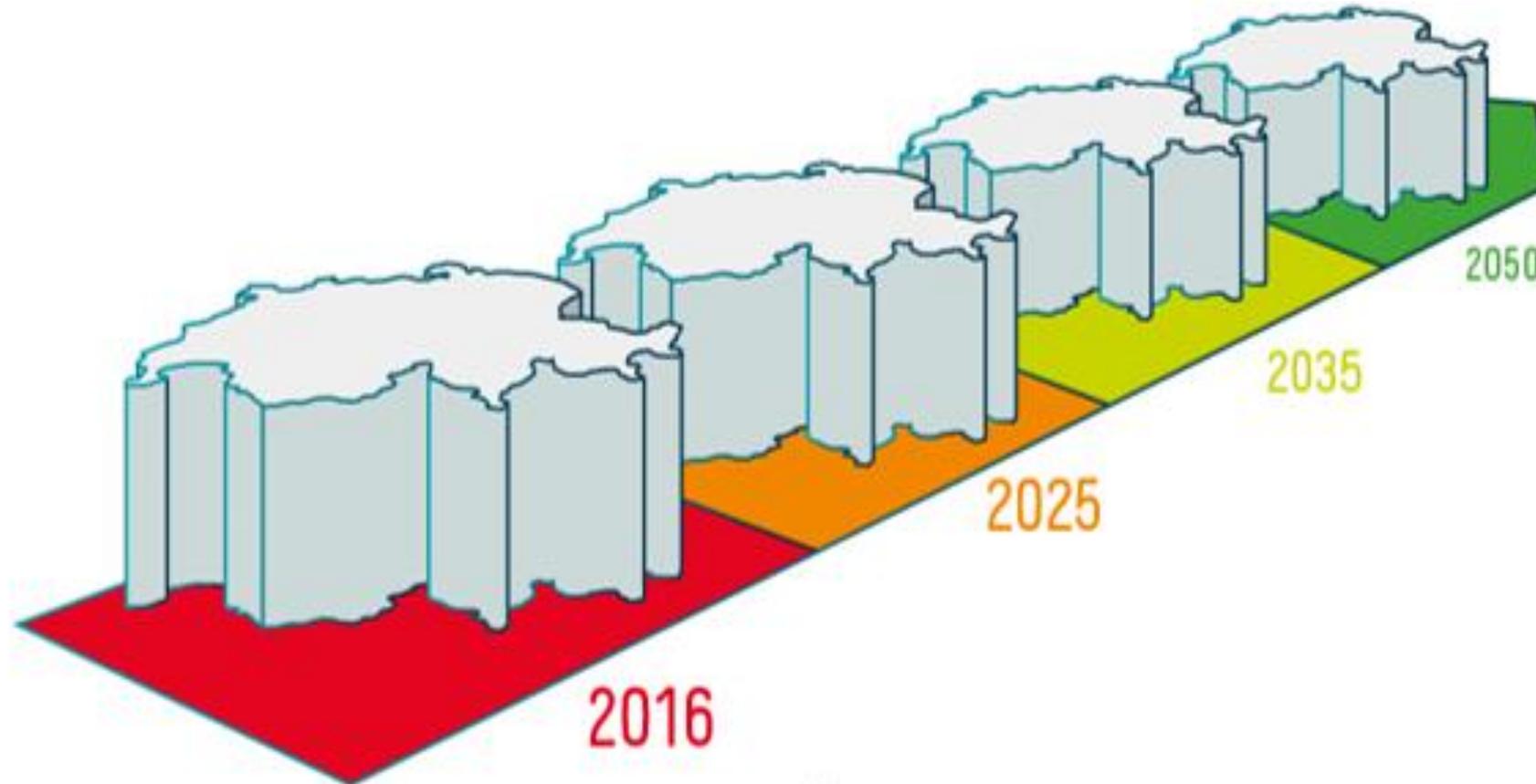




Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Energie BFE
Office fédéral de l'énergie OFEN
Ufficio federale dell'energia UFE
Swiss Federal Office of Energy SFOE



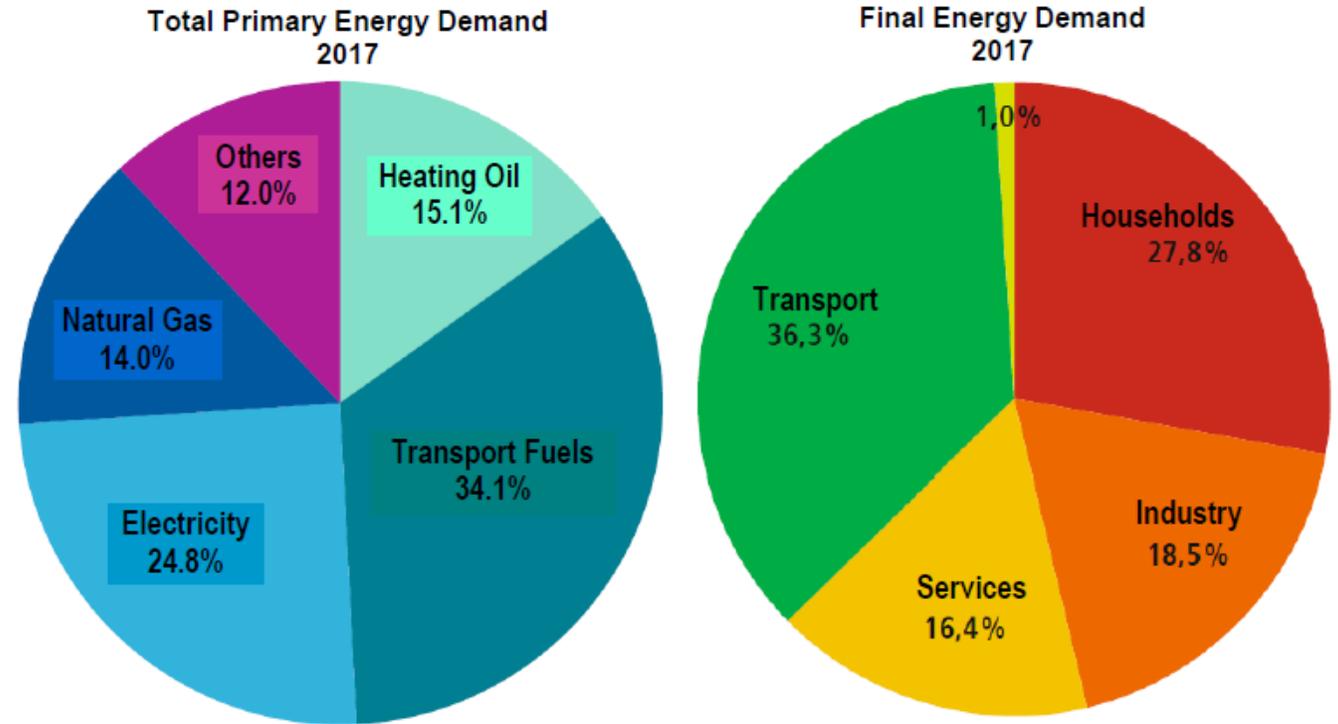
SWITZERLAND'S ENERGY STRATEGY 2050

Jean-Christophe Fueeg, Ambassador, Head International Energy Affairs,
Swiss Federal Office of Energy



SWITZERLAND: KEY ENERGY DATA

- Relatively high share of transport
small share of industry, low share of natural gas
- 80% energy import dependence



Energy Strategy 2050 Indicative Targets

- Per capita energy consumption vs 2000: -16% by 2020, -43% by 2035
- Per capita electricity consumption vs 2000: -3% by 2020, -13% by 2035



ENERGY STRATEGY 2050: THE COMING ABOUT AND TIMELINE

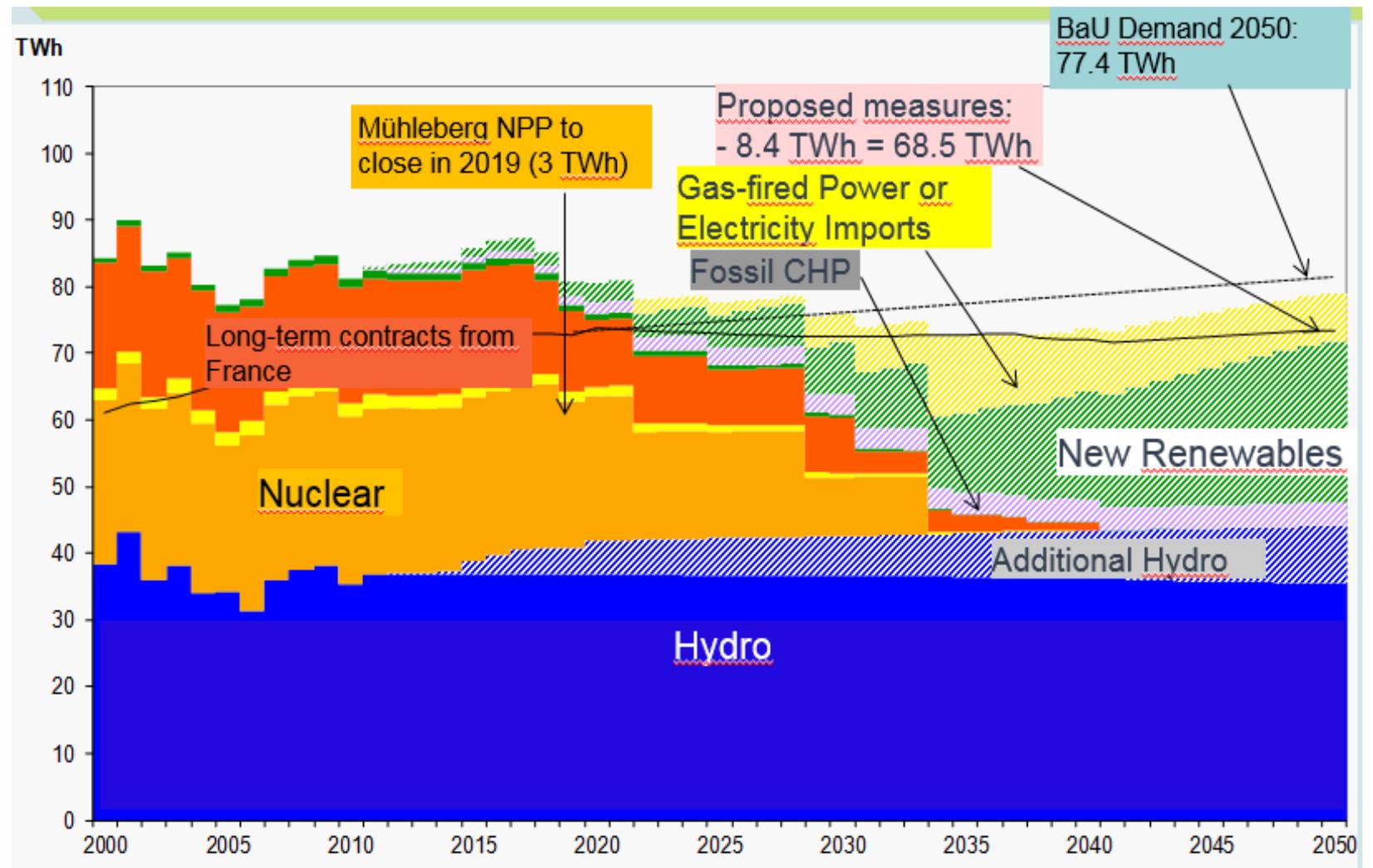
- **2011 post Fukushima: Government and Parliament decide nuclear phase-out (i.e. no replacement after end of nuclear power plant lifetime)**
- **2013: Parliament increases feed-in tariff. 25% increase of energy R&D funding. Government proposes legislation for Energy Strategy 2050**
- **September 2016: Parliament adopts Energy Strategy 2050 legislation**
- **27 November 2016: “Popular Initiative” to limit nuclear power plant lifetime at 45 years rejected by 54.2% of votes**
- **21 May 2017: Energy Strategy 2050 approved by 58.2% of votes in referendum**
- **1 January 2018: Entry into force of Energy Strategy 2050 legislation**
- **Ongoing:**
 - **Revision of CO₂ Law: 2030 target under Paris Agreement**
 - **Revision of Electricity Law: market design**



ELECTRICITY: THE NUCLEAR PHASE-OUT

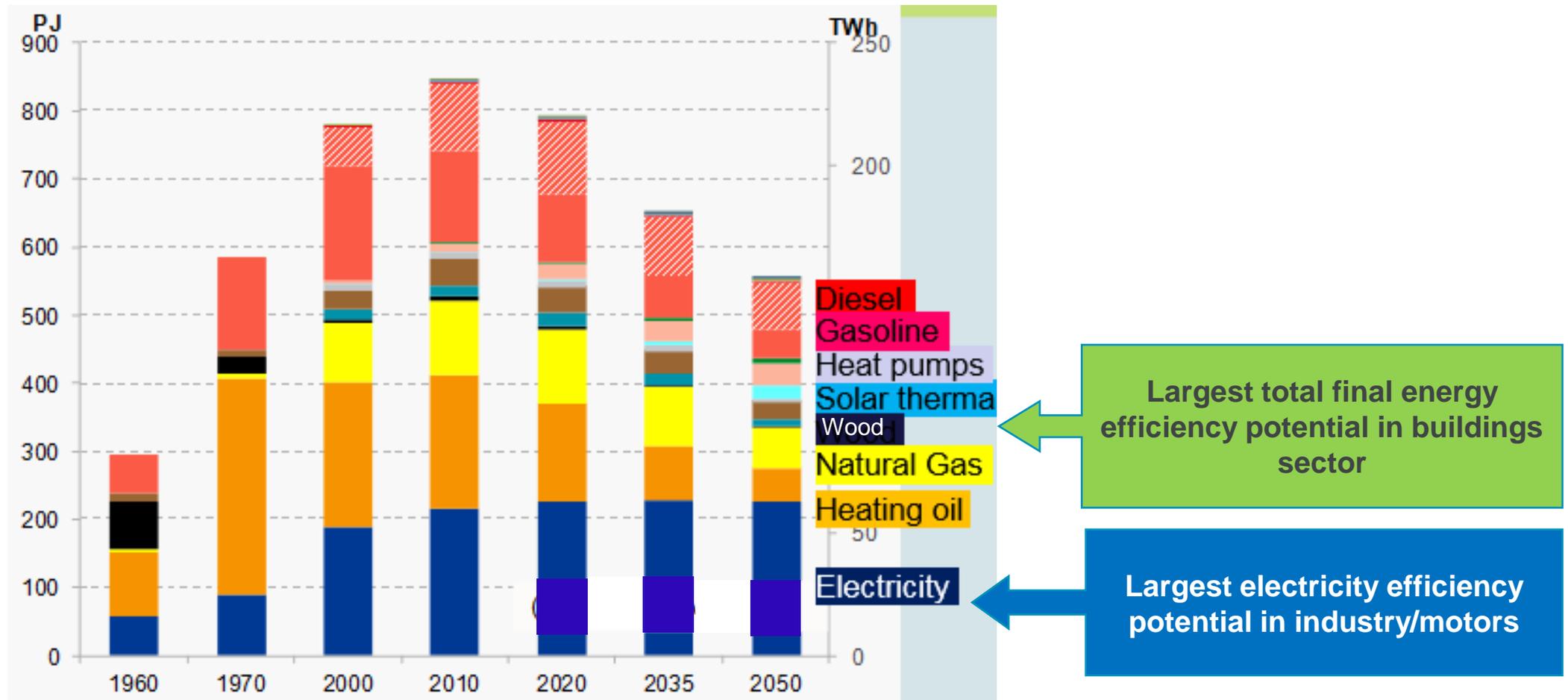
- Nuclear plants to run as long as safe or commercially viable
- Efficiency measures to stabilise electricity demand
- Renewable build-up not fast enough to fill “gap”
- Increased import dependency (planned “storage reserve” in late winter)

NPP: Nuclear power plant
CHP: Combined heat & power
BaU: Business as usual





ENERGY STRATEGY 2050: FINAL ENERGY MIX

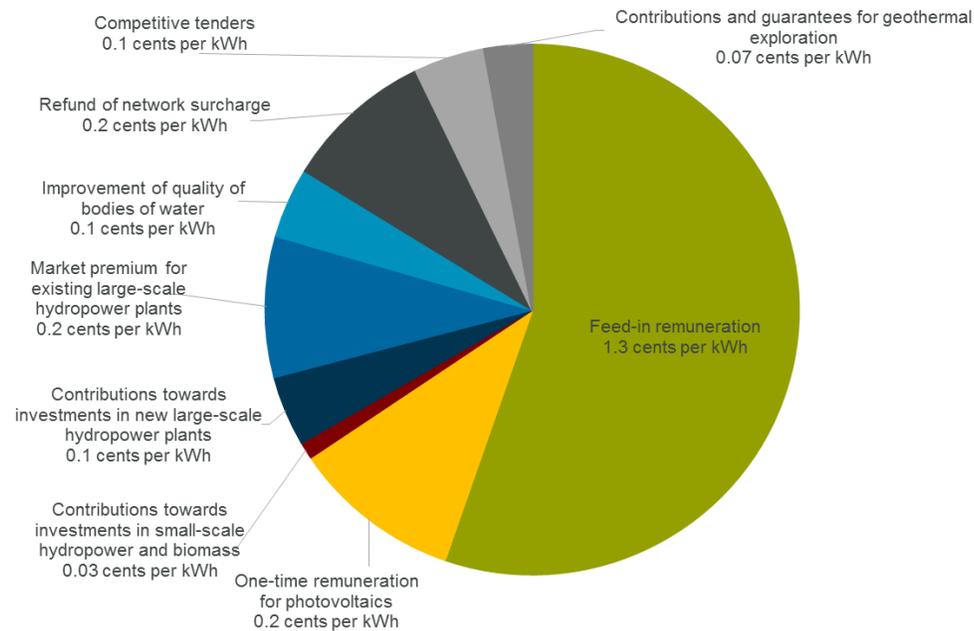




ELECTRICITY: INVESTMENT IN NEW CAPACITY

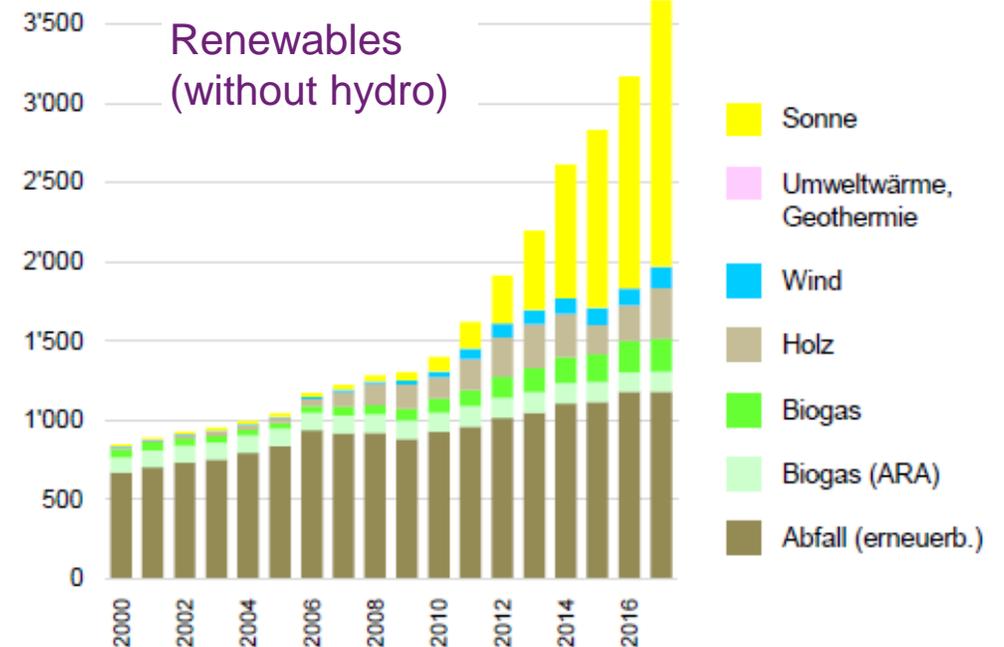
Renewables

- Grid surcharge to finance renewable electricity, efficiency tenders, etc.
- Grid surcharge capped: 2.3 ct/kWh
- Cap on total subsidies => Project waitlist
- Sunsets: Feed-in premiums end by 2023, investment aid ends by 2031



Large hydro under stress due to low European wholesale prices

- Support to compensate for non-cost-covering sales into free market
- Difficult reform of “water royalty” (CHF 110/kW). Important fiscal revenue for mountain cantons.





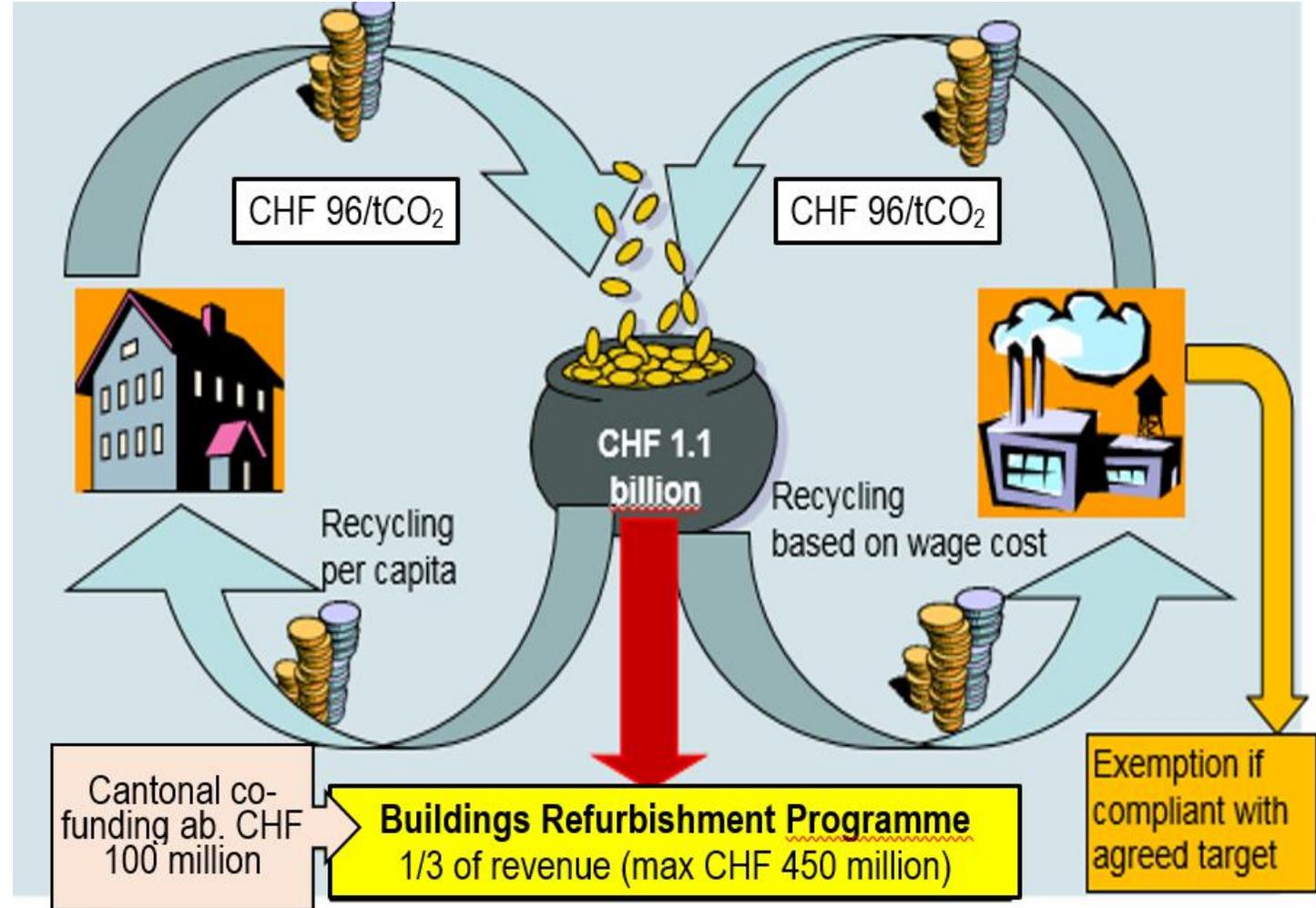
CLIMATE/EFFICIENCY POLICY

Emissions Targets

- 2020: -20% vs 1990
- 2030: -50% vs 1990
(of which -30% domestically)

Policy Instruments

- CO₂ tax on stationary fuels
- Small Emission Trading System (5.5 MtCO₂), linking with EU ETS





ENERGY EFFICIENCY INSTRUMENTS (1)

- Efficiency tenders **for projects/programs with payback >4 years**
 - Winners with best investment/saved kWh ratio, covering max 40% of investment
 - Projects: CHF 20'000-1.5 million per project
 - Programs: CHF 150'000-3 million per program
 - 9 tenders since 2010 (CHF 40 million per year)
- **Efficiency standards** for cars, energy-using products, motors
- Topmotors: energy efficiency program for **industrial motor systems**
- PEIK: advisory program for **small and medium enterprises**
- **Energy agencies** EnAW and ACT support:
 - “**Target agreements**” between Government and enterprises to lower CO₂ emissions to get CO₂ tax exemption
 - Projects to compensate up to 10% of CO₂ emissions resulting from **transport fuel imports** (ab. 1.5 mtCO₂, max. 5 ct/liter)

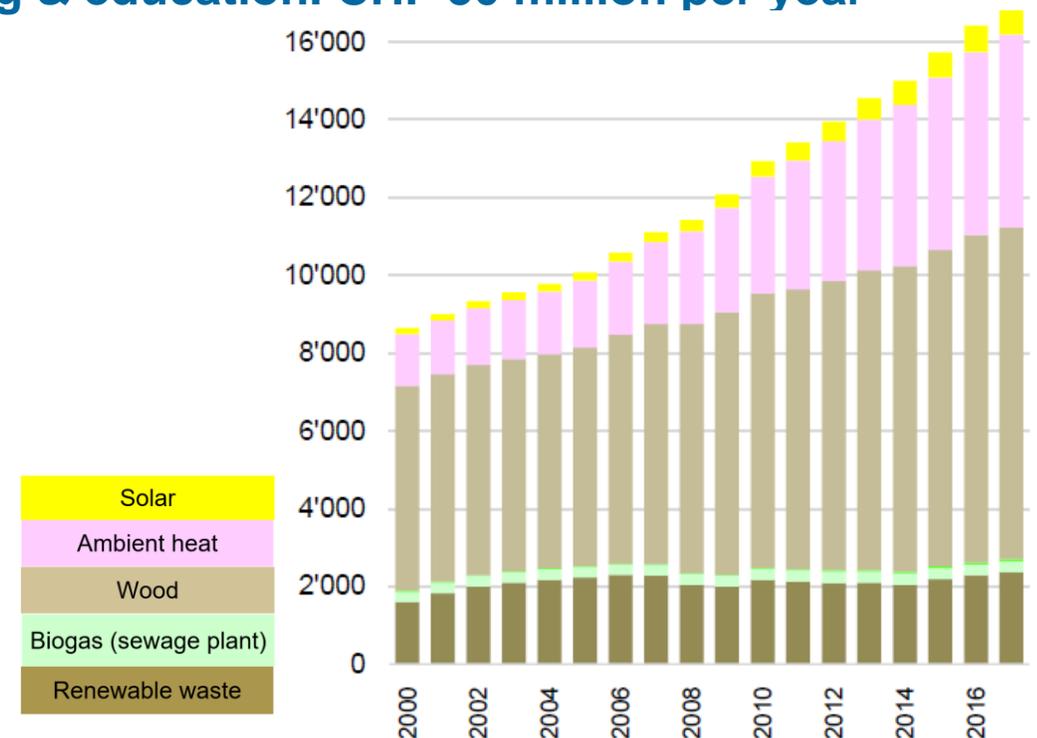
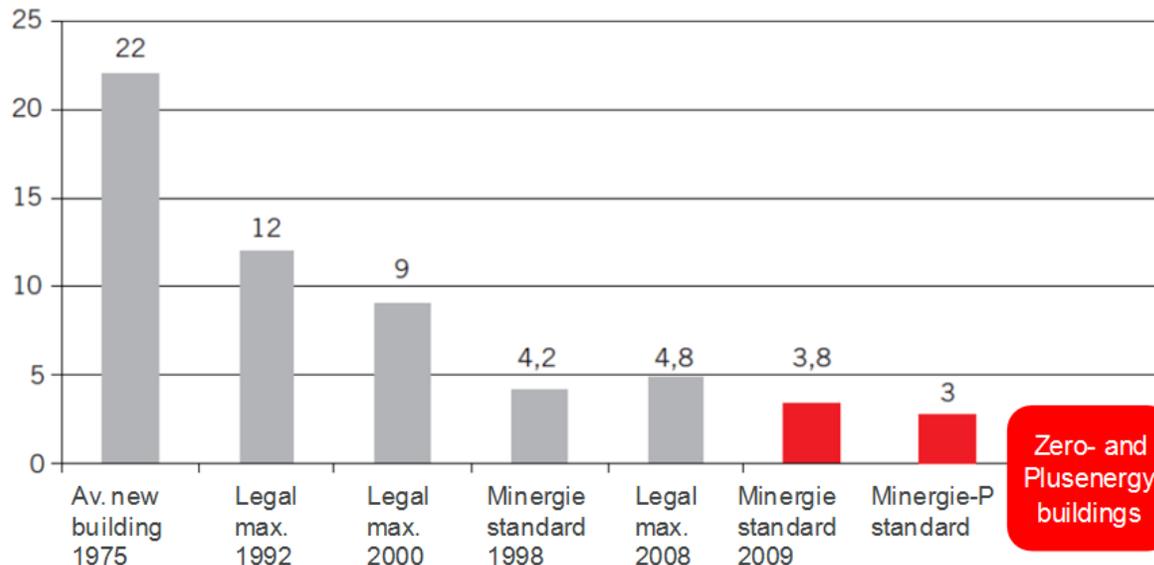


ENERGY EFFICIENCY: INSTRUMENTS (2)

- Building codes **tightened in January 2015** (harmonized cantonal codes)
- Utility savings obligations: **rejected by Parliament**. But: many utilities engage in energy **service/saving activities**
- **“SwissEnergy” Program: Awareness-raising, training & education. CHF 50 million per year**

Energy use per square meter of new buildings in Switzerland

Liters heating oil-equivalents per m²





Děkuji za pozornost