pillar: Labor market efficiency	2	5.9
8th pillar: Financial market development.....	8	5.3
9th pillar: Technological readiness.....	7	5.6
10th pillar: Market size.....	36	4.5
Innovation and sophistication factors	2	5.7
11th pillar: Business sophistication.....	4	5.8
12th pillar: Innovation.....	2	5.6

3.1.2 Ernst & Young

Switzerland is the first choice for international companies and investments, according to the latest international survey by Ernst & Young. In 2005, 510 foreign companies began operations in Switzerland and the country’s share of direct foreign investment into Europe doubled with respect to 2004. Switzerland is now the first choice among European countries for international corporations wishing to establish their International / European headquarters, an R&D centre or an administrative / accounting office. The « Swiss Attractiveness Survey – What Foreign Companies Say » by Ernst & Young, surveying international executives currently working in Switzerland, shows that 74% would certainly or probably choose Switzerland again as a business site and are even taking expansion of their local businesses under consideration.

⁴ Financial Times, London, 27 September 2006

3.2 Shaded-Grid Analysis of Switzerland and 4 EU Countries

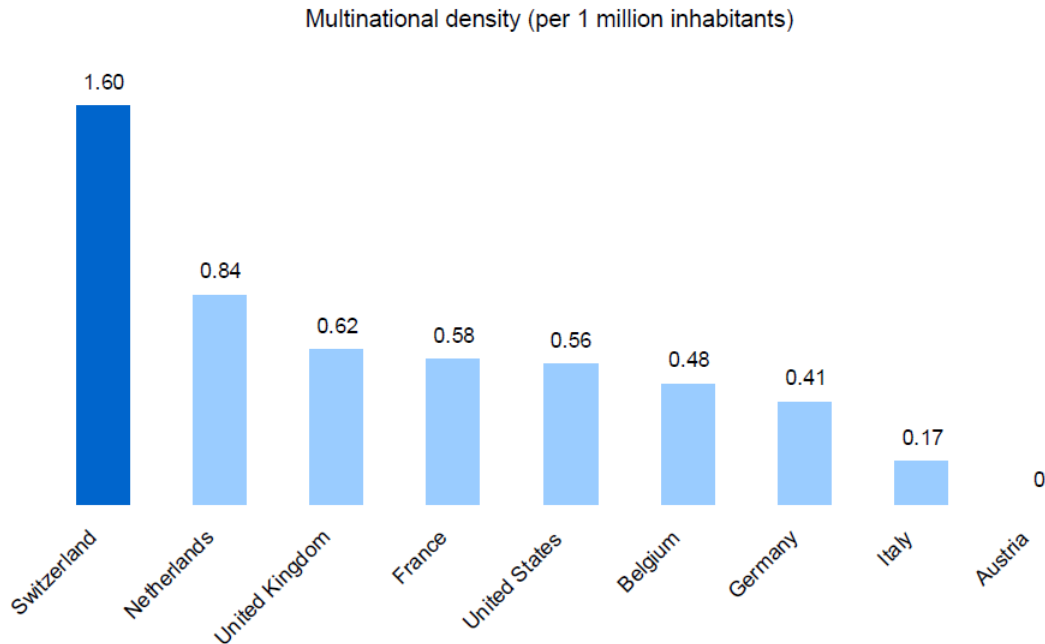
Criteria	Switzerland	France	Germany	U.K.	Ireland
OVERVIEW					
Population ⁷	7.8	62.7	81.8	61.7	4.5
GNP Growth Rate ⁷	1.5	1.9	1.5	1.6	4.7
Inflation Rate ⁷	1.4	2.1	2.1	2.1	2.5
ECONOMIC					
Entrepreneurial Activity ²	7.3	2.4	5.2	6.0	8.6
Unemployment Rate	3.6	10.2	11.7	4.7	4.2
Annual Work Rate ³	1832	1575	1689	1726	1802
Employer Workplace Flexibility ⁴	7.48	2.34	2.35	5.02	4.96
SOCIAL					
Quality of Education System ⁵	5.6	5.1	3.7	4.5	5.2
% Population with a Secondary Education	87	64	83	82	60
INFRASTRUCTURE					
Infrastructure Quality ¹	6.8	6.6	6.3	5.3	4.2
Average Annual Rent, CBD ⁶	533	1114	567	2376	872
Average Annual Rent, Suburbs ⁶	265	702	246	972	443

Good
Above Average
Fair
Poor

- 1 - World Economic Forum, Global Competitiveness Report 2004-2005 - 7 is Best, 1 is Worst
- 2 - Global Entrepreneurship Monitor, 2003
- 3 - Days worked, Corporate Consulting & Technology, July 2005
- 4 - IMD, World Competitiveness Yearbook 2005, 10 is Flexible, 1 is Inflexible
- 5 - World Economic Forum, Global Competitiveness Report 2004-2005 - 7 is Best, 1 is Worst
- 6 - US\$/M² Schofield & Partners SA, Jones Lang LaSalle, 2008, Compared to Paris, Frankfurt, London and Dublin
- 7 - Economist Intelligence Unit Forecasts 2010

3.3 Proximity to Leading International I.T. Businesses

Switzerland is the preferred relocation choice for Fortune 500 companies.



Source: *Joint Study of the Swiss-American Chamber of Commerce and The Boston Consulting Group, Multinational companies on the move: How Switzerland will win the battle, Zurich, 2007 (www.amcham.ch). This is the latest available data.*

3.3.1 IBM Microelectronics

“IBM has underlined Geneva's credentials as a major center of excellence for top IT companies by setting up the European headquarters of its microelectronics division and creating a new center for the development of two key businesses.”

IBM chose Geneva for its micro-electronics business because "employees are very professional and competent. The telecoms infrastructure can handle all the data we need to send without problems or limitations. The presence of international organizations, especially the ITU, is important and Geneva is extremely well located geographically."

3.3.2 Other IT Companies

SOFTWARE: Autodesk, Cambridge Technology Partners, Cap Gemini, Electronics Arts, Oracle Software, Polysoft, Solog, Sopra Informatique, Take Two Interactive, Wisekey

ELECTRONICS: Agilent Technologies, LEM, Lemsys, Liscom, Scolari Electronique, Firstec, Kudelski

SEMI-CONDUCTORS: Agilent Technologies, ST Microelectronics,

TELECOM & INTERNET: Agilent Technologies, Cisco, MCI Worldcom, ITU, Netexpert, PSINet Europe, Reuters, Sunrise Ltd, Safe Host, IXEurope, Telesonique, ISOC Europe, Colt, SITA

COMPUTERS & PERIPHERALS: Autodesk, Brocade, Dell SA, Hewlett Packard, Lexmark, Logitech, Sun Microsystems

LOGISTICS: Corporate Software & Technology (Int'l)

3.3.3 *Government Flexibility*

The Economist Intelligence Unit writes “Switzerland’s laissez-faire policies and its federal and cantonal incentives for new investors make the country an attractive investment location.”

4.0 Power

4.1.1 Overview of Switzerland

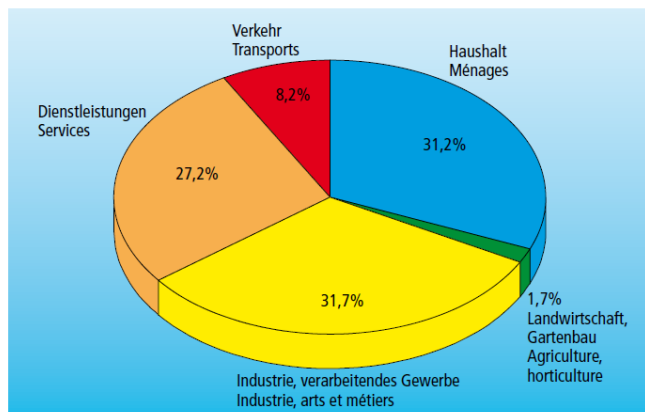
Statistics show that Swiss market prices for electricity are amongst the lowest in Europe. Switzerland produces a surplus of power⁵. The surplus amounts to about 9 billion kWh in 2009⁶, with a wholesale trade value of up to 1.5 billion Swiss francs. Swiss electricity production is *almost completely CO2-free*, ensuring that regulatory burdens placed on other countries will have hardly any impact on electricity prices in Switzerland.

Switzerland's electricity market is fragmented. The supply of electricity is secured by some 850 companies. Many works operated by communes also supply water and gas. In some cantons and cities, a single vertically-integrated company is responsible for the entire supply chain, while in other cantons supplies are secured by a variety of companies. The public sector stake in the capital stock of electricity supply companies (approximately 5.6 billion Swiss francs) is currently around 80%, while the remaining 20% is held by private-sector companies (at home and abroad). 5 nuclear power stations account for 40% of production, the balance is predominantly hydro. 543 hydropower power plants plays a major role in Switzerland's energy production, with a share of around 55.3%.

Domestic end consumption rose to more than 57 TWh in 2009, with households, industry and the services sector each accounting for one-third of this total.

Fig. 2
Stromverbrauch 2009
nach Kundenkategorien

Fig. 2
Parts des catégories
de clients en 2009



4.1.2 Supply Stability

Switzerland does not face the same supply shortages that countries such as Great Britain may face. Primary energy production in the UK declined by 5.9% in 2009. Numerous reports, including reports from Ofgem⁷ and a CapGemini study, show that Great Britain will begin to

⁵ Swiss Federal Office of Energy, SFOE

⁶

⁷ <http://news.bbc.co.uk/2/hi/8494899.stm>

face shortages by 2015⁸. In the meantime, regional supply shortages are occurring with some customers having to relocate their data centres away from high-demand areas⁹.

Country Comparisons of Power Sources

	Fossil	Nuclear	Hydro	Other
Switzerland ¹⁰	4.7%	40%	55.3%	
Germany ¹¹	66.5%	22.4%	4.5%	6.6%
Italy	84.3%	0%	12.6%	3.1%
France	10.7%	76.9%	11.7%	0.7%
UK ¹²	80.8%	13.0%	0.1%	6.1%

Conclusions - Lower fossil fuel-weighted energy means:

- Less susceptibility to variations in price of fossil fuel (coal, gas, oil)
- Less susceptibility to increasing controls on CO2 emissions
- Less susceptibility to the whims, politics of nations such as Russia
- Less susceptibility to external events in Iran, Iraq etc

4.1.3 Price Stability

The electricity market in Germany has shown strong price increases. “Power prices in Germany more than tripled in five years and cost 0.4 percentage points in growth each year, according to the DIW economic institute.¹³”

In the UK, from 1998 through 2008, domestic fuel prices have increased by 60%, with the real price of electricity increasing 37%¹⁴.

⁸ <http://www.telegraph.co.uk/earth/energy/3507473/UK-at-real-risk-of-power-shortages-report-warns.html>

⁹ <http://www.computerworlduk.com/news/infrastructure/9896/dresdner-kleinwort-moves-datacentre-out-of-london/>

¹⁰ <http://www.bfe.admin.ch/themen/00612/index.html?lang=en>

¹¹ Eurostat

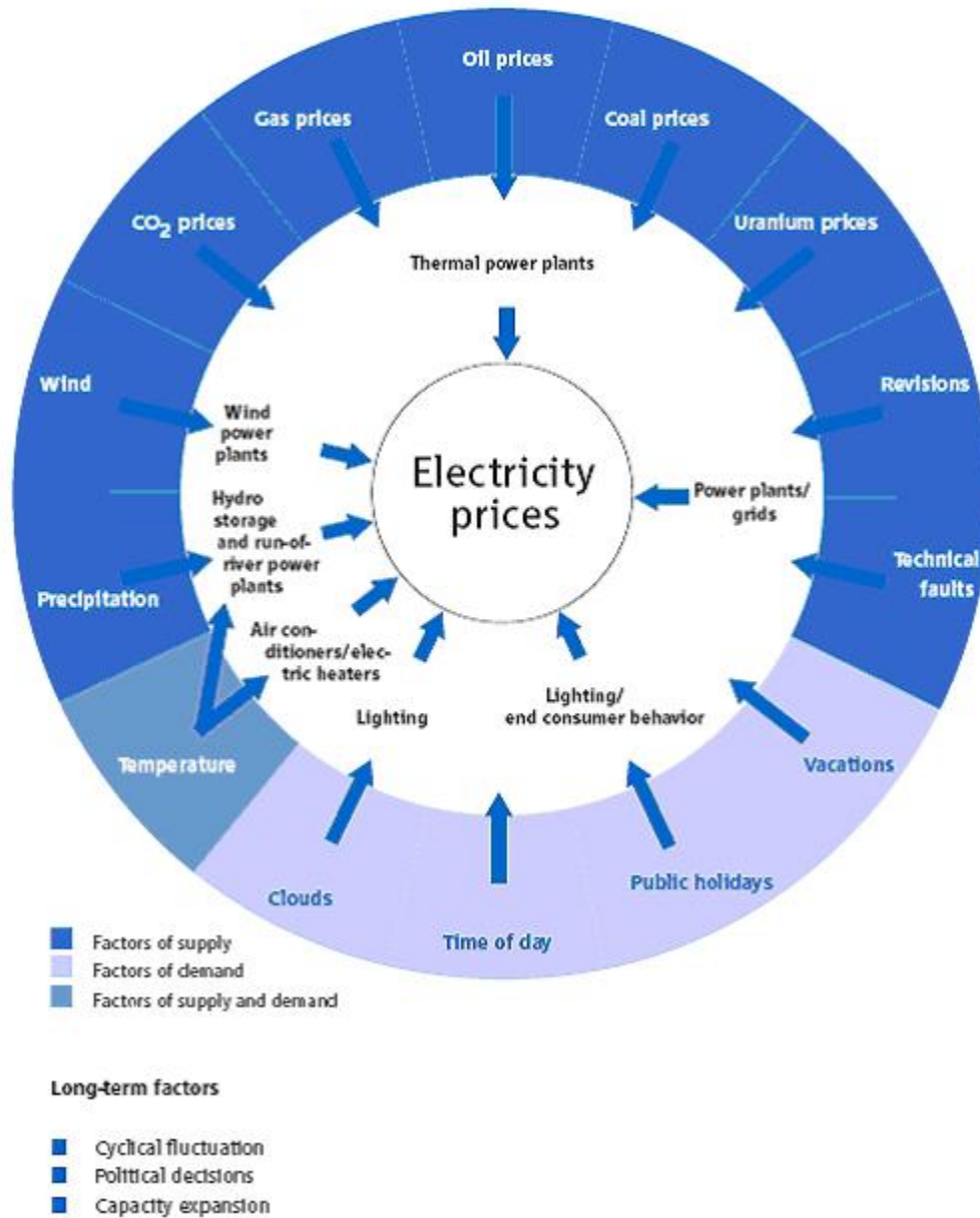
¹² <http://www.decc.gov.uk/assets/decc/Statistics/publications/brief/78-energyinbrief2009.pdf>

¹³ Bloomerg.com, April 4 2006

¹⁴ <http://www.decc.gov.uk/assets/decc/Statistics/publications/brief/78-energyinbrief2009.pdf>

4.0 APPENDIX

Factors Exerting a Major Influence on Electricity Wholesale Prices



International Energy Agency, 2009

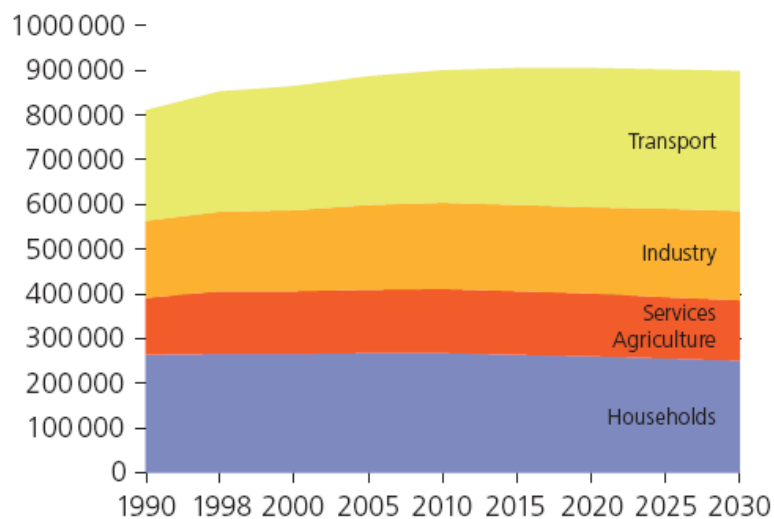
Switzerland

Economic Indicators

	2005	2006	2007	2008	2009
GDP at market prices (CHF bn)	463.8	490.5	521.1	544.2	535.3
Real GDP growth (%)	2.8%	5.8%	6.2%	4.4%	-1.6%
CPI (%)	1.2	1.1	0.7	2.4	-0.5
Population (million)	7.5	7.5	7.6	7.7	7.8
Exports of goods fob (CHF bn)	157.5	177.1	193.2	197.5	169.0
Imports of goods fob (CHF bn)	163.0	185.2	206.3	216.0	187.4
Current-account balance (CHF bn)	65.0	74.2	47.3	9.5	63.8
Reserves excl gold (bn)	75.8	78.7	85.0	78.9	139.7
Exchange rate (av; CHF:US\$)	1.25	1.25	1.20	1.08	1.09
Exchange rate (av; CHF:EUR)	1.55	1.57	1.64	1.59	1.51

Sources : *Office Fédérale de la Statistique and Banque Nationale Suisse*

Development of the final energy consumption of Switzerland 1990 to 2030 by consumer groups [in TJ]



Source: *Prognos, 2000 (Reference Energy Act)*

4.1 Evolution de la consommation globale et de ses composantes

Par rapport à 2008, la consommation finale d'électricité en 2009 a diminué de 1235 GWh ou 2,1% à 57'494 GWh. Cette baisse est due avant tout à la crise économique et aux températures plus élevées.

Fig. 14
Entwicklungen
der einzelnen
Kundenkategorien
seit 1984

Evolution des
différentes
catégories
de clients
depuis 1984

