

Building a sustainable European Biofuel industry

– Some introductory remarks 4-6 November 2019



The scene

- The climate change effect all societies – one way or another.
- 70 % of the global GHG emissions are energy related (in Sweden 75 %).
- Urbanisation is rapid (66 % of the global population lives in cities 2050)
- Electrification and digitalisation is coming
- ... and there are huge **opportunities** for front runners!



Ambitious Energy Policy Targets for Sweden

100 % renewable
electricity 2040

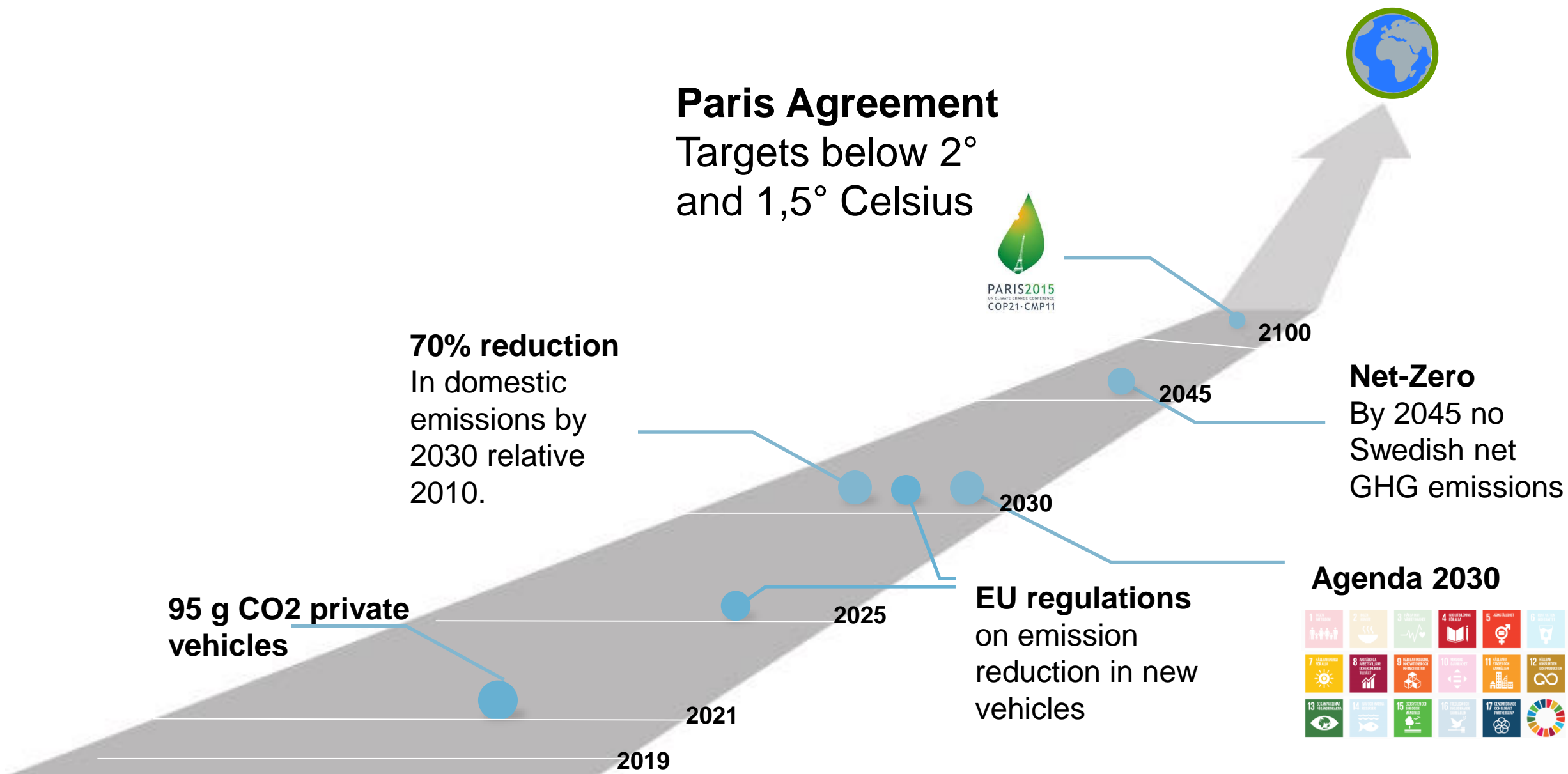
No net emissions of
GHG 2045*

50 % more efficient
energy use 2030
than in 2005

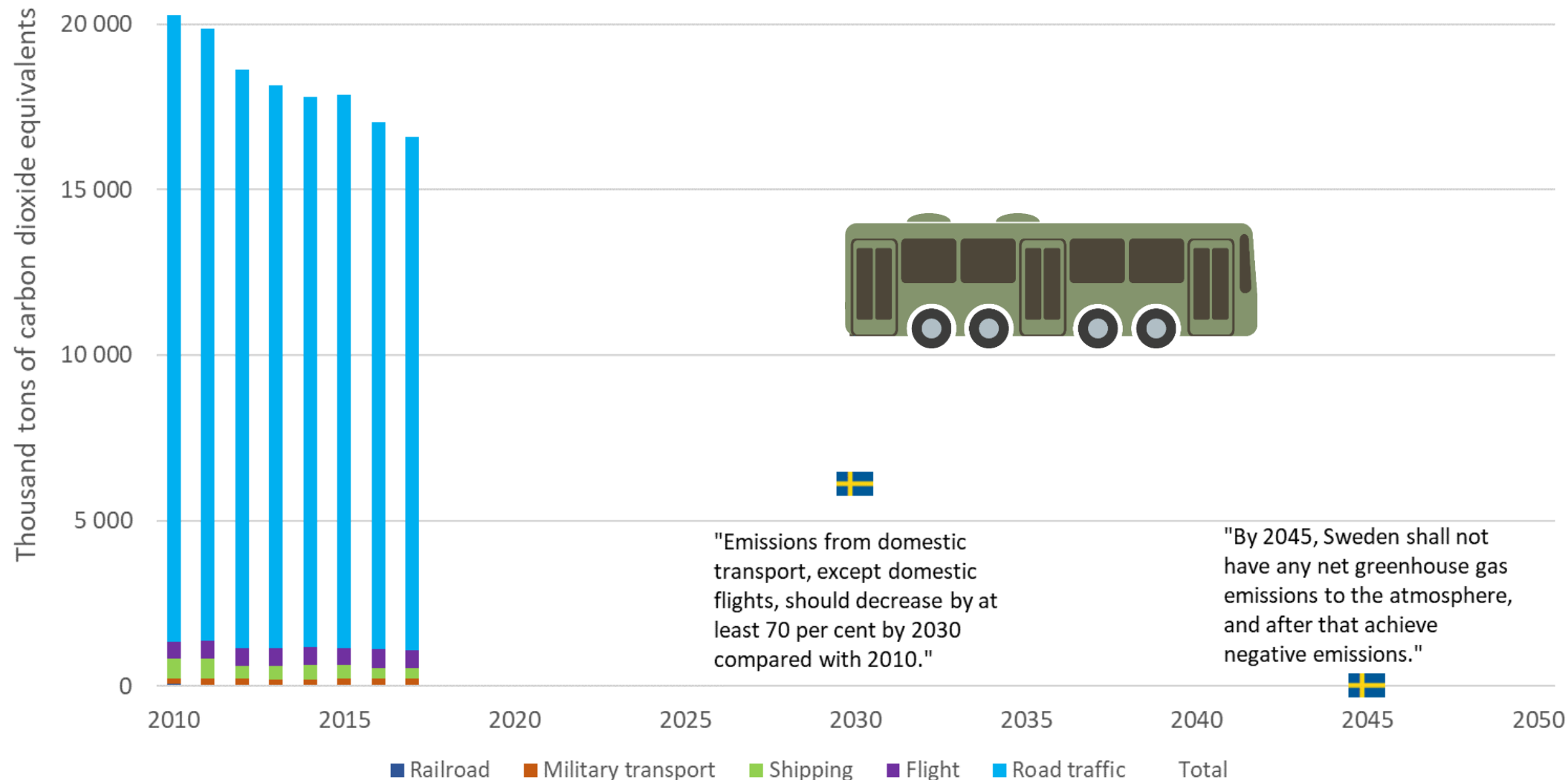


The Fundament

The itinerary for the future transportation system

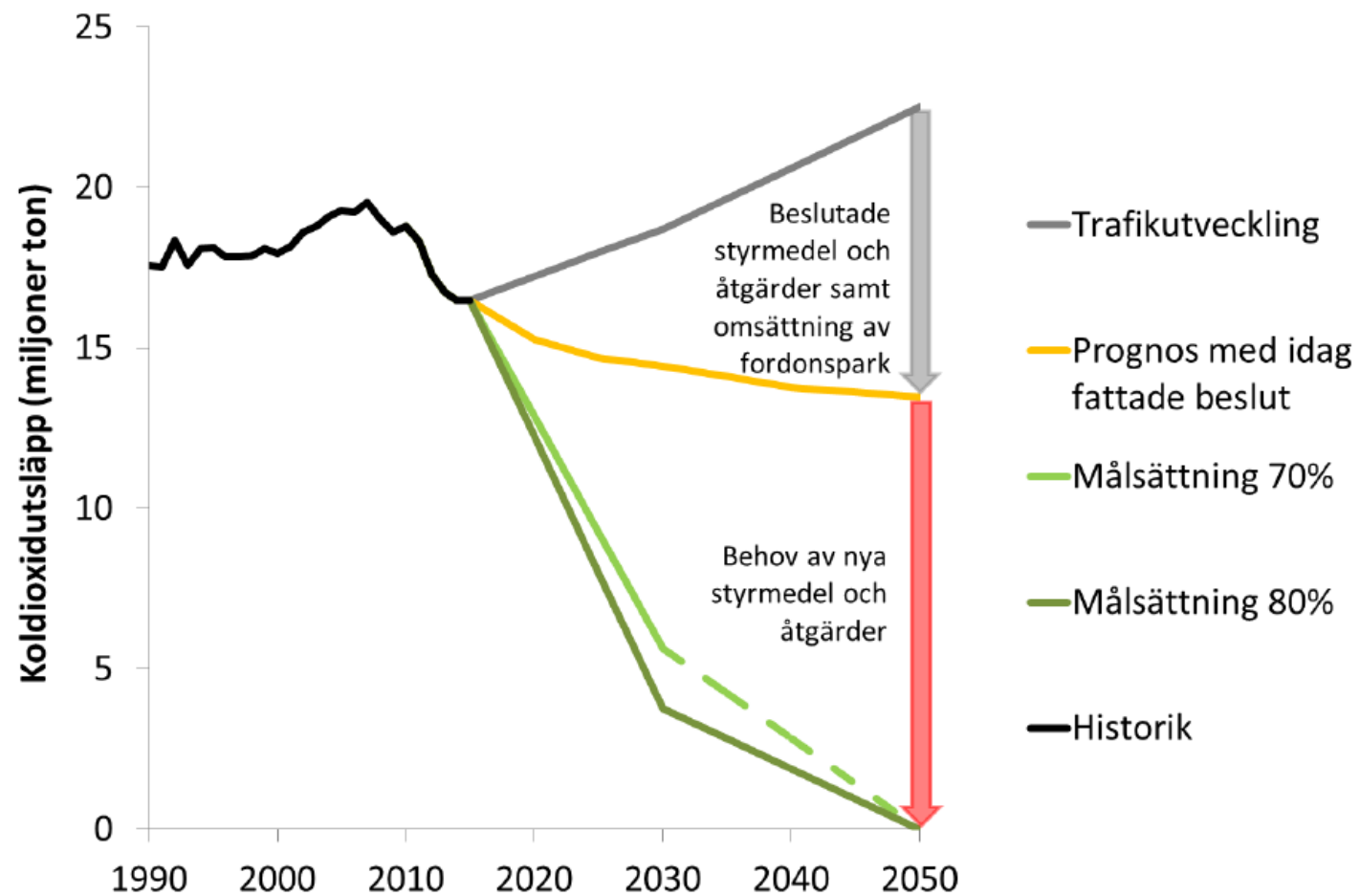


Emissions of green house gases from domestic transports



Behov av nya åtgärder och styrmedel

Vägfrikens utsläpp

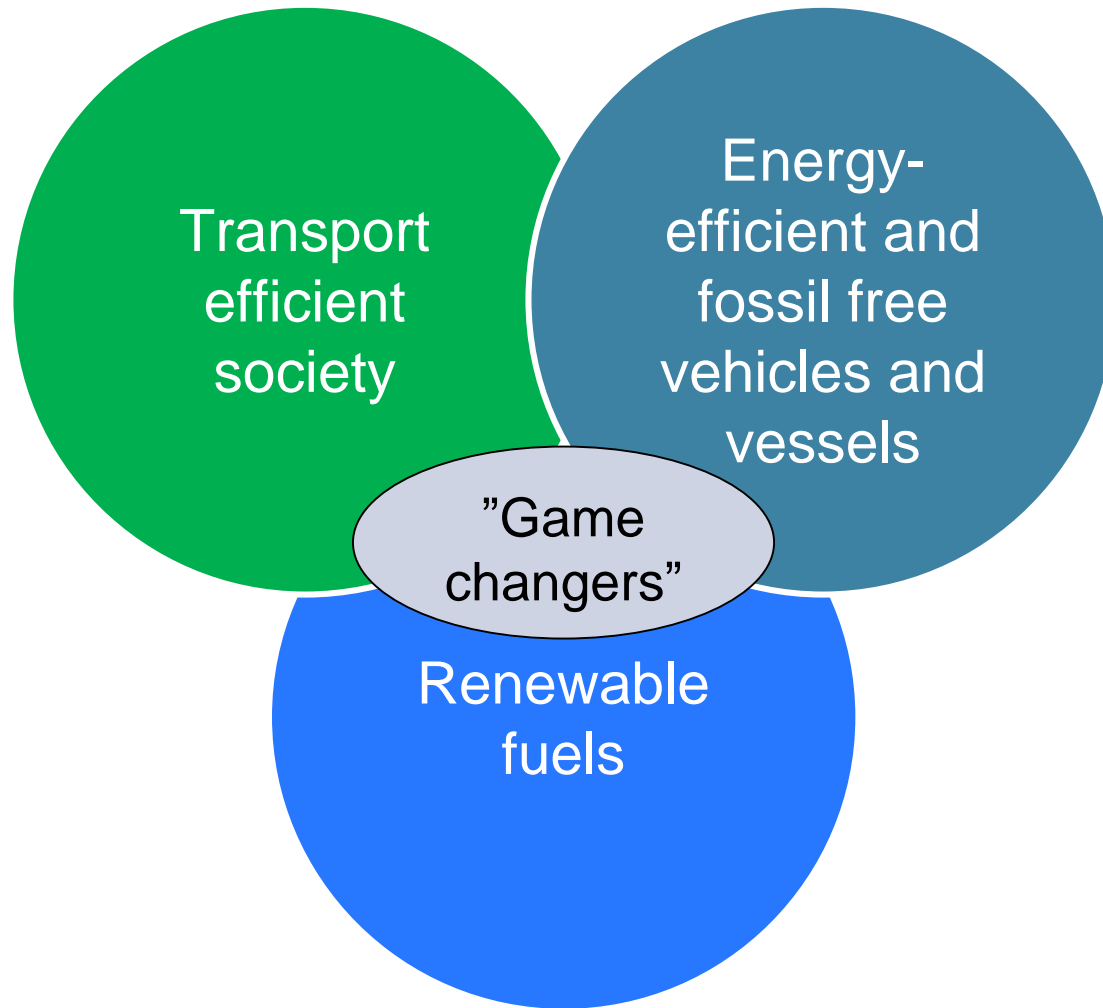


Bild, Nationell plan för transportsystemet 2018-2029, Trafikverket



!Not enough – decisions so far reaches only half way to reducing 70 % by 2030!

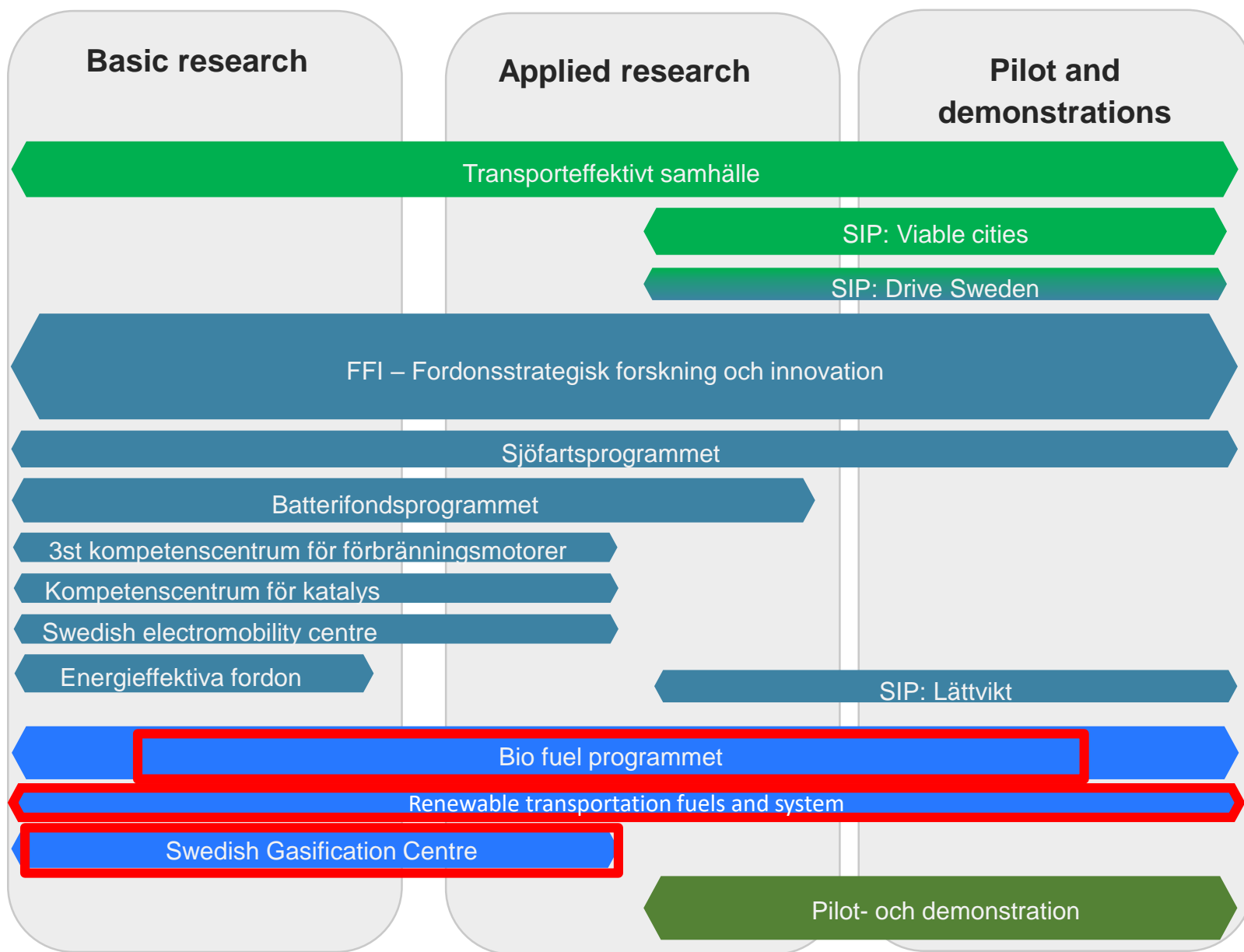
A fossil free transport sector



Our work on transport and biofuel includes...

- SOFT – Strategic plan for a fossil free transport sector
- Research and innovation programmes
- Coordinating infrastructure for biofuels and electrification
- Supervision and overviews of relevant legislation for biofuels
- National implementation of EU-legislation e.g. REDII
- International cooperation e.g. IEA Bioenergy, EU SET-plan
- Statistics





Transport
efficient
society

Energy-
efficient
fossil free
vehicles
and
vessels

Renewable
fuels

Ongoing programmes

Research and innovation – biofuels

The biofuel programme

- Research program annual calls
- Road, aviation and marine fuels
- Development and improvement of production processes
- Funding SEA: 45 MSEK/year

The Swedish gasification center

- To strengthen and coordinate Swedish gasification R&D
- 8 universities, 20 companies and one institute
- Funding SEA: 19,5 MSEK/year



Renewable transportation fuels and systems

- Collaboration program between the Swedish Energy Agency and f3.
- System and policy studies
- Funding SEA: 5,5 MSEK/year

Additional Government assignments

Biofuels for aviation

Liquified biogas

Ethanol for heavy duty transport

Electrification is coming

- Electrification of vehicles and vessels
- Batteries in a life cycle perspective
- Infrastructure for both static and dynamic charging
- Standardization, new market models and changes of mind
- Pollution prevention



In a digital and electric transport system with...

- Artificial Intelligens (AI)
- Automation
- Everything connected (IoT)

...don't forget

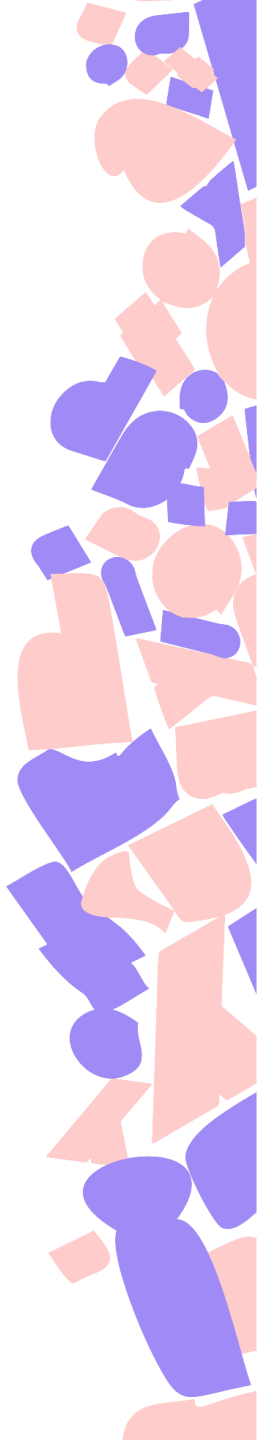
- the vast energy needs for data storage
- Cybersecurity, resilience and robustness



The core Cs

Coming together is a beginning,
staying together is progress and
working together is success
(Henry Ford)

- Courage



A modern interior space with a hanging wicker chair, a dark sofa, and a brick wall. The room features a large window on the left with a small potted plant on the sill. A large potted plant stands near the window. The ceiling is decorated with several white, spherical pendant lights. The wall is made of exposed brick with some peeling plaster. A dark green sofa is positioned in the center, and a small table with a lamp is visible in the background. A hanging wicker chair with a red cushion is in the foreground.

Thank you for listening!

Robert Andrén
Director General

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