



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



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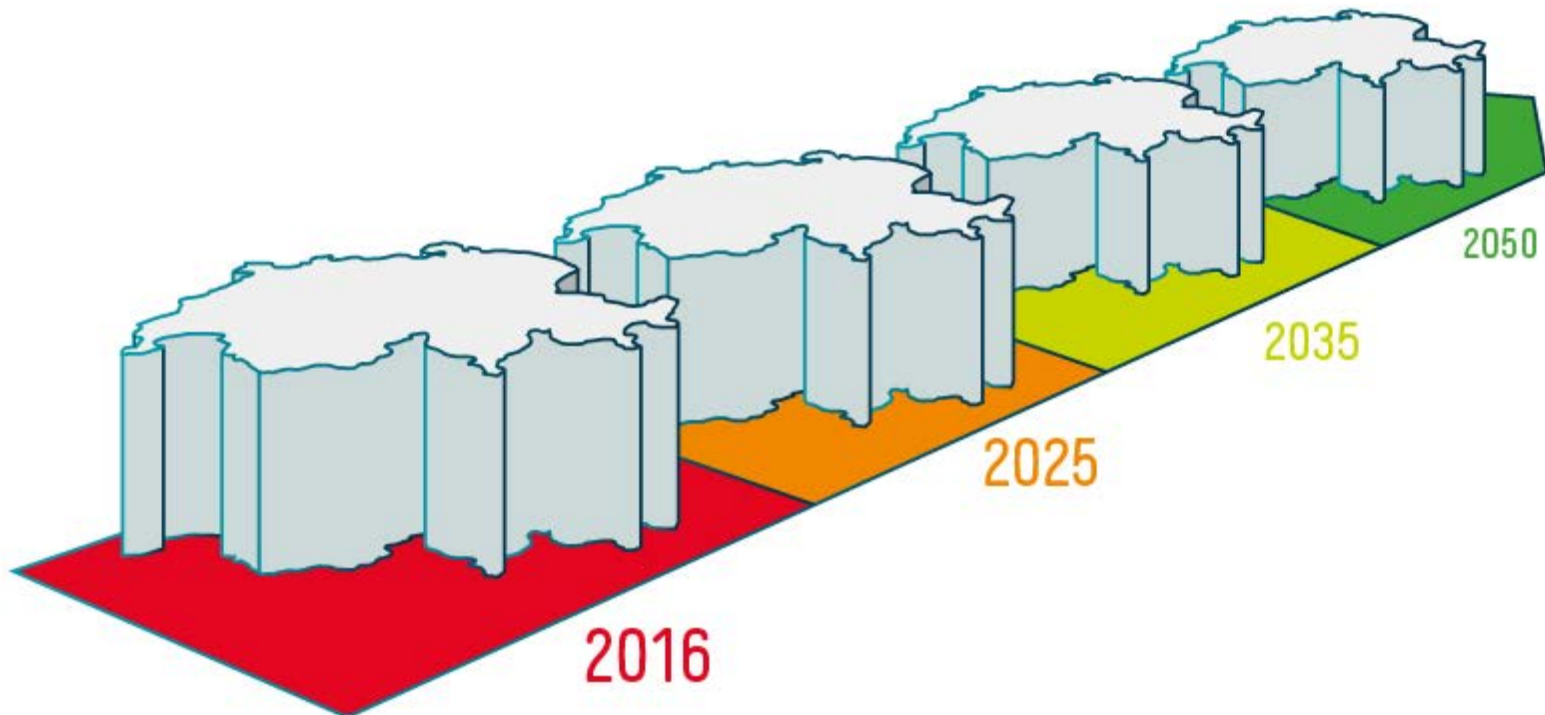
# ENERGY STRATEGY 2050

## THE NEW ENERGY LAW AND THE NEXT STEPS



# NEW ENERGY LAW MEASURES

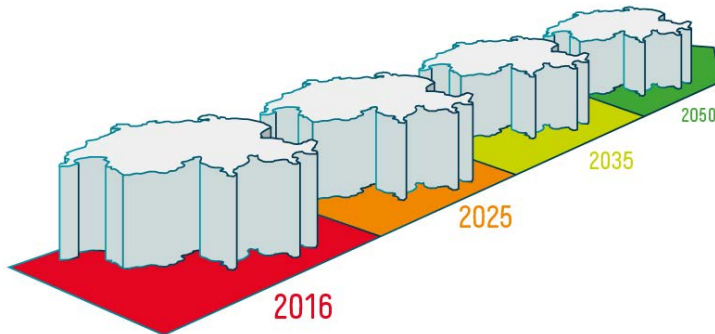
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# NEW ENERGY LAW ROADMAP

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**4 September 2013**

Federal Council adopts Dispatch to Parliament on new Energy Act



**30 September 2016**

Final vote in Parliament



**21 May 2017**

Referendum



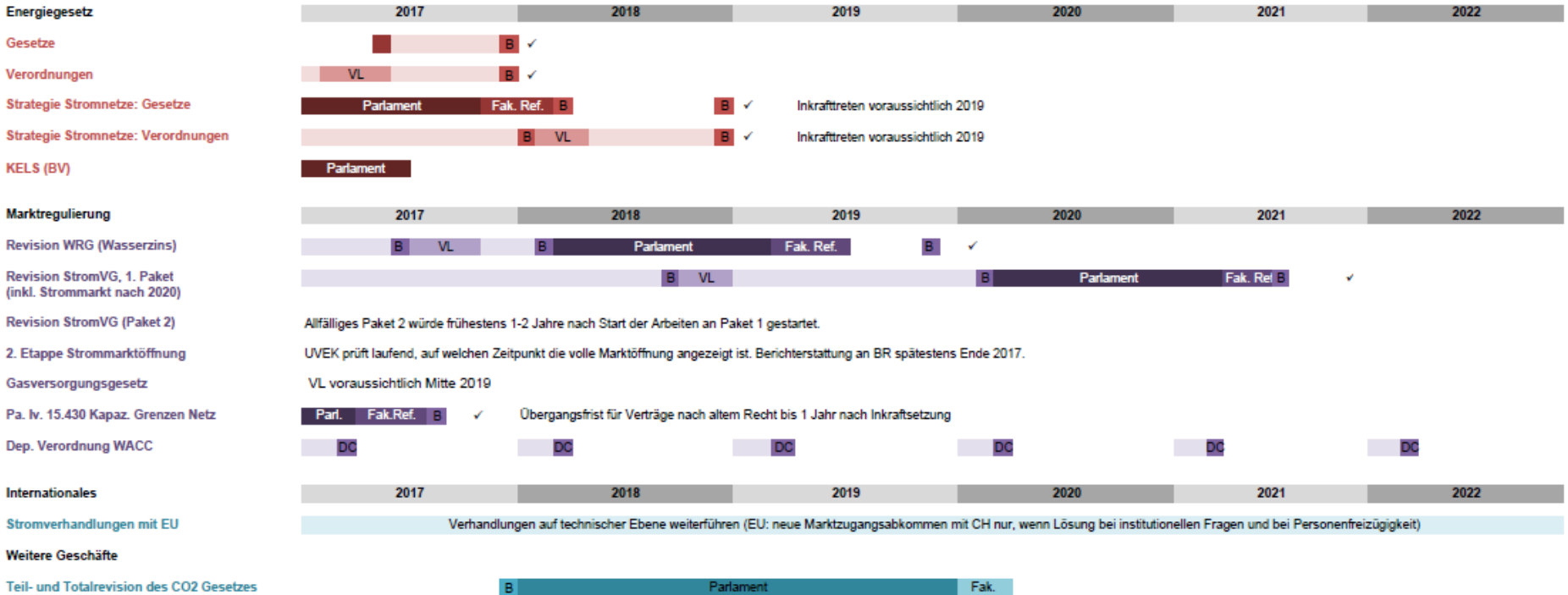
**1 January 2018**

Entry into force of revision of applicable legislation\*

\* The entry into force of the revised law on the federal direct tax is planned for 1 January 2020.



# NEW ENERGY LAW ROADMAP

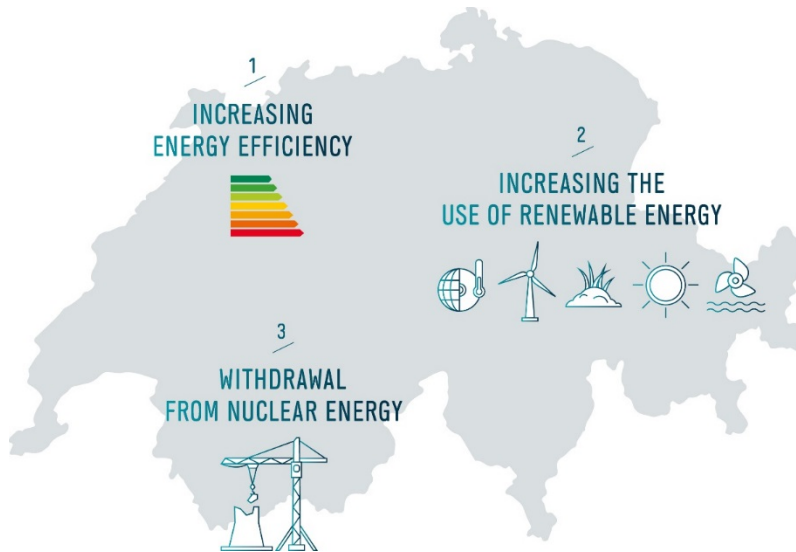




# NEW ENERGY LAW

## THREE STRATEGIC OBJECTIVES

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### Measures to increase energy efficiency

- Buildings
- Mobility
- Industry
- Appliances

### Measures to increase the use of renewable energy

- Promotion
- Improvement of legal framework

### Withdrawal from nuclear energy

- No new general licences
- Step-by-step withdrawal – safety as sole criterion



# ENERGY EFFICIENCY – TARGETS/GUIDELINES

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## Average per capita energy consumption

Reduction versus level in 2000

- 16% in 2020
- 43% in 2035

## Average per capita electricity consumption

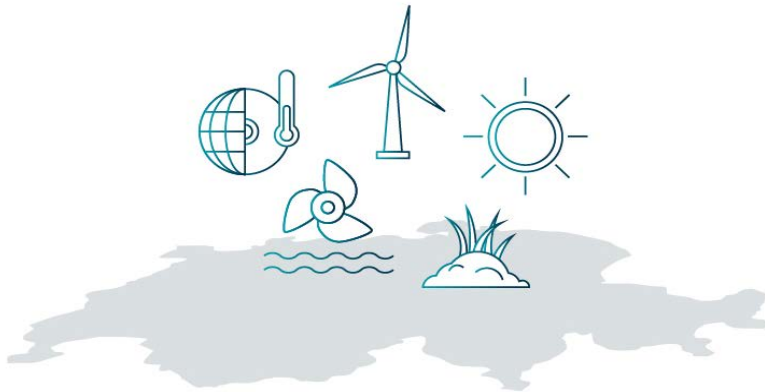
Reduction versus level in 2000

- 3% in 2020
- 13% in 2035



# RENEWABLE ENERGY – TARGETS/GUIDELINES

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## Average domestic production of renewable energy excluding hydropower

- in 2020: 4'400 GWh
- in 2035: 11'400 GWh

## Hydropower

37'400 GWh in 2035



# NEW ENERGY LAW IMPLEMENTATION

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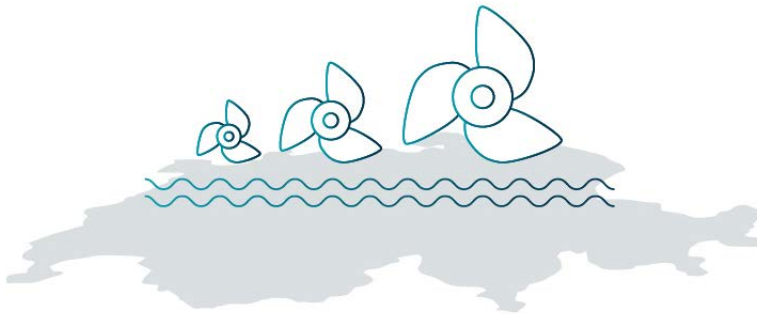






# LARGE-SCALE HYDROPOWER PRODUCTION

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## Market premium for existing power plants

- Compensation of difference between production costs and lower market price
- Power plants receive a premium of max. 1 cent/kWh for electricity they sell on the free market below production cost
- Financing via network surcharge (0.2 cents/kWh)

## Investment contributions for new power plants

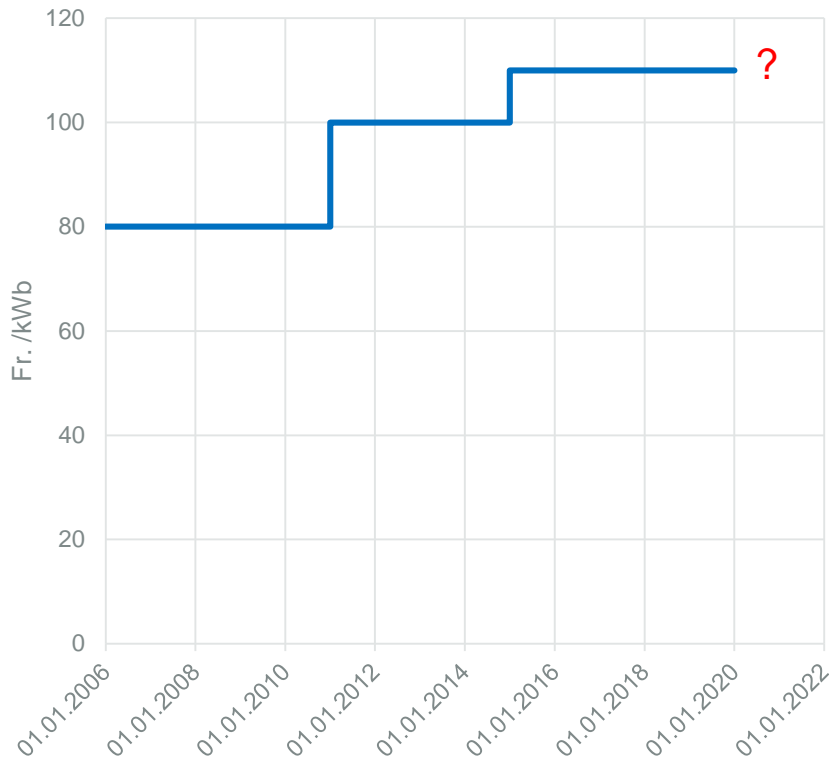
- Amount to be specified on a case-by-case basis; max. 40% of recoverable investment costs
- Financing via network surcharge (max. 0.1 cents/kWh)



# DEVELOPMENT OF ELECTRICITY PRICES AND WATER ROYALTIES

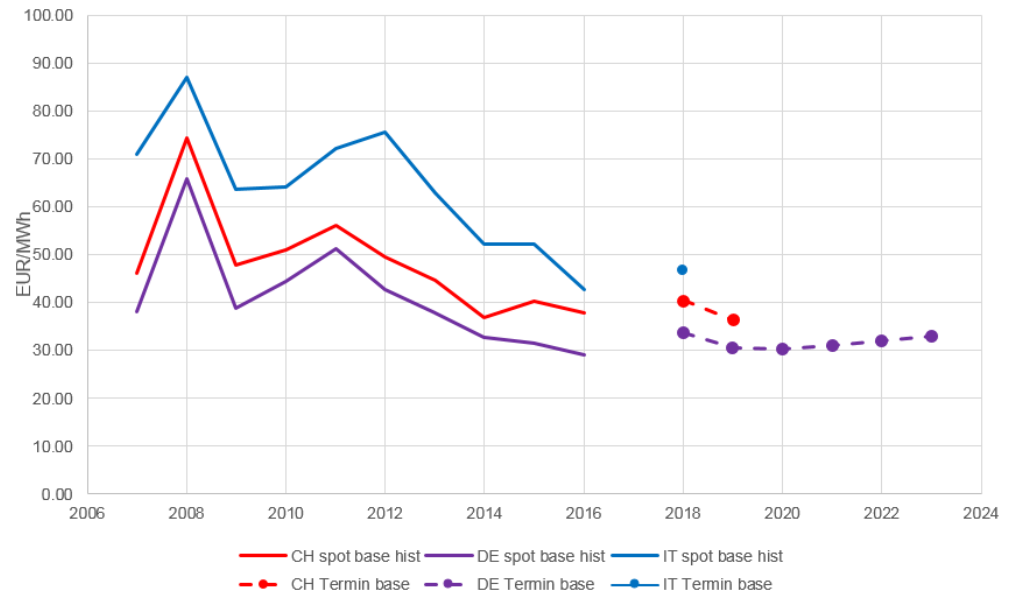
## Development water royalties

Water royalties max.



## Development electricity prices

Historische und Terminpreise Strom (Base)





# REVISION OF THE FEDERAL ACT ON THE **USE OF HYDRAULIC POWER**

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## **Law:**

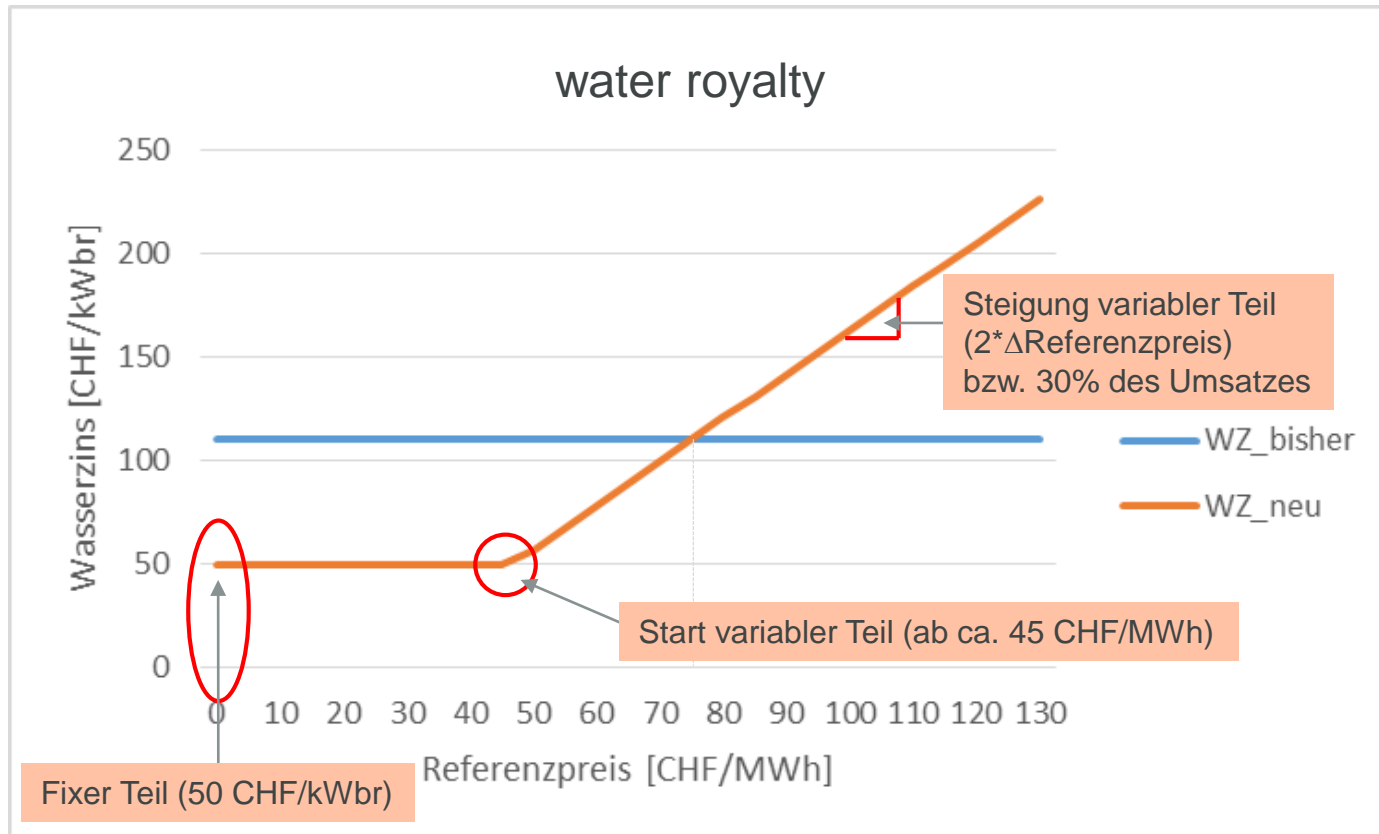
- Water royalty max. at 80 CHF/kW<sub>br</sub> for 2020 – 2022
- Exemption from water royalties regarding additional production which is supported by investment contributions (10 years)
- International harmonisation not mentioned in new law

## **Alternatives mentioned in explanatory report:**

- 80 CHF/kW<sub>br</sub> only for loss-making plants, 110 CHF/kWbr for all others
  - Long term: flexible water royalties – depends on new market design
- Consultation process ended on 13 October 2017



# UTILIZATION OF HYDROPOWER A LONG-TERM MODEL





# BUILDING PROGRAMME AND BUILDING RENOVATION

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## **Partial earmarking of revenue from CO<sub>2</sub>-levy for improving energy-efficiency in buildings**

- Increase in upper limit from the present-day 300 million to 450 million SFr./annum (as before 1/3 of revenue)
- Increase in CO<sub>2</sub>-levy as before if interim targets are not reached (current levy 84 SFr./tonne of CO<sub>2</sub>)

## **Modification of “Buildings” programme**

- Payout in the form of global contributions; cantons responsible for implementation
- New requirements placed on the cantons

## **Higher tax incentives for improving energy efficiency in buildings**

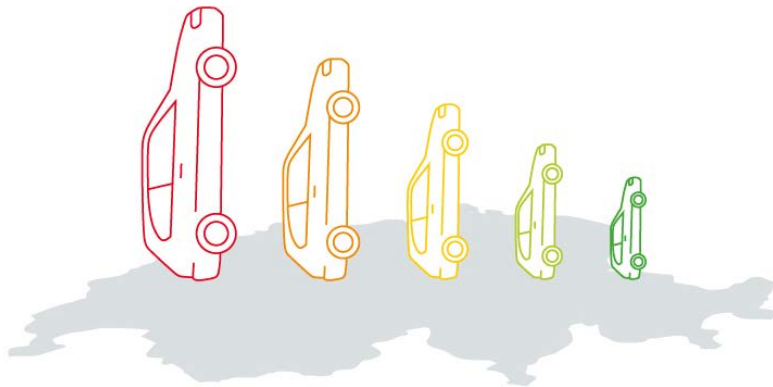
- Option of allocating energy-efficiency investment costs to the two following tax periods
- Tax deduction of demolition costs when replacing old buildings



# NEW ENERGY LAW

## MOBILITY

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### More stringent emission regulations for cars

- Reduction to 95 g CO<sub>2</sub>/km by the end of 2020
- Harmonisation with the EU

### Extension of emission regulations to utility vehicles and light semi-trailers

Reduction to 147 g CO<sub>2</sub>/km by the end of 2020

*Currently applicable regulation for cars as per CO<sub>2</sub> Act:*

*Reduction of emissions to 130 g CO<sub>2</sub>/km by the end of 2015*



# DECARBONIZATION THREE PILLARS

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PARIS AGREEMENT

EMISSIONS TRADING

REVISION CO<sub>2</sub> LAW



# GOAL: LINKING THE EMISSIONS TRADING SYSTEM

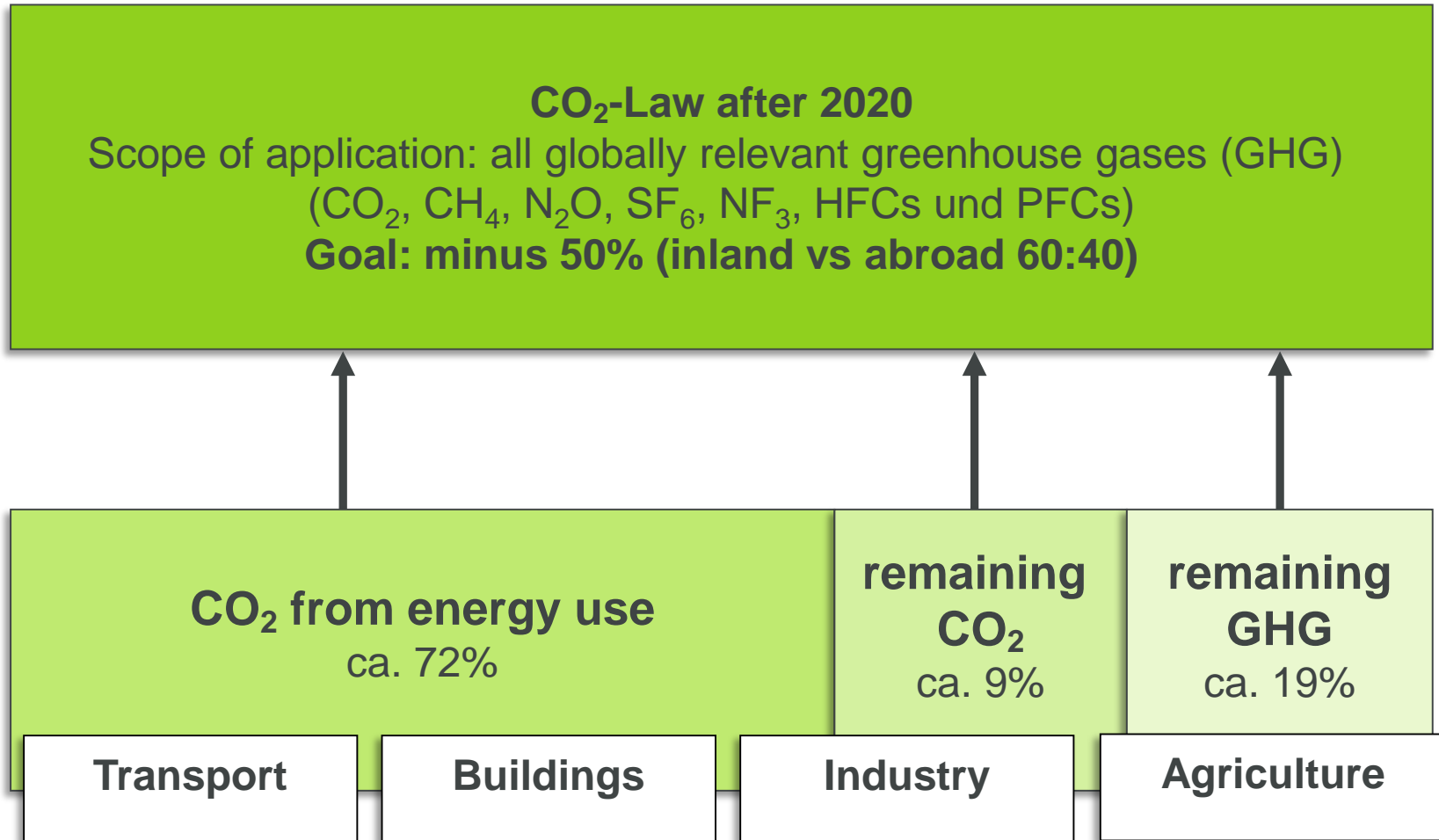
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- Technical discussions concerning the connection of the emissions trading system of Switzerland and the EU have been completed in 2015
- Signing depends on a solution for superordinate goals/ questions
- For a rapid implementation the legislative changes will be sent into the consultation process together with the climate politics 2020
- Core piece: mutual recognition of Swiss and European emissions allowances





# REVISION OF THE CO<sub>2</sub>-LAW





# NEW ENERGY LAW

## FUTURE STEPS

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# NEW ENERGY LAW

## NEXT STEPS

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- Need for comprehensive revision of applicable ordinances as a consequence of the new Energy Act
- Entry into force on 1 January 2018



# SELF-SUFFICIENT BUILDINGS, COMMUNITIES AND CITIES

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## Buildings

- Buildings will shift from their role as consumers to producers of energy:  
**Prosumers**
- The roofs as well as the facade can be equipped with photovoltaic systems
- «**own consumption**» regulation:
  - PV systems below 30 kWp: one third of the investment costs are paid by «compensatory feed-in» (one time fee)
  - Consumption (Demand Side Management, DSM) and storage

## Mobility

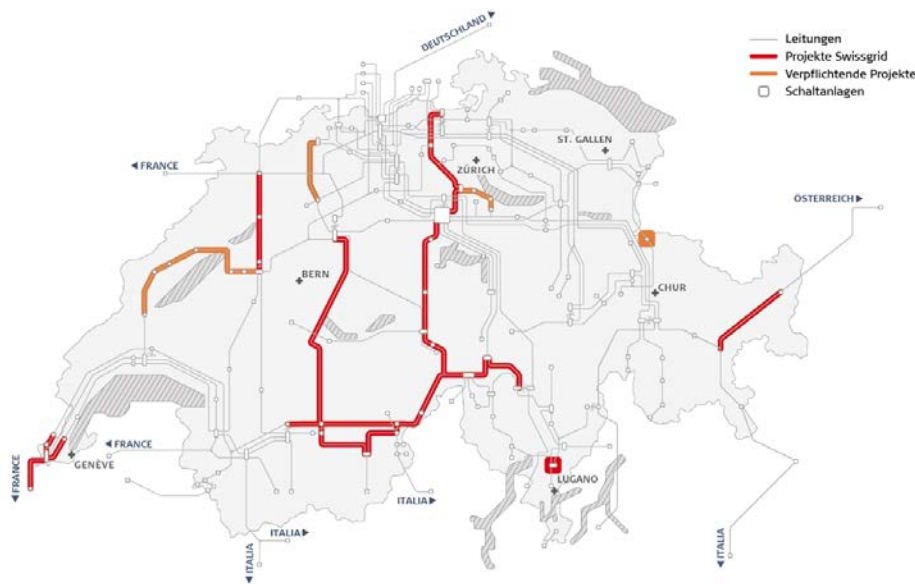
- Mix of infrastructure and densification as well as linkage, supply, production & storage and concept of mobility.
- Focus on
  - **Tighten up CO<sub>2</sub>-emission rules** for cars and trucks
  - **Continuation of compensation requirements** for fuel importers

**Decentralisation:** *more responsibilities on behalf of the private sector and participants / consumers!*

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# ELECTRICITY NETWORKS STRATEGY: STATUS OF DEBATE



Source: Swissgrid

**13 April 2016**

Adoption by Federal Council of Dispatch to Parliament

**Winter session 2016**

Debate in Council of States

**Summer session 2017**

Debate in National Council

**Currently**

Resolution of differences

**Winter session 2017**

Final vote



# ELECTRICITY NETWORKS STRATEGY: CURRENT SITUATION

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## Need for action...

- Congestion in the transmission network, need for renovation
- Increasingly decentralised energy supply structure
- **... but slow progress**
- Various conflicts of interest
- Insufficient transparency of processes
- Lack of understanding among the general population
- Lack of social acceptance

## Objective of revision – key points

Availability of the right network at the right time

- Criteria for further development of electricity networks
- Optimisation of licensing procedures for transmission line projects
- Criteria for decision concerning use of cabling or overhead lines
- Better acceptance of transmission line projects



# ELECTRICITY MARKET DESIGN

## POST 2020

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### Overview Electricity Market post 2020

- Outlines possible models of market design
- No preferences!
- Shows pros and cons of different market models in the light of economical and legal aspects
- Points out requirements with higher priorities and goals of a future market design

### Goals and requirements of market design

- Securing and maintaining a long-term power supply unit
- Minor distortion of the Energy Only Market
- Compatibility with complete opening of the market
- Aligned with EU- and WTO-Law, bilateral electricity agreement
- Low macroeconomic cost implications
- Aligned with Swiss climate goals

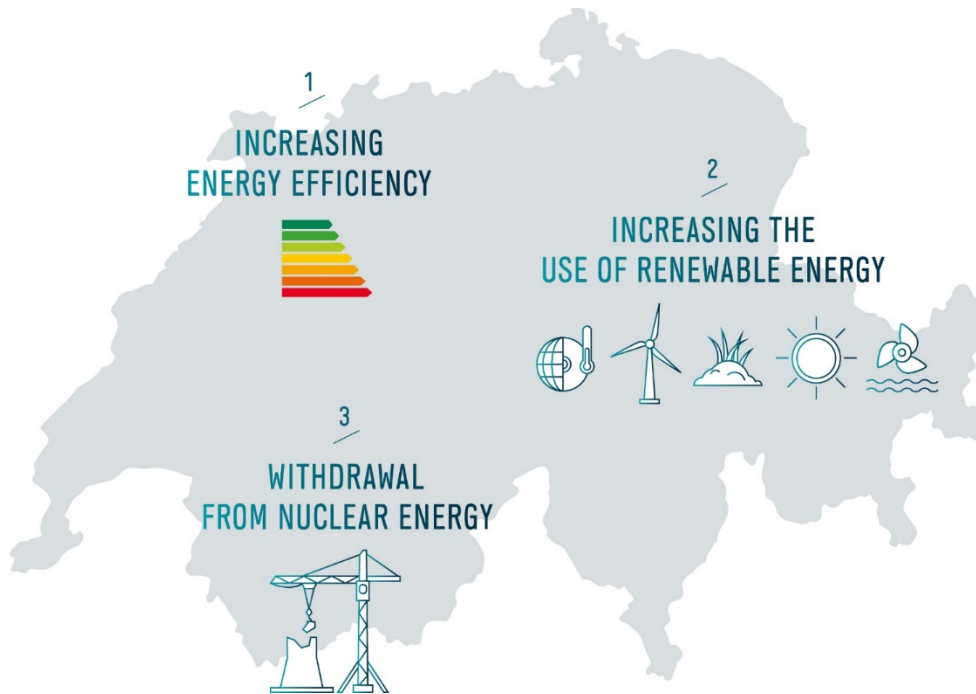
→ No financial support of certain production technologies or companies.

→ Financial support via market premium and investment contributions



# FURTHER INFORMATION

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