Schweizerische Eidgenossenschaft
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Swiss Confederation

Federal Department of the Environment,
Transport, Energy and Communications DETEC

**Federal Office for the Environment FOEN**

Climate Division

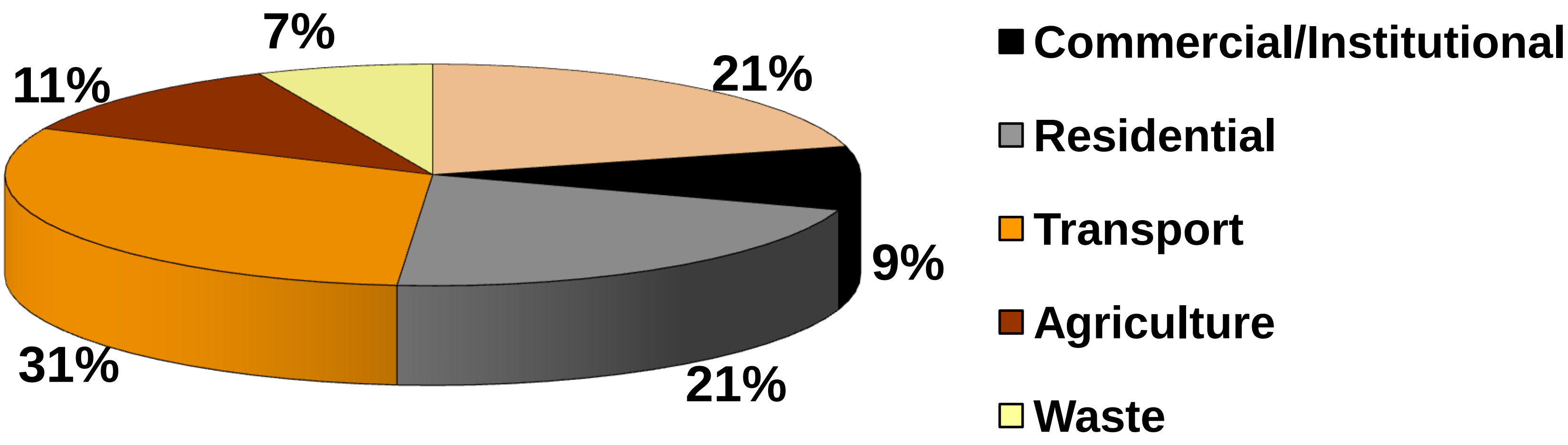
# Switzerland's experience with carbon pricing

**International Energy Agency**

**Laurence Mortier, 18.03.2013**

# GHG emissions in Switzerland

**GHG emissions by sectors, in 2010:**




**Few GHG emissions resulting from electricity production**

Electricity production (2011):

- 53.7% hydropower
- 40.7% nuclear power
- 5.6% fossil power plants

# Swiss Climate and Energy Policy

**Two main legal instruments:**

**1) Federal Energy Act** (entry into force in 1999, partially revised several times, full revision underway with Energy Strategy 2050)

- Aims at ensuring sufficient, safe, diversified and environment-friendly supply of energy

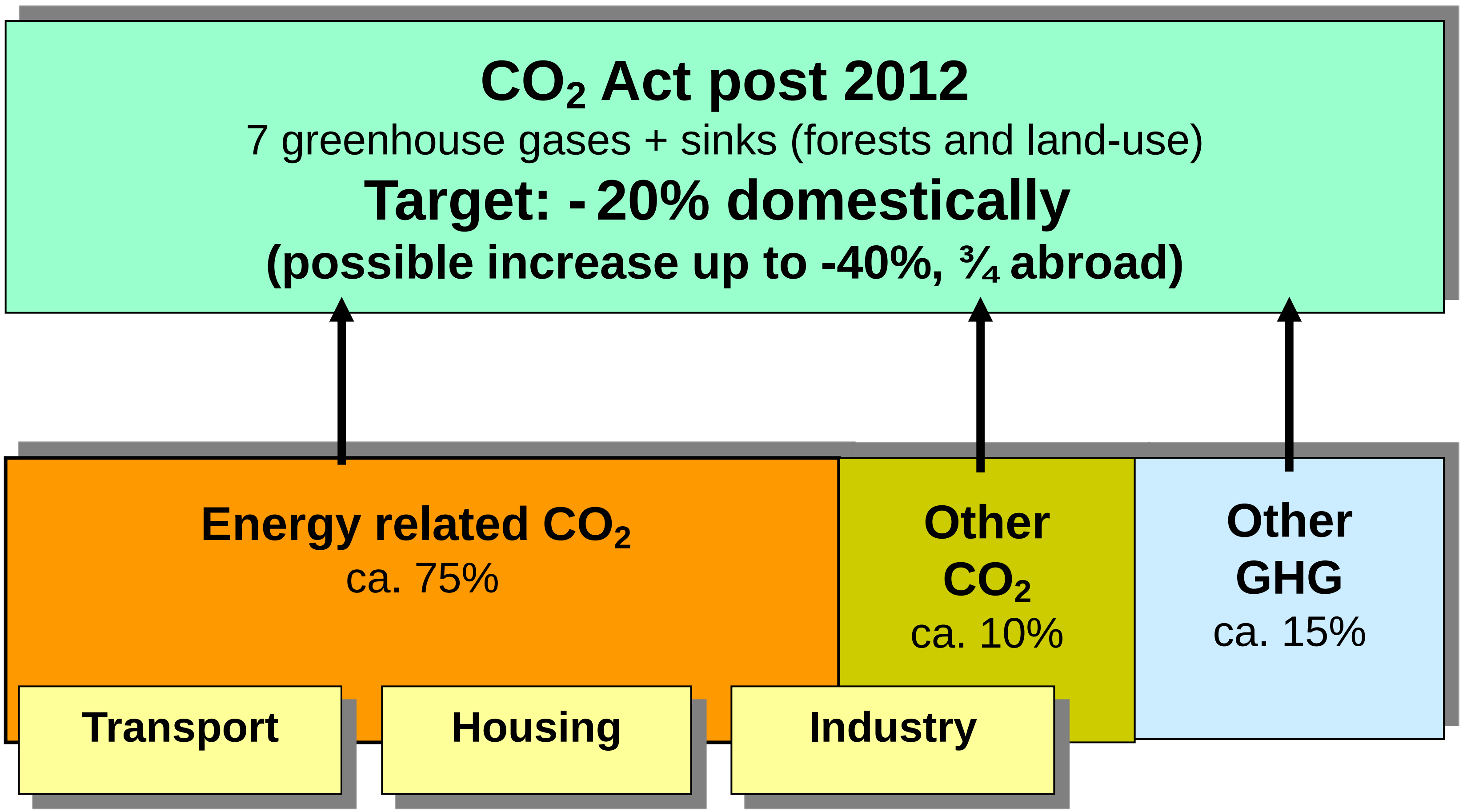
**2) $CO_2$ Act** (entry into force in 2000, partially revised, full revision in force since 01.01.2013)

- Defines binding targets for the reduction of $CO_2$ emissions
- Defines instruments and measures

**Other instruments**

- Building codes, energy labels for cars, performance-related heavy vehicle fee, etc.

# Reduction target until 2020



# The $CO_2$ Act (2013-2020)

- **Transport**:
  - Emission limits for new passenger cars
  - Obligation for motor fuels importers to domestically offset $CO_2$ emitted by the transport sector (5-40%)

- **Buildings**:
  - $CO_2$ levy on fossil heating fuels
  - Earmarking of the $CO_2$ levy for the national buildings programme (financing the renovation of buildings)
  - Technical prescriptions for buildings

- **Industry**:
  - $CO_2$ levy on heating and process fuels
  - Emissions Trading Scheme (possible linking to EU ETS)
  - Possibility of $CO_2$ levy exemption for some companies

# $CO_2$ levy on heating and process fuels

- Since 2008: 3 ct. / l (12 CHF/ t $CO_2$)
- Since 2010: **9 ct. / l (36 CHF/ t $CO_2$ ~ *38 USD / t $CO_2$* )**
- As of 2014: **further increases** up to 30 ct./ l (120 CHF / t $CO_2$) if predefined intermediate objectives for the emission reduction pathway until 2020 are not met

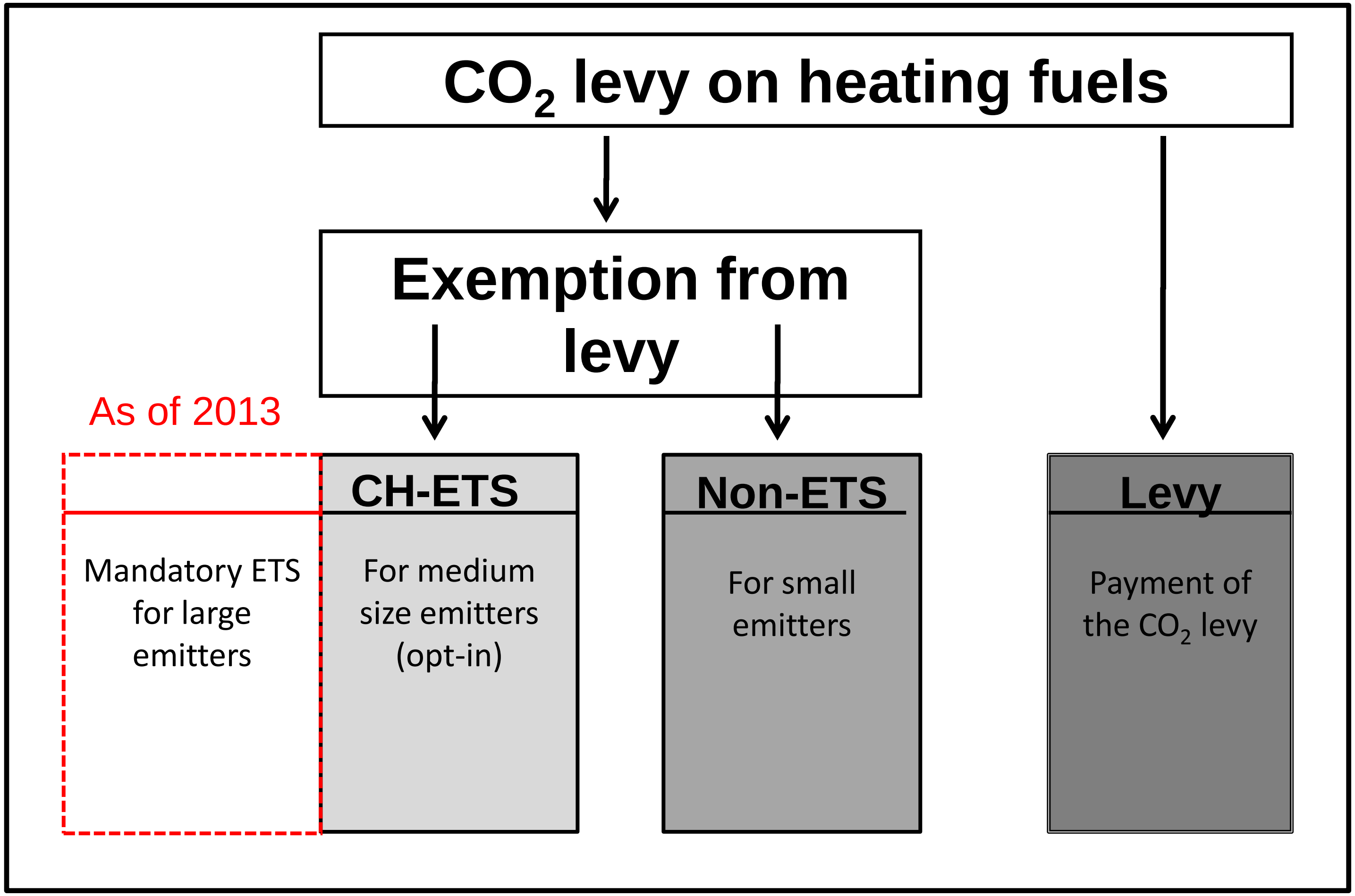
- **Incentive** for energy efficiency and renewables

- Revenue (approx. 600 mio CHF/year since 2010):
  - **redistributed** to population and the economy
  - partially used for the **buildings programme** (1/3, max. 300 mio per year)

- BUT: **Possibility for exemption** for companies with binding agreements to reduce their energy-related $CO_2$ emissions

# $CO_2$ levy on heating and process fuels and the Swiss ETS

**Business choice: $CO_2$ levy *or* exemption with binding agreement**



# The Swiss ETS post-2012 (I)

- **Continuation and further development** of the Swiss ETS (in place since 2008) in a direction that allows for a **linking with the EU ETS**
- Cap and trade system with **absolute** emissions reduction objectives
- Total amount of emission allowances is **determined *ex ante*** for 2013-20
- **Reduction of allowances** by 1.74% each year over the scheme
- Use of the **flexible mechanisms** up to a certain amount and if quality criteria are met
- All effective emissions must imply a **surrender** of the corresponding emission credits
- **Sanction**: 125 CHF for each tCO2 not covered by a credit + obligation to surrender the missing emission credits the following year

# The Swiss ETS post-2012 (II)

**Emission allocation:**

- Free allocation up to an efficiency benchmark for carbon leakage sectors (EU benchmarks)
- Linear decrease of free allocation for non-carbon leakage sectors
- Auctioning of allowances

**Sectors:**

- Energy supply, processing of mineral oil, production and processing of metals, glass, ceramic, cement, production of paper, production of chemical products, among others

**Size:**

- Compulsory for large emitters (> 25’000 $tCO_2$/year)
- Voluntary opt-in for medium size emitters (above 10 MW)
- Expected 30-40 companies, 4-5 $MtCO_2$

# The Swiss ETS post-2012 (III)

## Currently lack of market activity:

- Size of the market, low market liquidity, many small emitters with few emission allowances
- Over allocation of emission allowances
- No price formation (lack of demand)
- Uncertainty about the economic growth
- Preference for “banking” of allowances

## Linking of Swiss and EU ETS:

Requires a bilateral agreement on the reciprocal recognition of emission allowances

- Price formation and stability
- Larger market & liquidity
- Flexibility for Swiss companies (access to market)
- Comparable situations for CH and EU companies
- Cost efficiency

# Obligation to domestically offset $CO_2$

- Obligation to **motor fuels importers** to partially offset $CO_2$ emitted by the transport sector with domestic measures (10% in 2020, i.e. 1,5 mio. $tCO_2$ )

- Obligation to **fossil (gas) power plants** to fully offset their emissions (min. 50% domestically, max. 50% abroad)

- **Domestic offset scheme** (emission reduction projects in Switzerland)

- This new domestic market is currently under development

# Future developments of the Swiss Climate and Energy Policy

**Energy Strategy 2050**

- to phase out nuclear power
- proposed objectives and instruments currently under discussion

***1st step* - Transforming energy production and consumption:**

- Encouraging energy efficiency and promoting renewable energies
- Reducing energy use per capita by 35% in 2035 compared to 2000
- Stabilizing electricity use by 2020

***2nd step* – Post-2020 ecological tax reform:**

- Merging of $CO_2$ levy and feed-in tariffs into one single levy
- Levy related both to energy content and GHG emissions
- Applicable to heating/process fuels, motor fuels and electricity
- Revenues partially for encouraging further measures and partially redistributed
- Possibility of exemption for large companies

# Information and contact

Information

- www.bafu.admin.ch/climate
- www.bafu.admin.ch/co2-tax
- www.bafu.admin.ch/emissionstrading

Contact

- climate@bafu.admin.ch