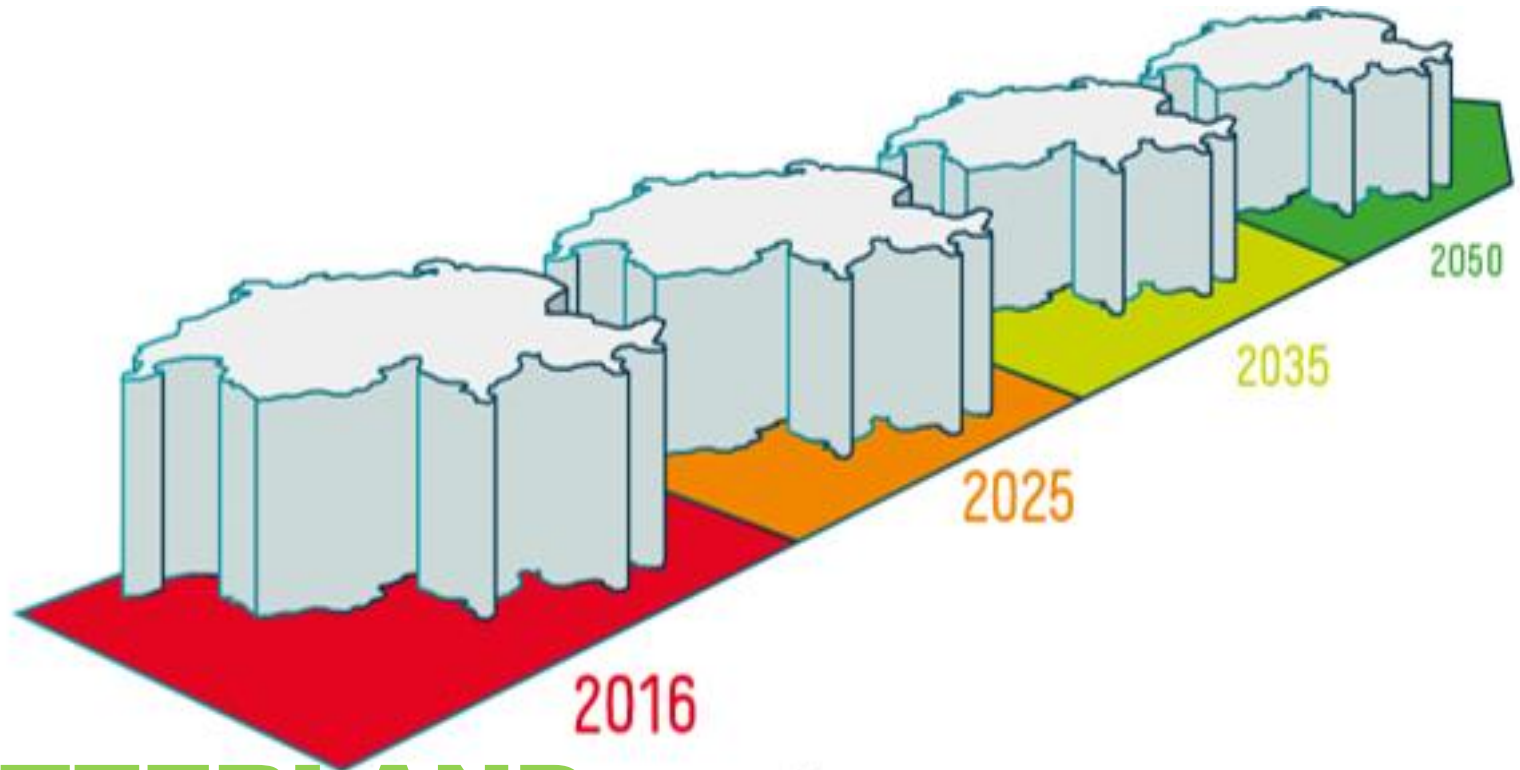




Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

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



# SWITZERLAND ENERGY STRATEGY 2050

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

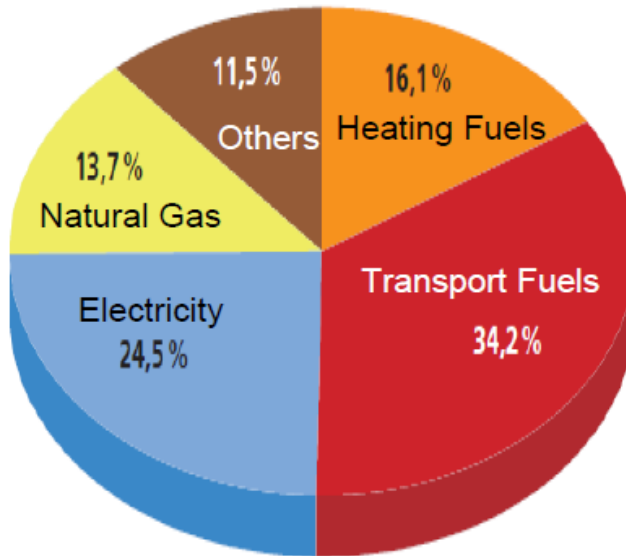
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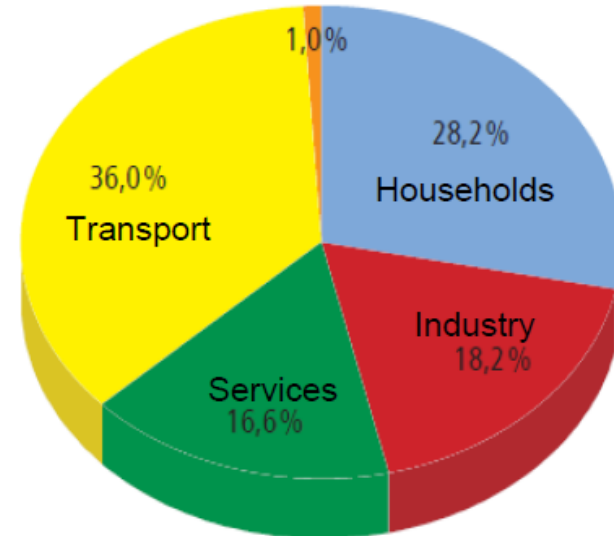
# SWITZERLAND: KEY ENERGY DATA

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

Primary Energy Mix 2016



Energy End Use by Sector 2016



## 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

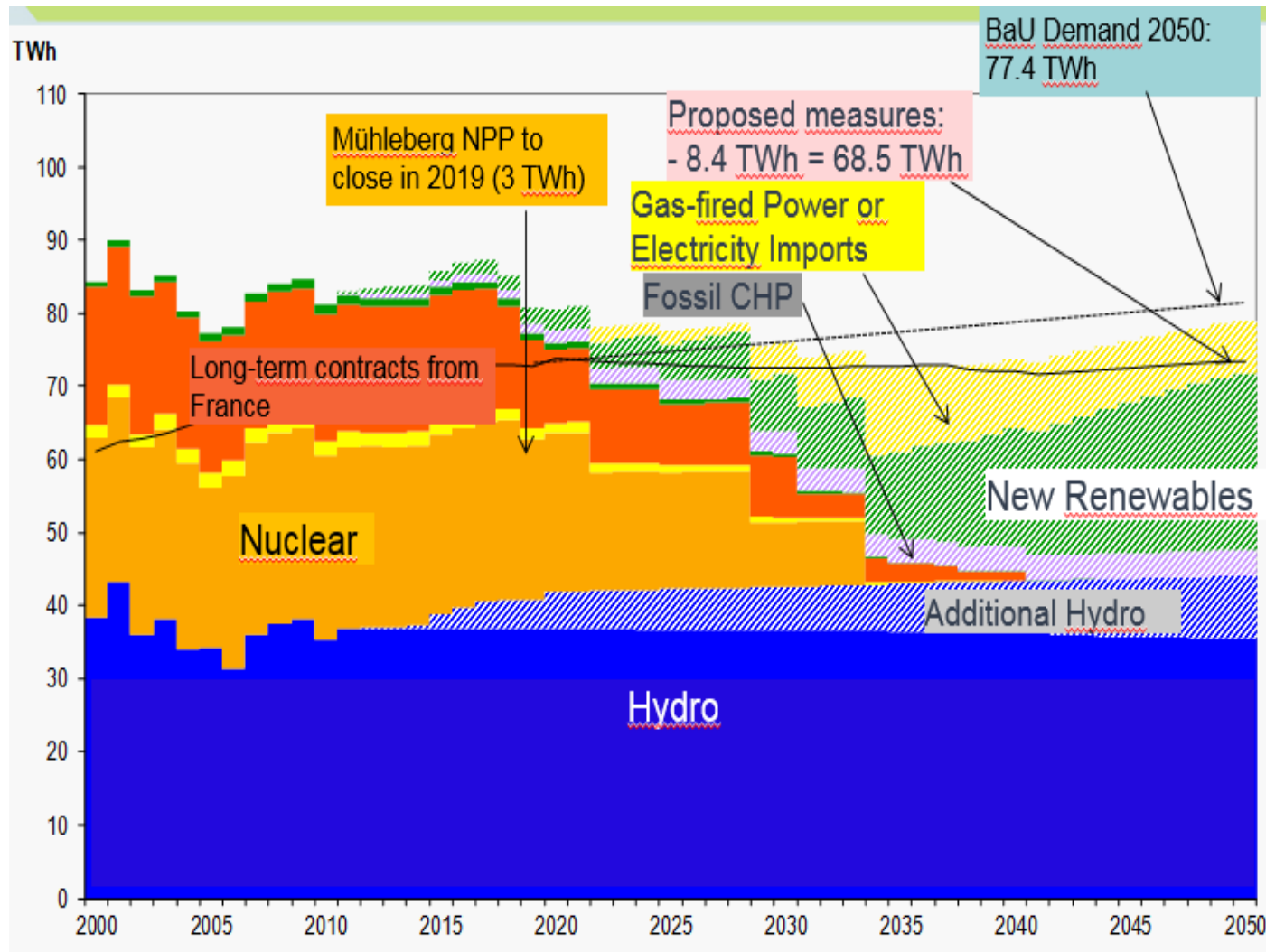
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- **2011 post Fukushima:** Government and Parliament decide nuclear phase-out (i.e. no replacement after end of nuclear power plant lifetime)
- **2013:** Parliament increases feed-in tariff. 25% increase of energy R&D funding. Government proposes legislation 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



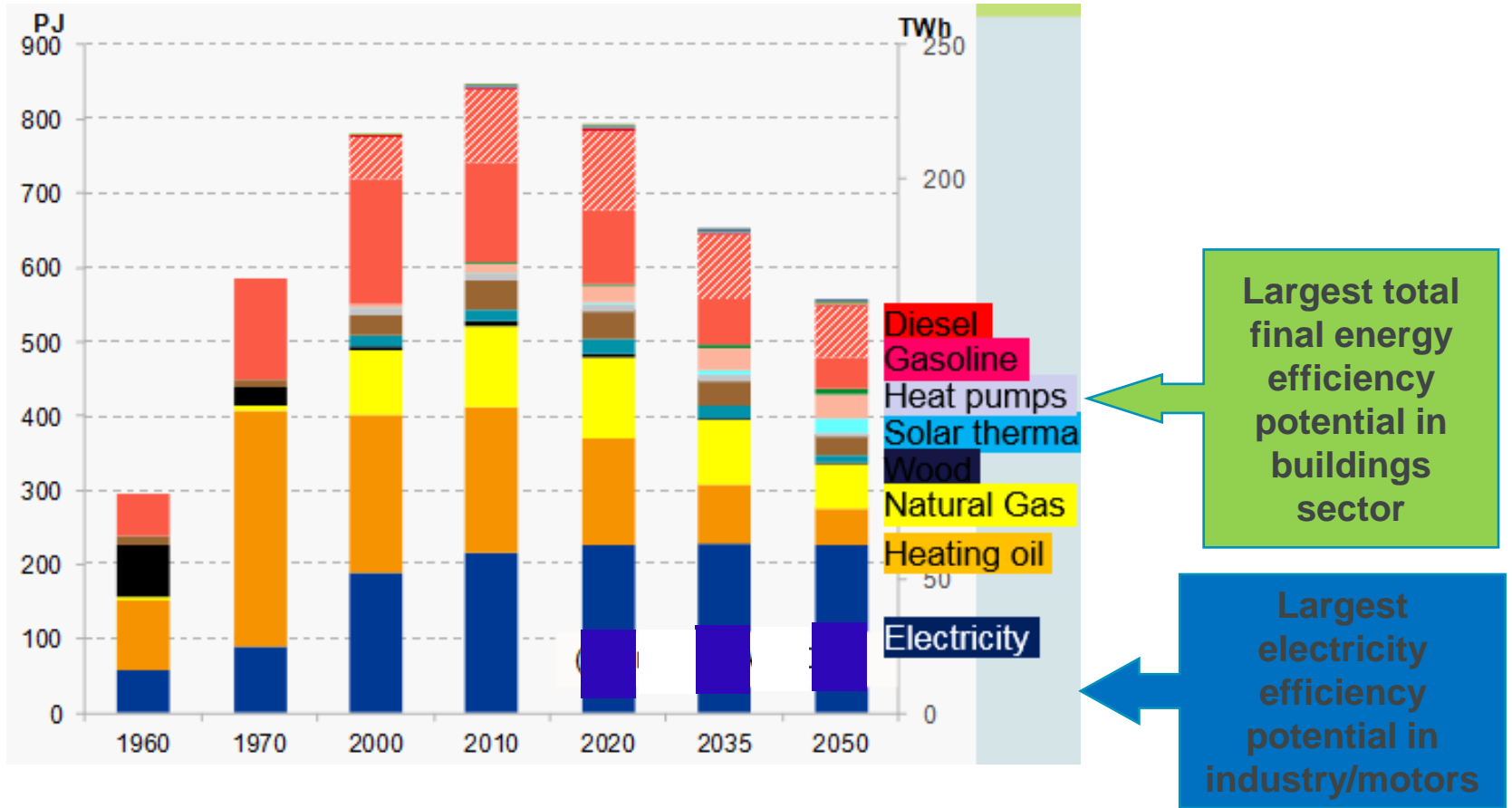
# ELECTRICITY: THE NUCLEAR PHASE-OUT

- 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 (esp. in winter)





# ENERGY STRATEGY 2050: FINAL ENERGY MIX



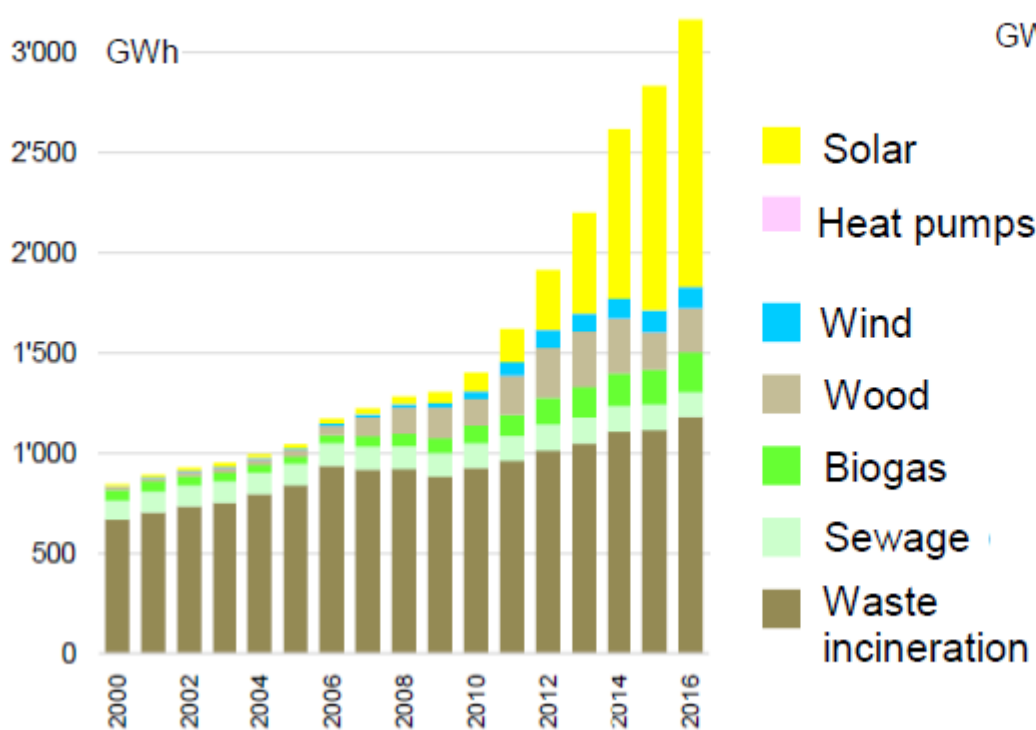


# ELECTRICITY: INVESTMENT IN NEW CAPACITY

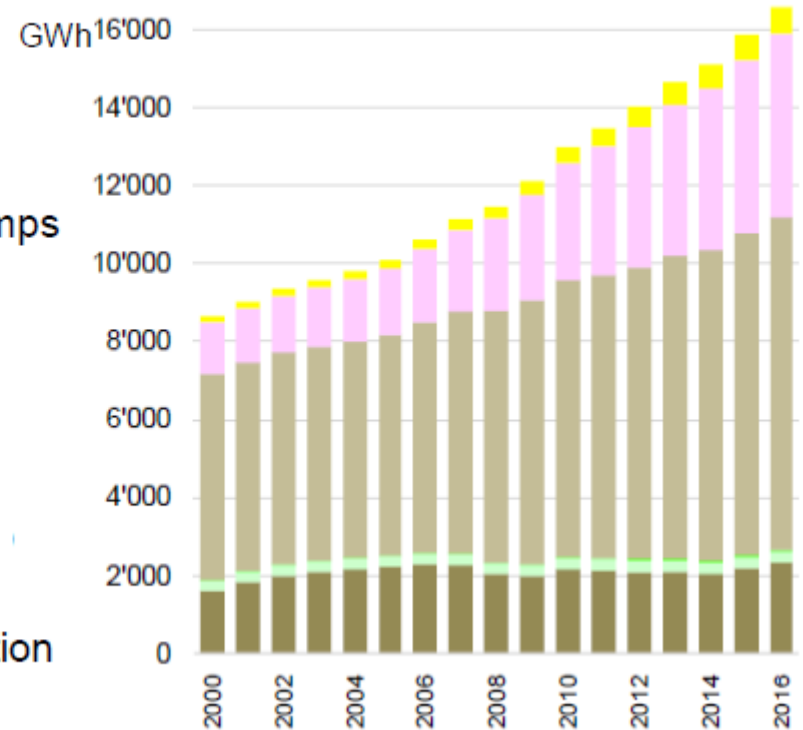
## Renewables

- Grid surcharge to finance renewable electricity, efficiency tenders, etc.
- Grid surcharge capped: 2.3 ct/kWh as from 2018
- Feed-in premiums end by 2023, investment aid ends by 2031

### Renewable Electricity Sources (w/o Hydro)



### Renewable Heat Sources





# CLIMATE/EFFICIENCY POLICY

## Emissions Targets

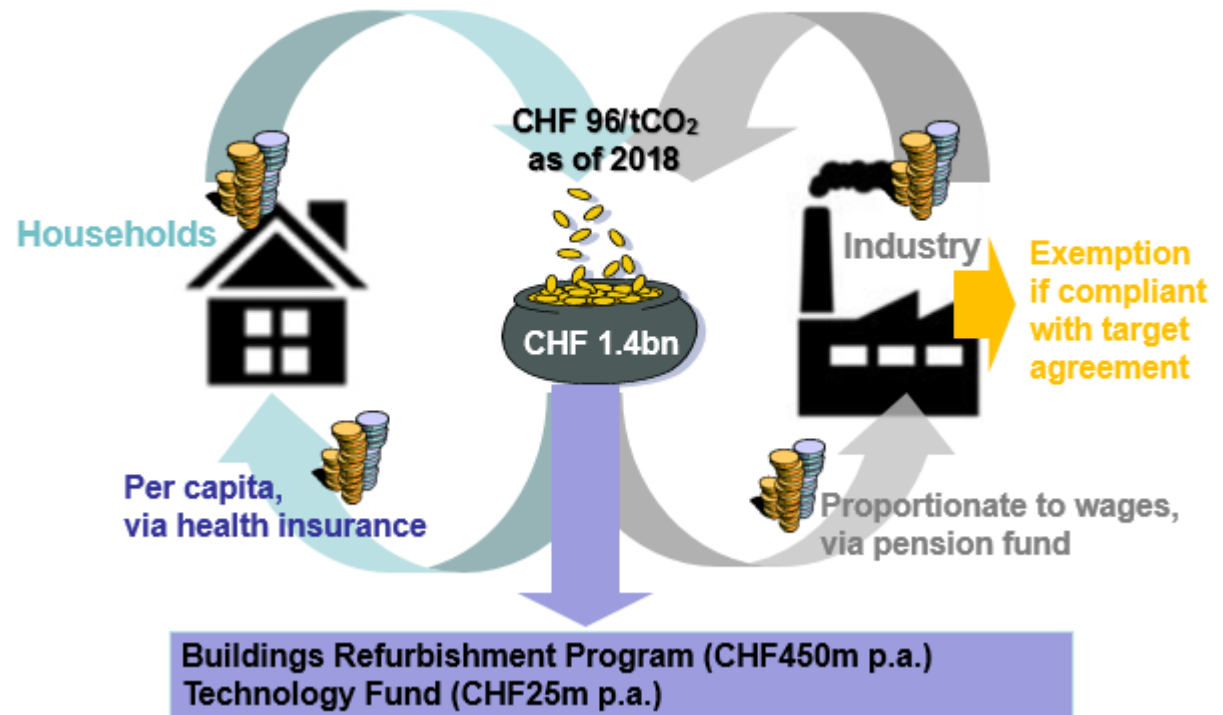
- 2020: -20% vs 1990
- 2030: -50% vs 1990 (of which -30% domestically)

## Policy

### Instruments

- CO<sub>2</sub> levy on stationary fuels
- Small Emission Trading System (5.5 MtCO<sub>2</sub>), linking with EU ETS
- Offset obligation for transport fuel importers

## CO<sub>2</sub> Levy on Heating and Process Fuels





# ENERGY EFFICIENCY INSTRUMENTS

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- **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**
    - **8 tenders since 2010 (CHF 25 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 CO<sub>2</sub> emissions to avoid CO<sub>2</sub> levy**
-





# ENERGY EFFICIENCY: FURTHER INSTRUMENTS

- 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 m<sup>2</sup>

