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Bundesamt für Energie BFE
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Ufficio federale dell'energia UFE
Swiss Federal Office of Energy SFOE

Regulatory Measures and Institutional Support to Innovative Solutions



26 August 2015

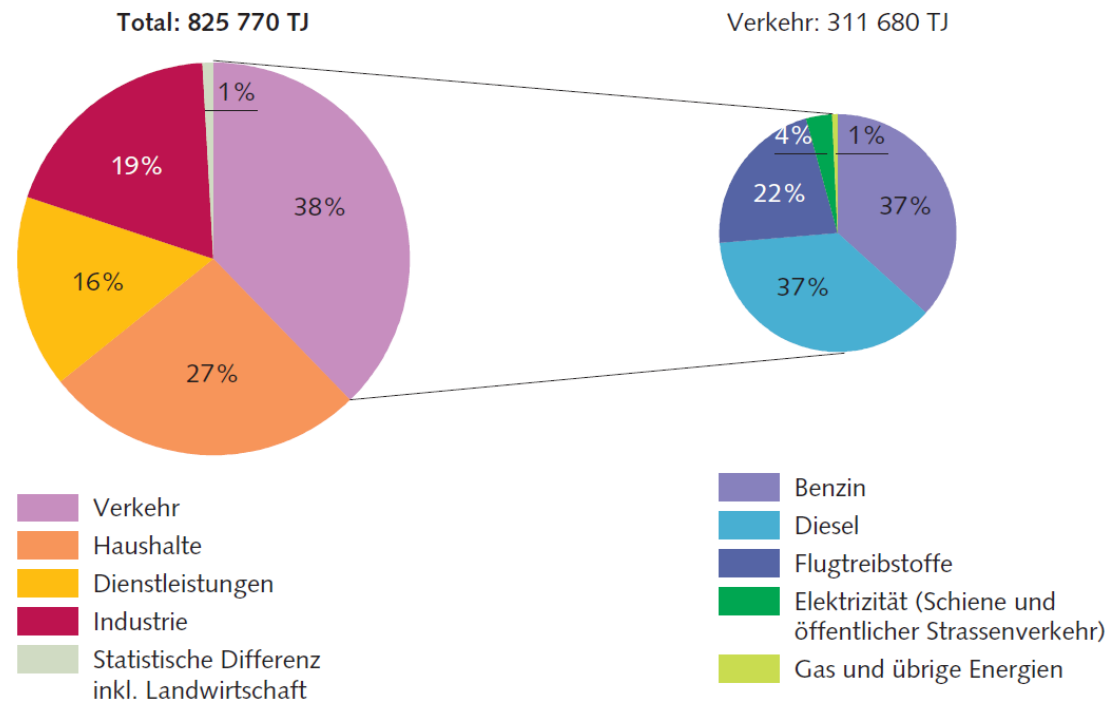
Christoph Schreyer Head of Mobility SFOE



Energy consumption in Switzerland

Share of Transport?

Endenergieverbrauch 2014



Quelle: BFE – Gesamtenergiestatistik

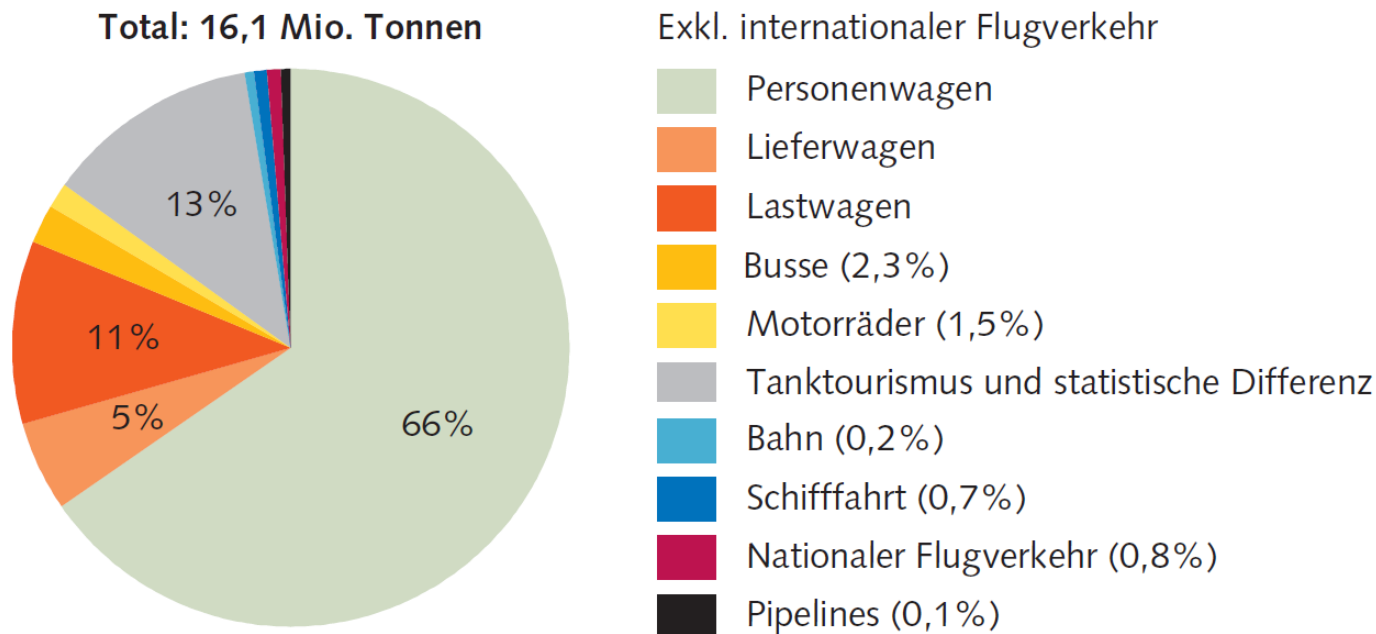
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- **Transport sector: 38% of total energy consumption**
- **Dependency on fossil fuels: 13 billion Swiss Francs per Year**



CO₂ emission of Transport in Switzerland ...

CO₂-Emissionen des Verkehrs, 2013



Quelle: BAFU – Treibhausgasinventar

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- **31 % of total CO₂-emissions in Switzerland**

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Climate Change in Switzerland

1948

2002

2006





Fukushima March 11, 2011 – the turning point





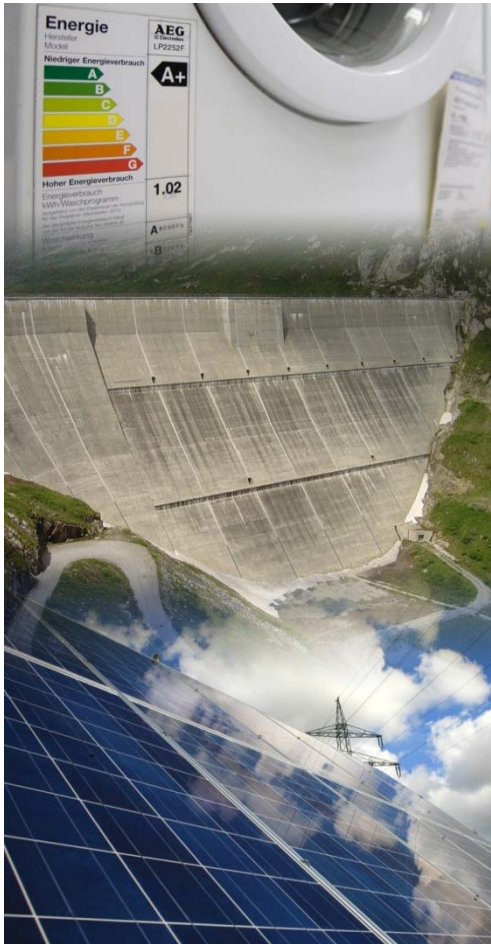
Energy policy milestones since Fukushima

- On 25 May 2011, the Federal Council announced decision **to phase out of nuclear energy.**
- Parliament subsequently **adopts this resolution.**
- On 4 September 2013, the Federal Council **adopts the draft of the initial package of measures for Energy Strategy 2050.**
- The bill is currently being debated in Parliament.





Energy Strategy 2050: main goals



Increase energy efficiency

Increase the proportion of renewable energy

Secure access to international energy markets

Renovation/expansion electricity networks

Promote energy research

Public sector as a role model



Necessary efficiency gains in different sectors

CO₂-emissions	2020	2035	2050
Households	-28 %	-60 %	-78 %
Services	-18 %	-39 %	-55 %
Industry	-7 %	-27 %	-40 %
Transport	-19 %	-44 %	-58 %

Electricity	2020	2035	2050
Households	-5 %	-15 %	-19 %
Services	+5 %	+11 %	+24 %
Industry	-5 %	-17 %	-23 %
Transport	+26 %	+109 %	+176 %

Source: UVEK, Botschaft zur Revision EnG, 4.9.2013



2050 energy perspectives: Three scenarios

"Business as Usual" scenario «WWB»

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

"Political Measures of the Federal Council" scenario «POM»

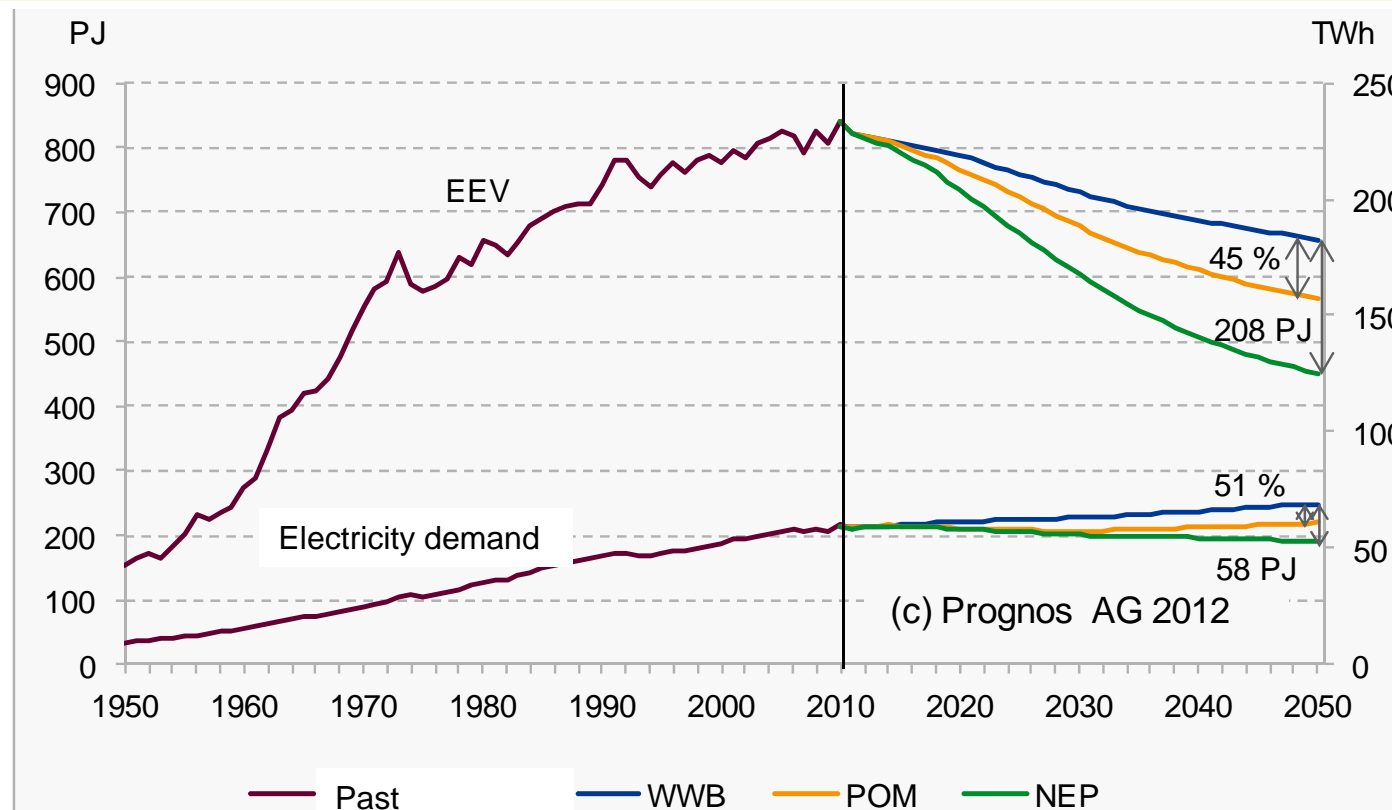
- Includes the political measures of the Federal Council.
= initial package of measures
- Utilisation of existing technologies

"New Energy Policy" scenario «NEP»

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



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



Scenarios:

WWB = "Business as Usual" scenario

POM = Political Measures of the Federal Council

NEP = "New Energy Policy" scenario

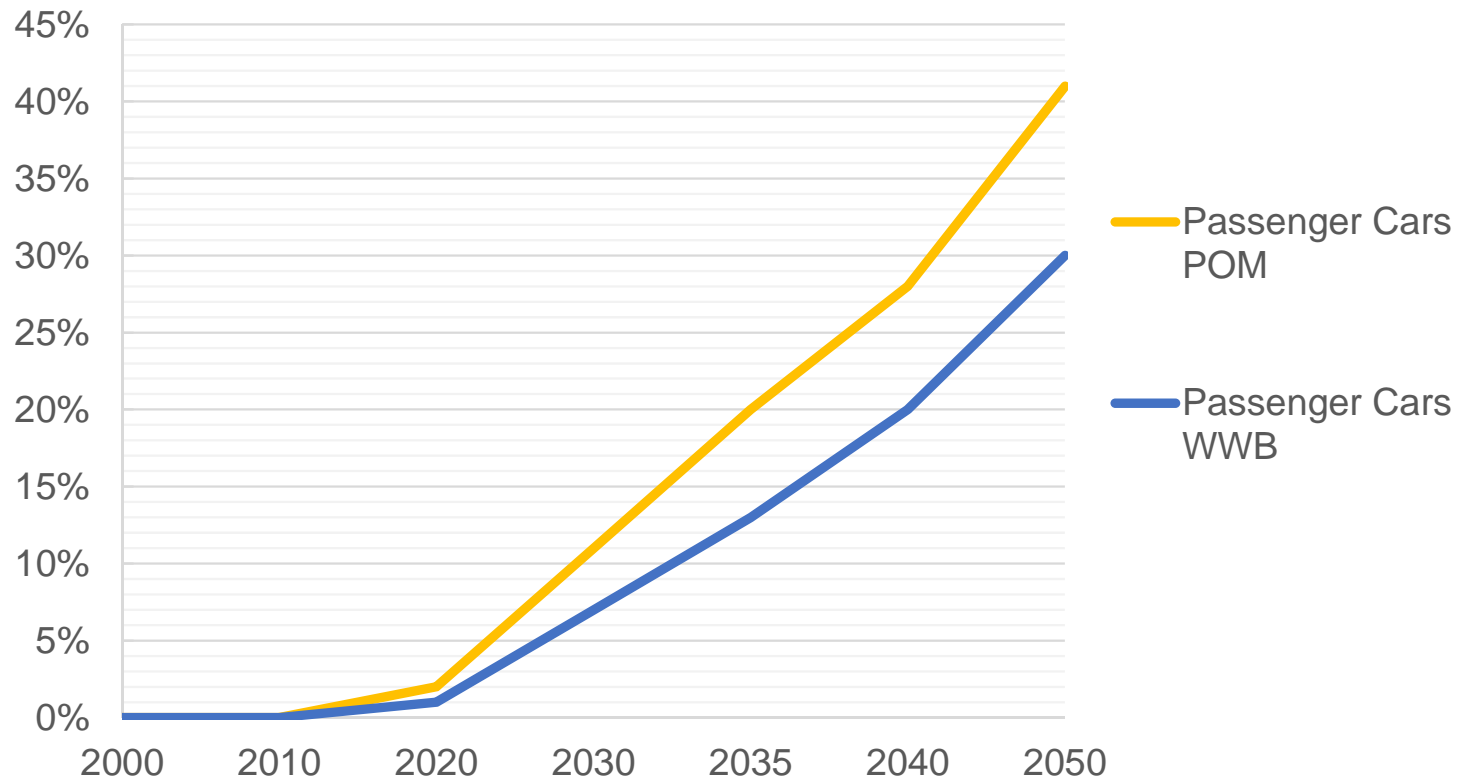
Other abbreviations:

EEV = end-energy consumption



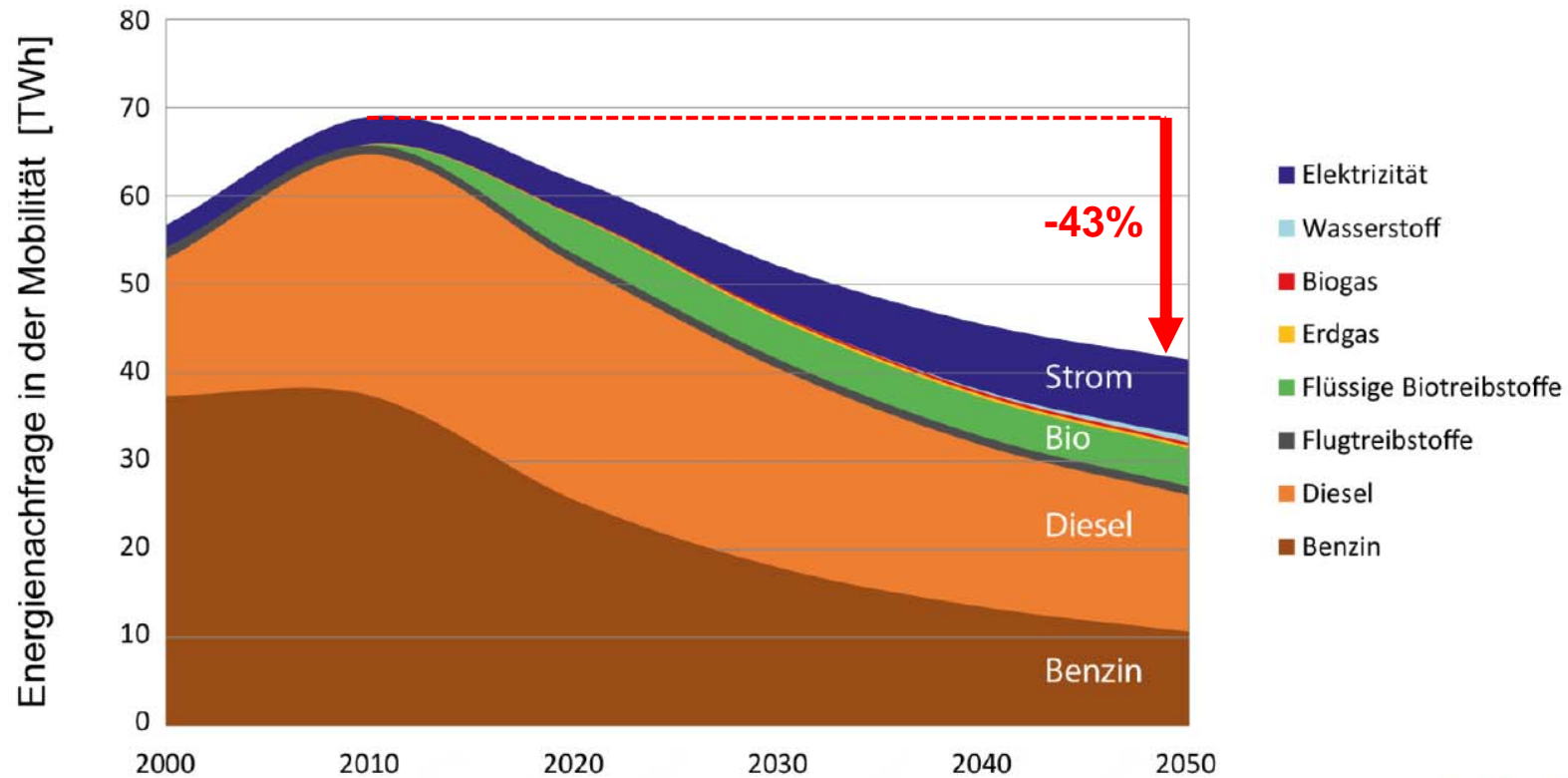
Energy perspectives 2050: Share electric vehicles 2010-2050

Share electric vehicles (passenger cars)
2000-2050





Energy consumption transport sector 2010-2050

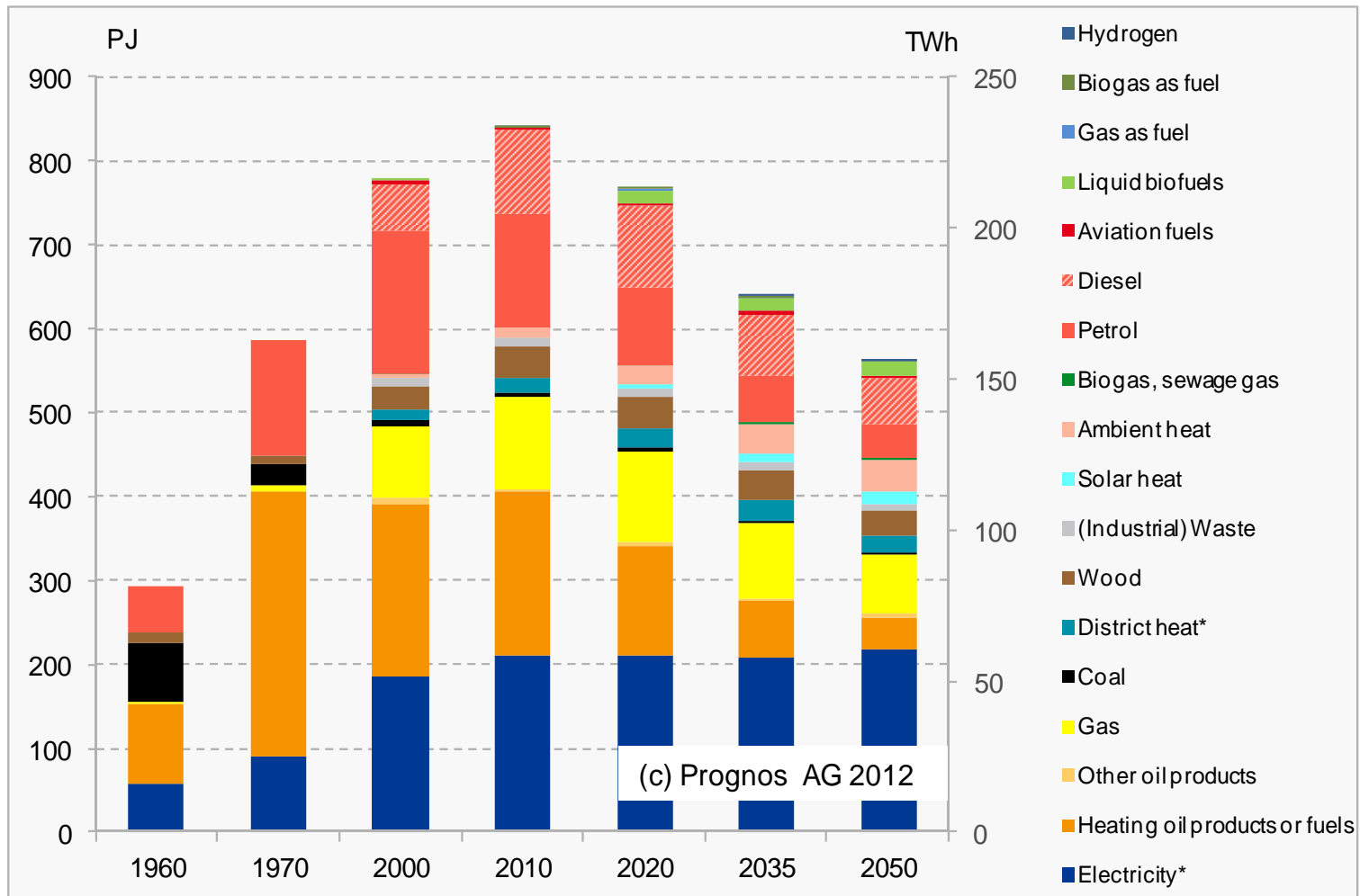


Botschaft zur Revision EnG,
4.9.2013 / Prognos 2012



Effects of the initial package of measures

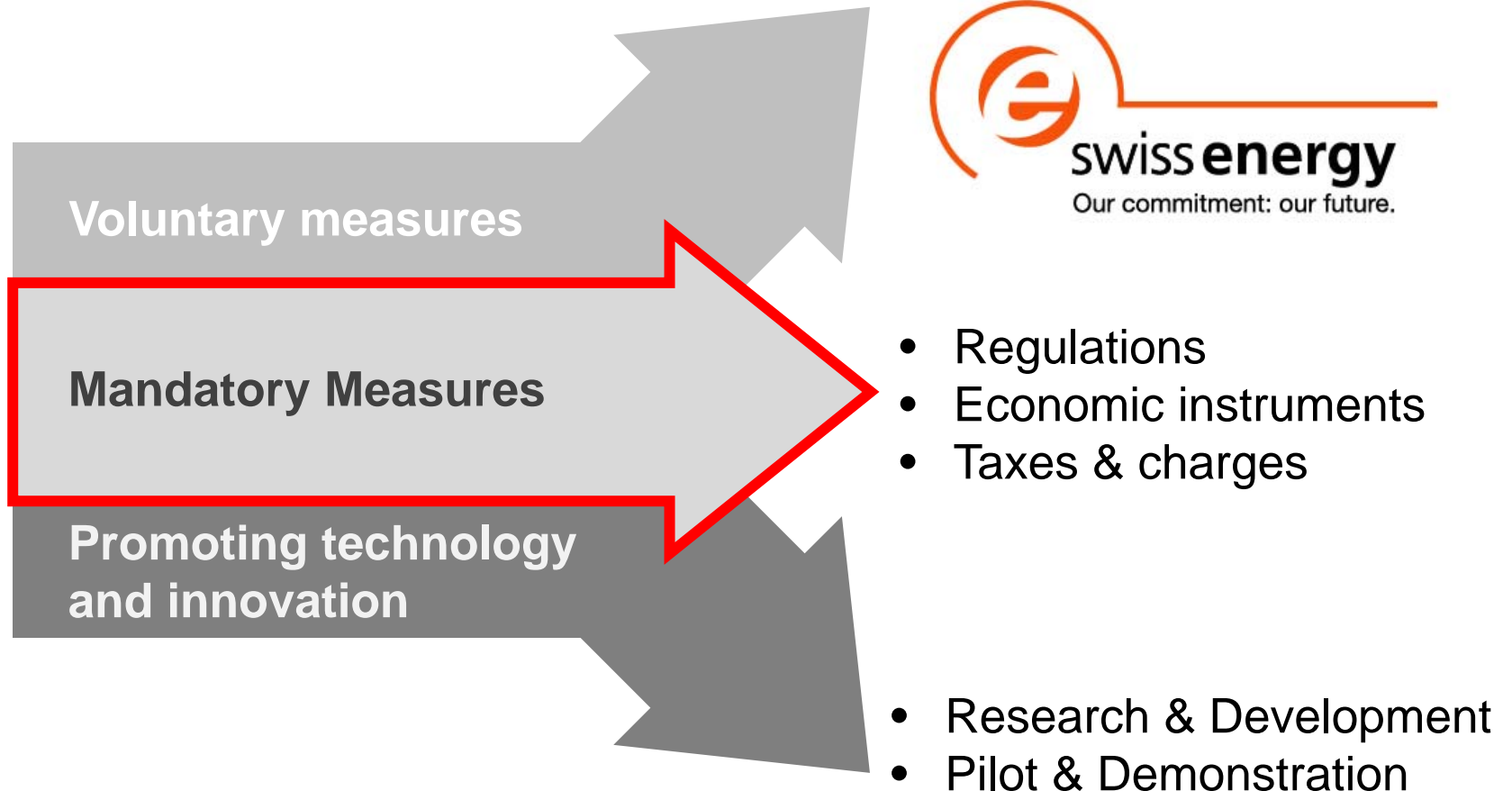
Development of total energy consumption & energy mix



Event, location, date



Strategic instruments in the transport + mobility sector





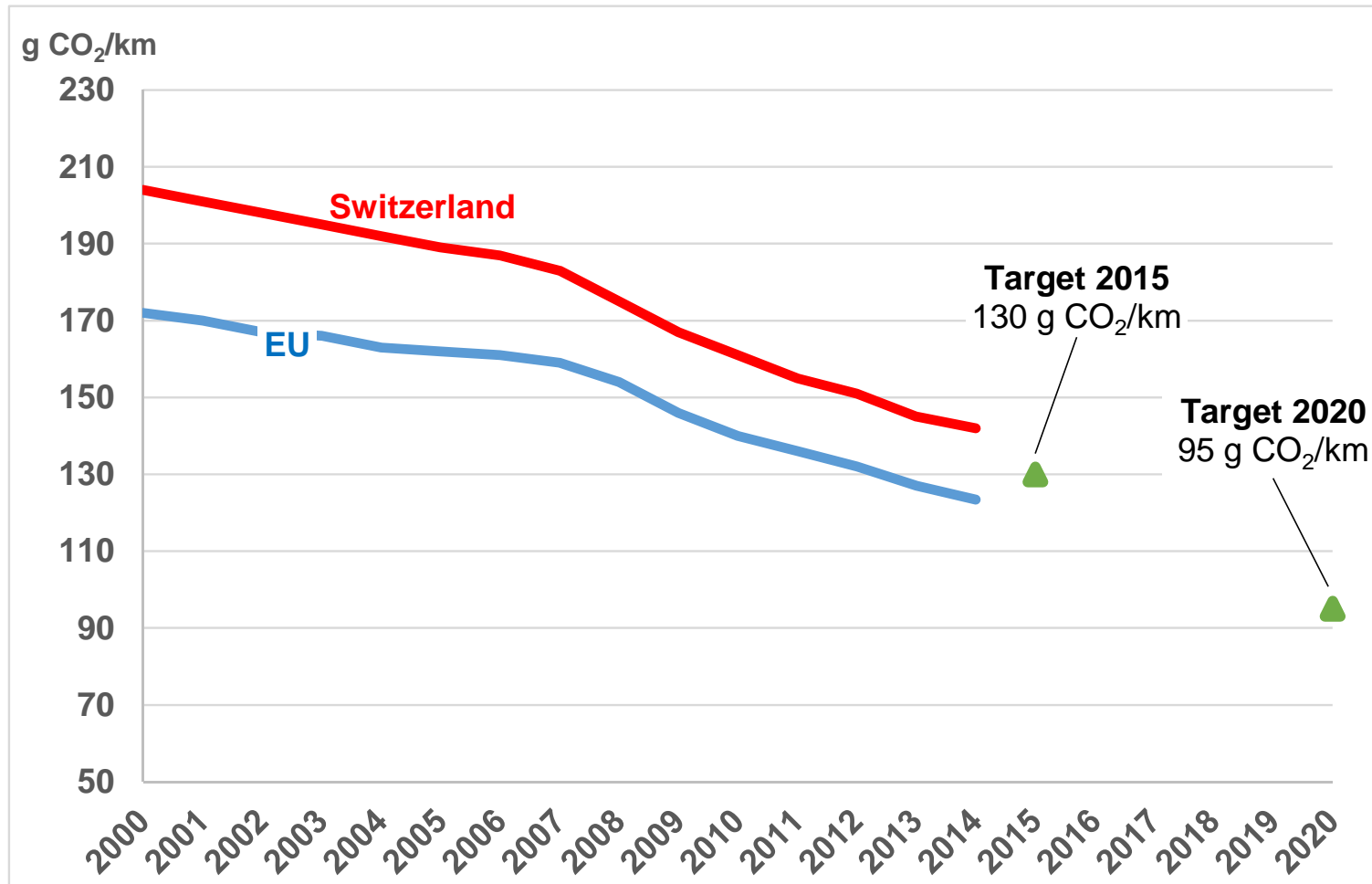
Regulatory measures: CO₂ emission limits PC + LDV

More stringent CO₂ emission regulations and extension LDV

- More stringent regulations for new **passenger cars**
 - **CO₂ emissions down to 95 g/km by 2020**
(target for 2015: 130 g/km)
- Extension of CO₂ emission regulations to include **vans and light articulated vehicles**
 - **CO₂ emissions down to 147 g/km by 2020**
- Enforcement: sanctions for vehicle importers which exceed the limit values
- Phasing-in and super-credits for particularly efficient vehicles
- **Adoption by National Council**
- **Currently in discussion in the Council of States**

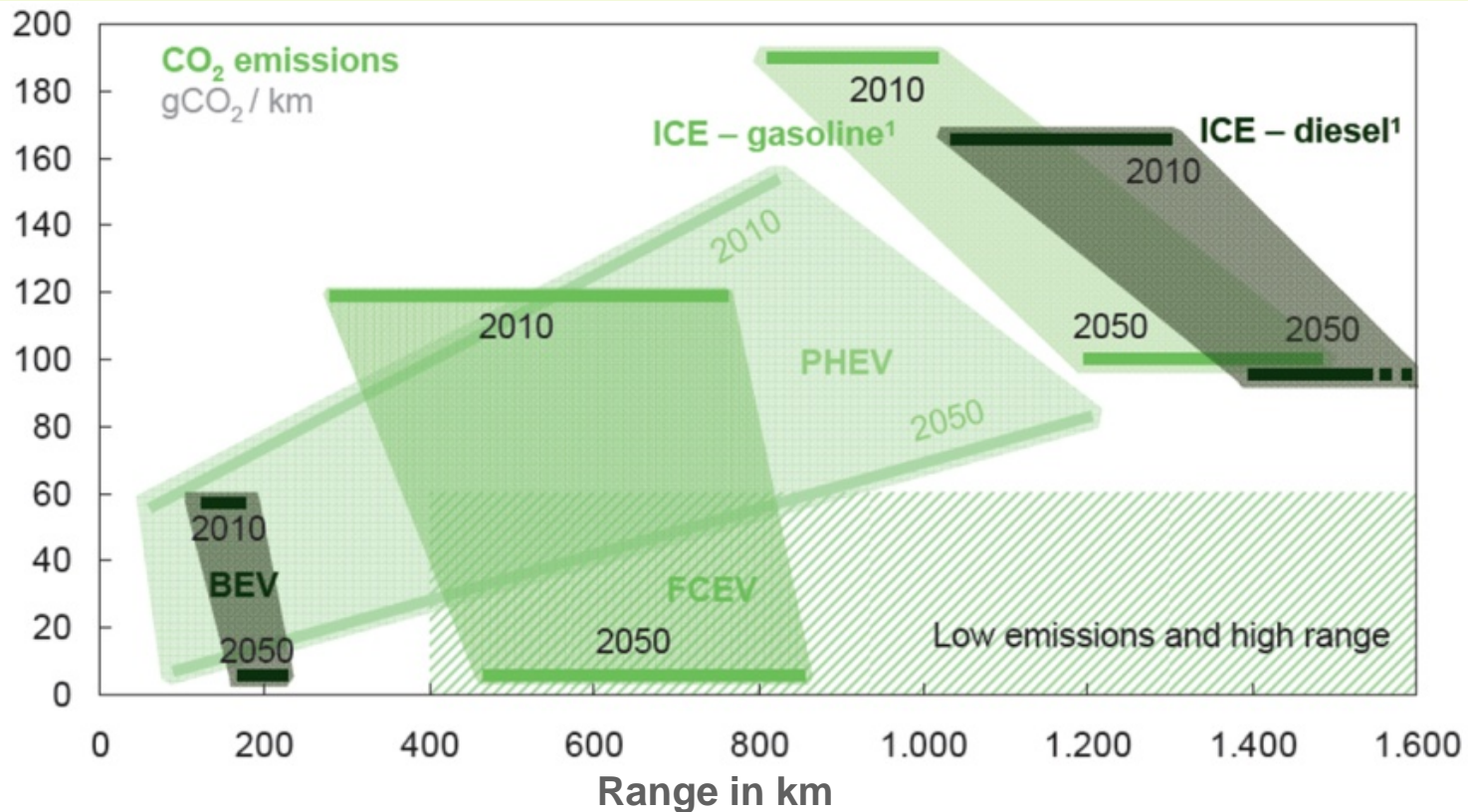


CO₂ emission limits for Passenger Cars 2015+2020





How can the limit values be reached? Alternative powertrains

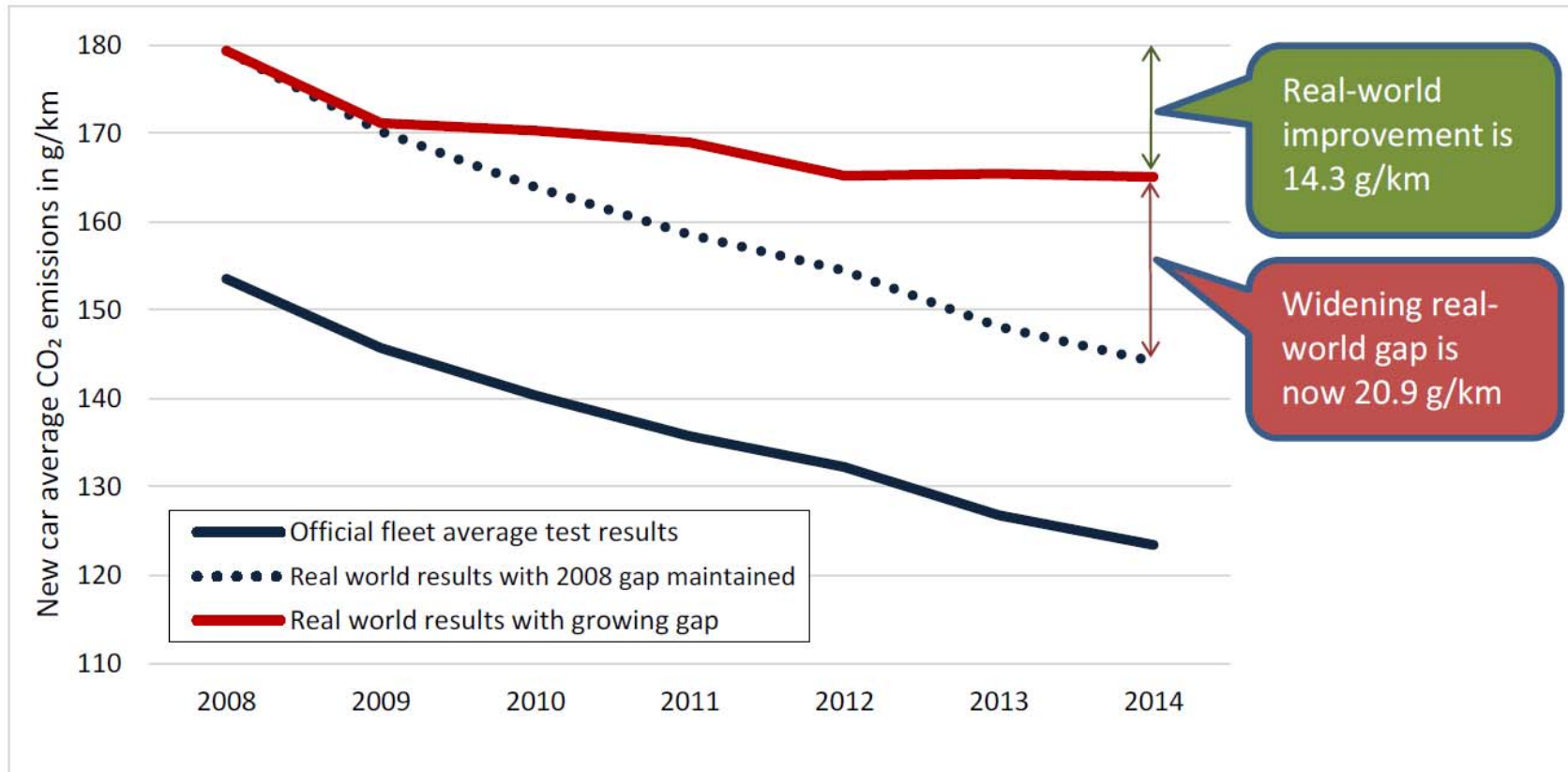


- Values below 100 g CO₂/km are practically not achievable with conventional powertrains

Source: A Portfolio of Power-Trains for Europe: A Fact-Based Analysis (McKinsey & Company, 2010)



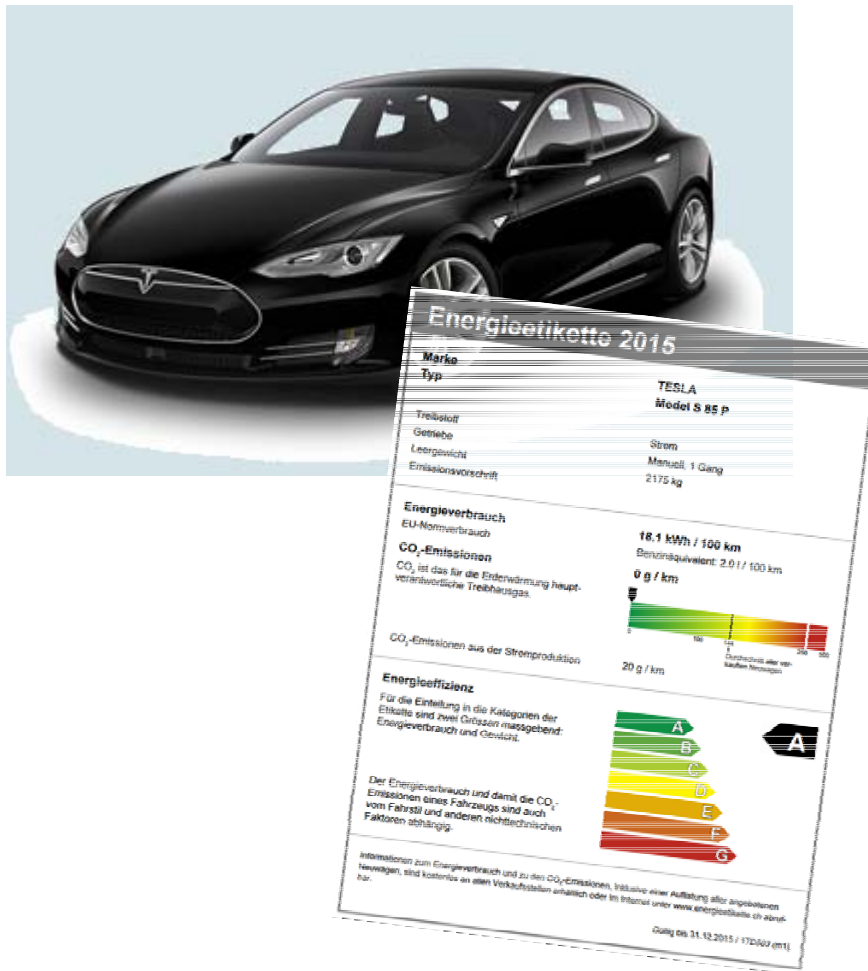
Increasing gap: official CO₂ test results versus the real-world consumption



Source: derived from ICCT, 2014



Supporting measures: Car labelling regulation



Goals

- Reduction fuel consumption
- increased transparency during the purchasing process
- Information on:
 - Fuel consumption
 - Energy efficiency, taking into account the vehicle's unladen weight



Supporting measures: fuel consumption catalog

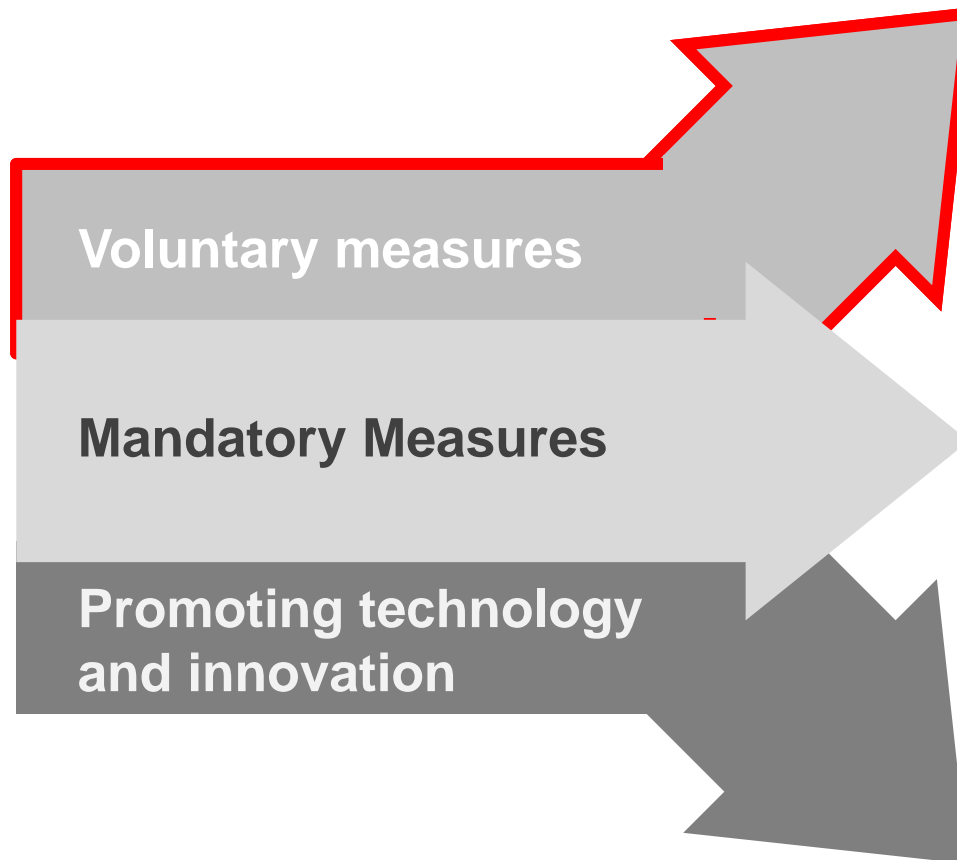


Content

- Overview of all new passenger cars in Switzerland
- Top 10 per vehicle class
- Information on
 - Fuel consumption
 - Type of fuel
 - Car label category
 - Price



Strategic instruments in the transport + mobility sector



- Regulations
- Economic instruments
- Taxes & charges

- Research & Development
- Pilot & Demonstration



Promotion activities for efficient cars



Promotion Green Cars, 2015

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GREEN CARS <95g CO₂/km

The green cars of the Motor Show
Les voitures vertes du Salon de l'automobile
Die umweltfreundlichen Autos am Automobil-Salon
Le vetture verdi al Salone dell'automobile



Eco-Drive: promotion of a energy efficient driving style





Car-sharing: Introduction of a free floating car sharing scheme



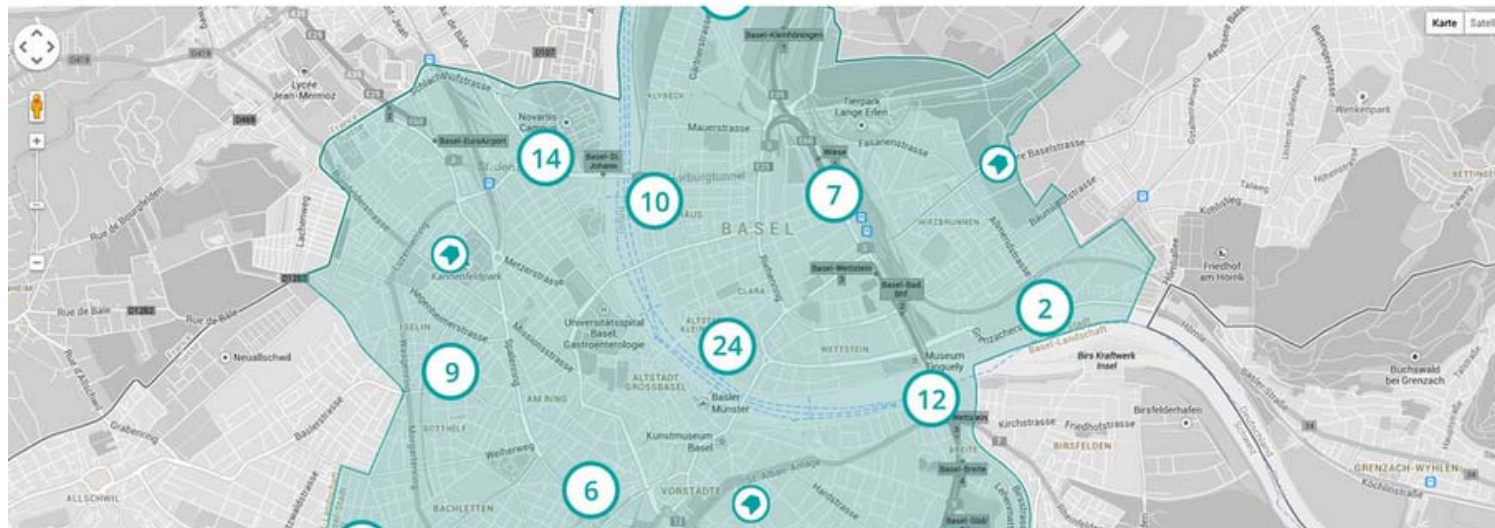
catcha car
by mobility

SEARCH LOGIN REGISTRIEREN



CATCH-CAR FINDEN

Ab Montag, 25. August 2014 um 12 Uhr finden Sie die verfügbaren Catch-Cars auf der Karte.





Promotion of human powered mobility Example: Bike4Car



GÖNN' DIR DIE FREIHEIT!

Tausche gratis für zwei Wochen dein Auto gegen ein E-Bike.



In Zusammenarbeit mit



Goals

- Promotion during summer 2015: alternative to private cars
- Experience a flexible and efficient mobility-mix
- That's how it works:
 - Return your car keys for 2 weeks
 - Get a free E-Bike and a free 4 month subscription to the mobility car sharing scheme



Public sector as a role model





Conclusions

- Regulatory measures **play an important role and set strong incentives on the way to an energy-efficient future mobility** (Push)
- **Voluntary measures** support regulatory measures (Pull)
- The Federal Council is pursuing a **technology-neutral approach**, it is up to the industry, the research community and the market to achieve the set goals (“don’t pic the winners too early”)
- We look forward to your ideas and projects and need your support for a more efficient future mobility.



Thank you



Christoph Schreyer, Leiter Mobilität
christoph.schreyer@bfe.admin.ch
www.bfe.admin.ch