EXECUTIVE SUMMARY AND KEY RECOMMENDATIONS

EXECUTIVE SUMMARY

Since the last in-depth review in 2003, Switzerland has continued to perform well in most areas of energy policy. The electricity sector will be reformed as from 2008, supplies of oil and gas have been secure and energy efficiency and renewable energy are receiving increased attention. Yet, as in all countries, challenges also remain. The biggest ones concern electricity generation and climate change.

Oil and gas supply continues to be secure. Oil supply is well diversified, both by country of origin and by import route. Natural gas is also supplied by several countries through various routes. Switzerland consistently holds emergency stocks much in excess of those required by the IEA. Oil stocks are also part of gas security. As Switzerland does not possess large-scale gas storage, dual-fired users are obliged to hold large stocks of fuel oil. Switzerland's energy security policy is fundamentally sound, which is a necessity for a landlocked country with no domestic production of fossil fuels.

Security of electricity supply is a question of wider international interest, as Switzerland is a major player in the European electricity markets, and, traditionally, a net exporter of electricity. Reforming the Swiss electricity market has been long in the making, and now, with the recently approved Law on Electricity Supply, it will turn into a reality. The law contains the necessary elements for effective market liberalisation: an independent regulator, an independent transmission system operator, regulated third-party grid access, and freedom to choose the supplier. The law comes into force in two phases during 2008, and it is set to fully open the Swiss electricity market by 2013. The IEA commends Switzerland for this progress.

In contrast, the gas market remains essentially unreformed. The IEA encourages the Swiss government to proceed to liberalise it. Gas market reform would bring increased incentives for investment in gas infrastructure, important to support a potentially very strong demand growth. It would also help Switzerland ensure that mechanisms to allocate cross-border capacity and procedures to manage congestion are compatible with those of the neighbouring countries.

Future generating capacity is one of the major energy issues in Switzerland. The country has traditionally been a net exporter of electricity, but for the past two years, imports have exceeded exports. Electricity demand is growing faster than generation, and plans for new large-scale capacity are few. According to the government's energy scenarios published in early 2007, a supply gap will start widening in the late 2010s and early 2020s, when long-term import contracts with France expire and the oldest nuclear power plants – one–third of the nuclear capacity – reach the end of their operational life. Renewable energy and energy efficiency are projected to cover only part of this gap. The government wants to avoid dependence on electricity imports, thereby leaving Switzerland the option to build more nuclear and/or gas-fired capacity.

The process to construct new nuclear power plants would take a long time, about 16 to 18 years from submitting the proposal for a general licence to generating power, but the project would still likely face a referendum. The government has plans to streamline the licensing procedure without having to amend the Nuclear Energy Law. Regardless of whether new nuclear plants are built, nuclear waste management will need to be addressed. The government is making commendable progress on this issue.

Constructing gas-fired power plants is challenged by the current CO_2 regime. Emissions reductions at home are expected to cost some ten times more than those realised abroad. Switzerland has allocated its quota of emissions reductions from the Kyoto mechanisms unevenly across sectors, strongly favouring the use of transport fuels at the expense of electricity generation and industry.

As in most industrialised countries, energy and climate policy is challenged by transport. Switzerland plans to shift freight transport from road to rail in the transalpine routes and major projects are now under way to improve rail infrastructure. These projects will still take years to finalise, but will support a more sustainable transport system.

Curbing the rising CO_2 emissions from private cars and light-duty vehicles is proving to be a major challenge. The trend is unsustainable and the voluntary system in place, the Climate Cent, does not provide sufficient incentives for change. For the long term, continuing on the current basis is not an option. It is therefore encouraging that the government is planning to introduce a bonus-malus (feebate) system to promote energy-efficient new cars to replace inefficient ones. It is also considering supplementary measures to enforce a cap on CO_2 emissions per kilometre for new cars. Excise taxes on biofuels will be abolished and those on gas-based fuels lowered, whereas taxes on gasoline will be raised, thereby improving diesel's competitiveness to gasoline.

Energy efficiency has long been a government priority. Good results have been achieved in many sectors. For example, the voluntary Minergie building standards are of a very high level, and the cantons are now harmonising their

building codes towards these levels. In a welcome development, the Department of the Environment, Transport, Energy and Communications (DETEC) published in early September 2007 draft action plans to increase energy efficiency (especially a best-practice strategy for household equipment and electric motors) and the use of renewable energy in Switzerland. The draft plan on energy efficiency is broadly in line with the International Energy Agency's (IEA) recommendations to the G8, which were endorsed by the IEA Energy Ministers in May 2007.

Goals beyond 2012 need to be supported by effective policies and measures. To ensure compatibility with the climate strategy, energy efficiency's role in reaching Switzerland's climate policy targets should be clearly defined and quantified. Another compatibility issue concerns energy research and development (R&D). In the second half of this century, Switzerland is striving towards a 2 000-watt society, *i.e.* more than halving energy needs per capita from today's levels. Energy challenges are daunting, so ambitious R&D goals are certainly needed. These goals have to be supported by strong policies and measures. Reconciling the short-term energy scenarios and the long-term R&D scenarios is crucial. Switzerland's strength in energy R&D provides a solid basis for these efforts.

KEY RECOMMENDATIONS

The government of Switzerland should:

- *Increase adequacy of future electricity generation capacity by creating stronger incentives for energy efficiency and setting more favourable conditions for investing in generation.*
- *Ensure compatibility and consistency between the short- and medium-term goals for energy efficiency and climate policy and the long-term goals for energy R&D.*
- *Implement swiftly the Law on Electricity Supply and consider initiating reforms in the gas market.*