



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

Energy Strategy 2050:

A brief introduction

Dr. Matthias Gysler, Chief Economist, Swiss Federal Office of Energy



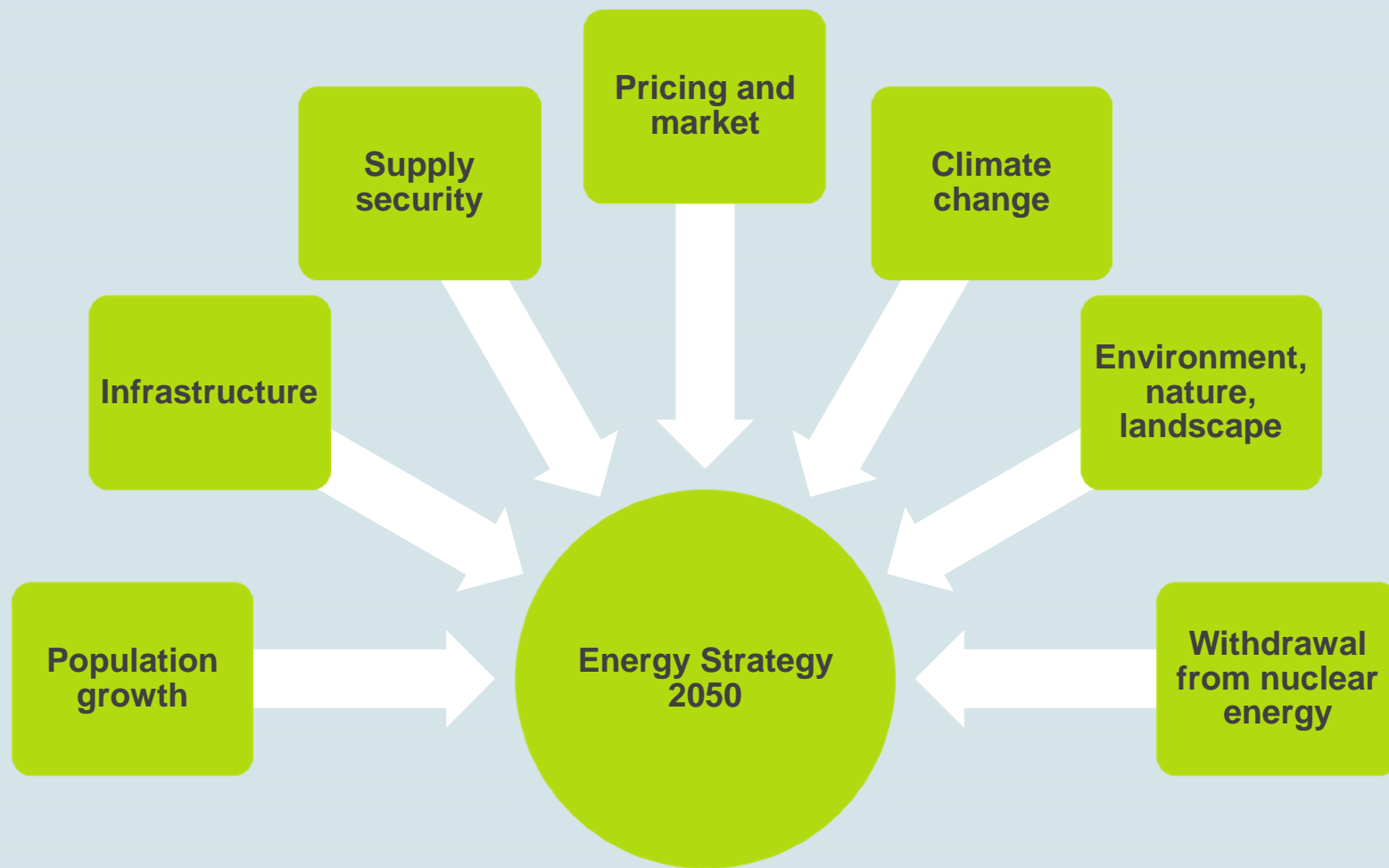


Energy policy: main objectives





Why is Energy Strategy 2050 necessary?





Energy policy milestones since Fukushima

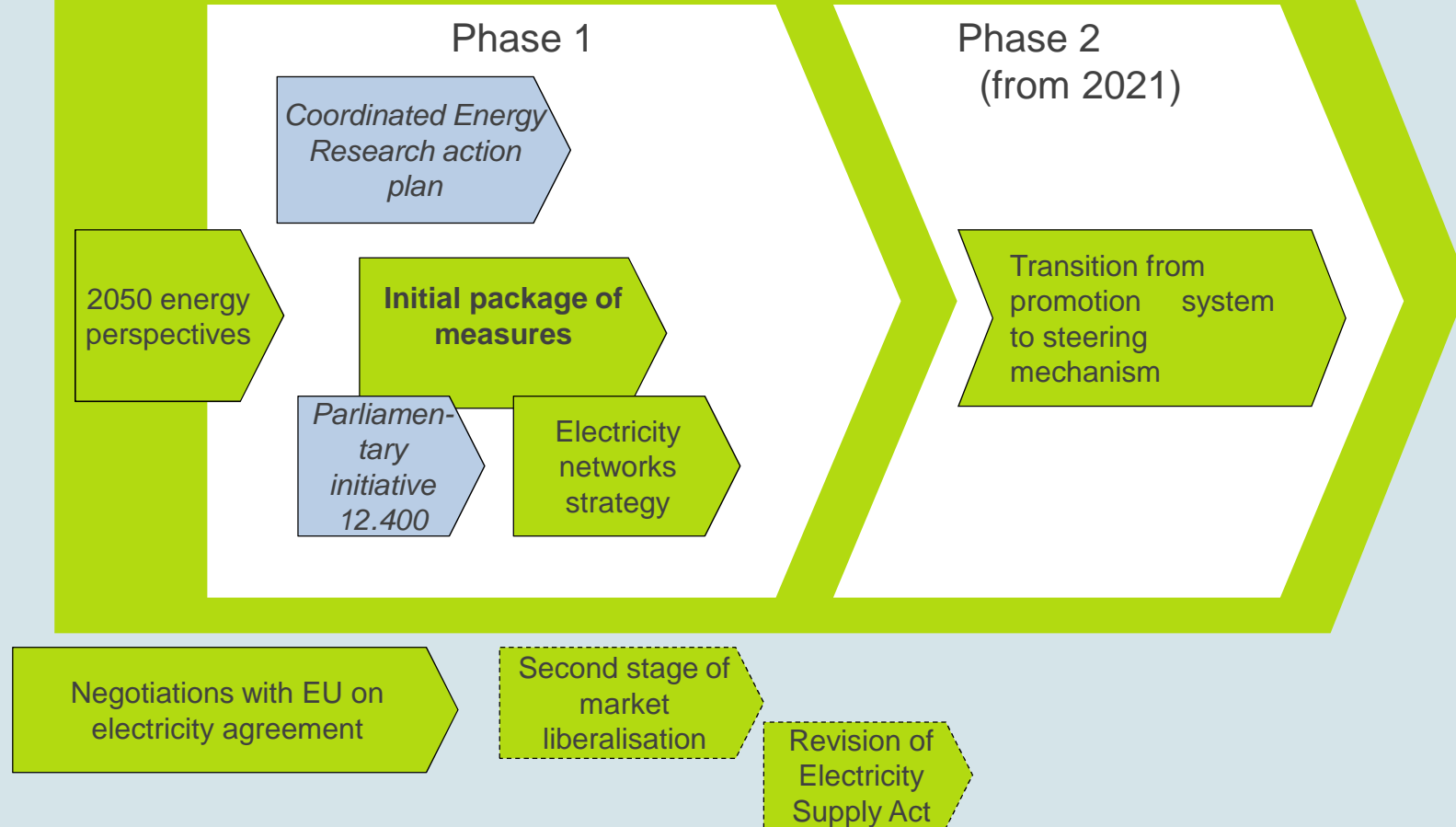
- On 25 May 2011, Federal Council announces decision to withdraw from nuclear energy.
- Parliament subsequently adopts this resolution.
- Initial package of Energy Strategy 2050 measures to be submitted to Parliament at its 2013 autumn session.





Energy Strategy 2050: overview

Energy Strategy 2050





2050 energy perspectives: three scenarios

"Business as Usual" scenario

- Continuation of previous policy
- Autonomous technological progress similar to that of the past 30 years

"Political Measures of the Federal Council" scenario

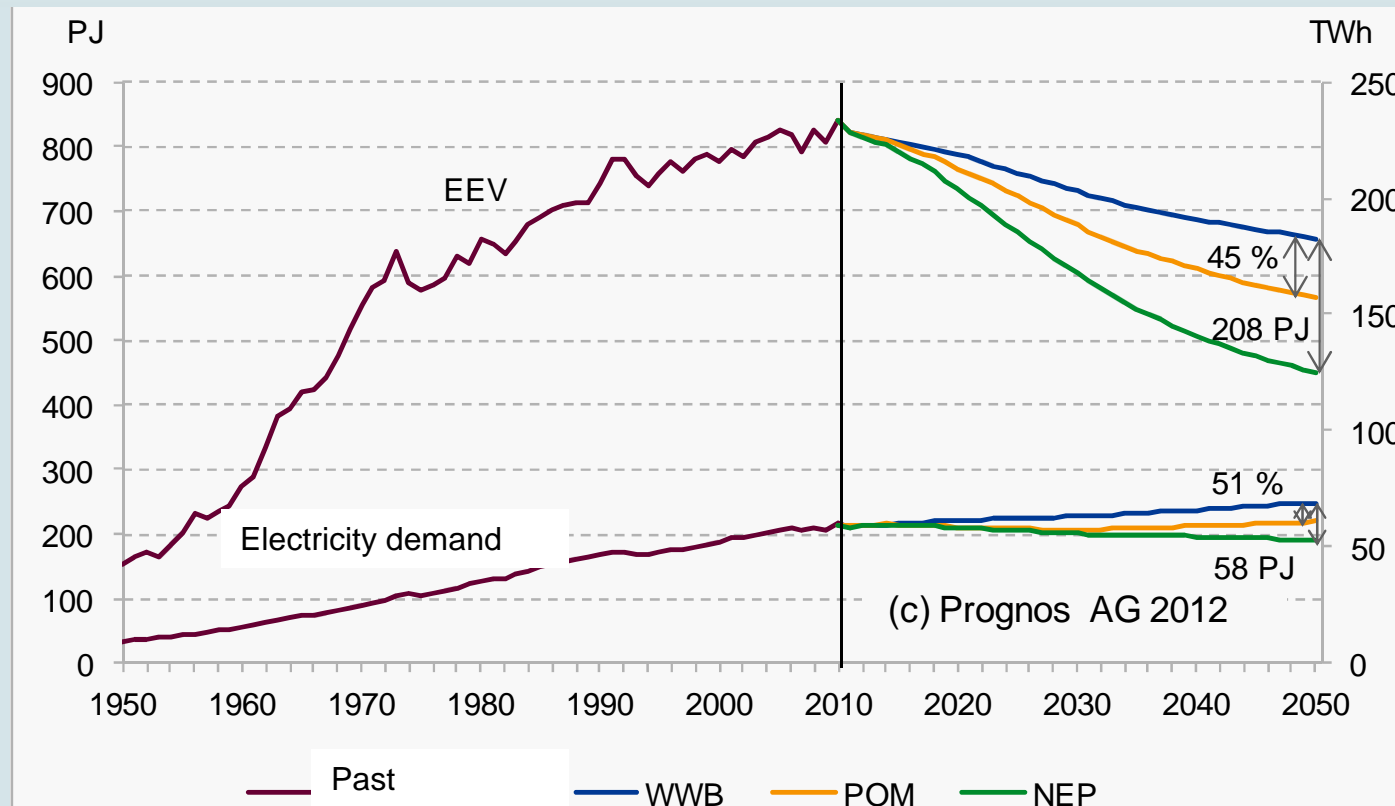
- Depiction of political measures of the Federal Council
= **initial package of measures**
- Utilisation of existing technologies

"New Energy Policy" scenario

- Target: per capita energy consumption to result in maximum of 1.5 tonnes CO₂ in 2050
- This target is in line with international consensus regarding energy policy priorities



Effects of initial package of measures: end-energy use and electricity consumption, 1950-2050



Szenarien:

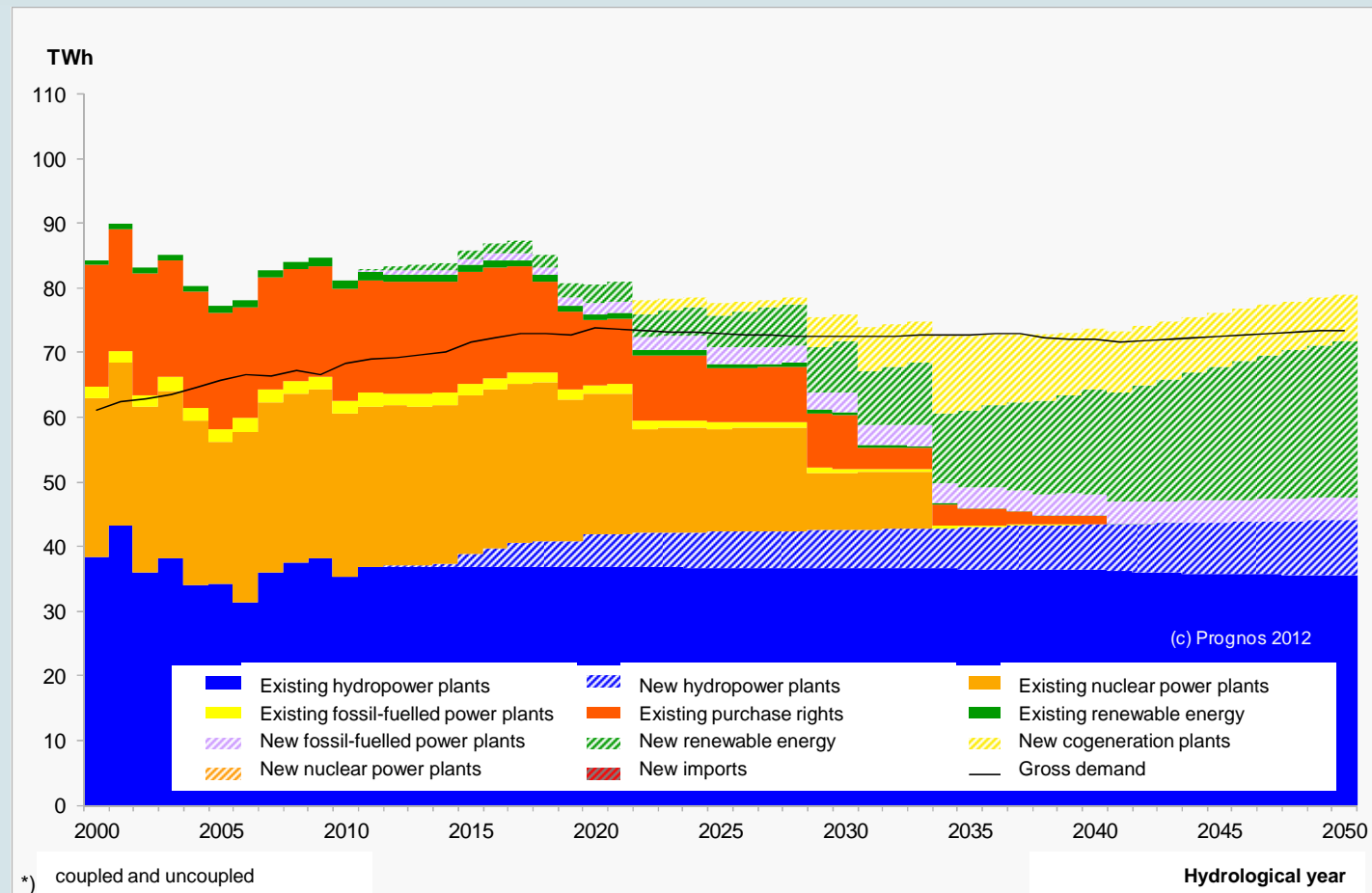
WWB = Business as Usual
POM = Political Measures of the Federal Council
NEP = New Energy Policy

Other abbreviations:

EEV = end-energy consumption



Effects of initial package of measures: development of electricity supply



Electricity supply, "Political Measures" scenario, option "C&E"



Energy Strategy 2050: key elements (1/2)

1. **No new nuclear power plants**
2. Promotion of **energy efficiency**
3. Increased use of **renewable energy**
 - Hydropower: + 3.2 TWh
(+ pump storage for integration of new renewable energy forms)
 - New renewable energy: exploitation of sustainably utilisable potentials (24.2 TWh)
4. **Remaining demand** to be met through:
 - Fossil-fuelled electricity production (primarily gas and steam)
 - Imports



Energy Strategy 2050: key elements (2/2)

5. Expansion of electricity networks

- Optimisation, renovation and expansion of transmission and distribution networks
- Reorientation in direction of smart grids

6. Intensified energy research

7. Federal government to act as role model

8. Strengthening of SwissEnergy programme

9. Intensification of international cooperation in the energy sector



Measures relating to energy efficiency: key elements

Buildings

*Increase in
CO₂ fee
and
strengthening
of Buildings
programme*

Industry and services

*Target
agreements
in
accordance
with
Parliamentar
y Initiative
12.400*

Mobility

*More
stringent
CO₂ emission
regulations*

Electrical appliances

*Introduction
of regulations
for other
appliances*

Electricity suppliers

*Efficiency
target for
electricity
suppliers*

*Informative
measure:
More stringent
model energy
provisions of the
cantons*



Measures relating to renewable energy: key elements

Financial measures

*Optimisation
of feed-in
remuneration
system*

*Explicit right
of own use*

*Guarantees
for deep
geothermal
energy*

General support measures

*Spatial
planning
concept for
development
of renewable
energy*

*Declaration
of large-scale
installations
as national
interest*

*Fast licensing
procedures in
the cantons*

Organisa- tional measures

*Transfer of
enforcement
from
Swissgrid to
SFOE*

*Transfer of
assets in
network
surcharge
funds to fed.
government*

*Information &
advice within
the scope of
SwissEnergy*



Balance of accumulated costs and savings resulting from initial package of measures up to 2050

- + Investments in efficiency
- Savings in energy costs / imports
- + Costs of increase in production capacities (though thanks to reduction in demand, these are lower than without reduction)
- + Networks

= Total approx. 39 billion Swiss francs

Supply option "C&E" | Sources: Prognos 2012, Consentec 2012





Overall economic effects of initial package of measures up to 2050

Effects in comparison with “Business as Usual” scenario	
Welfare effects including secondary benefits	Slightly positive (+0.1% in 2050)
Welfare effects excluding secondary effects	Slightly negative (-0.2% in 2050)
Annual GDP growth	0.98% instead of 1%
Employment	Slightly negative (-0.2% in 2050)

Economic model

- Specification of CO₂ targets (-26% in 2050), electricity demand (-12% in 2050) and electricity supply
- Modelling of all markets and players
- Assumed CO₂ tax: 70 to 210 Swiss francs per tonne CO₂
- Assumed electricity surcharge: 11 to 22% on electricity price



Thank you for your kind attention!

www.energiestrategie2050.ch
www.bfe.admin.ch

