

Reducing climate impact in purchasing of infrastructure

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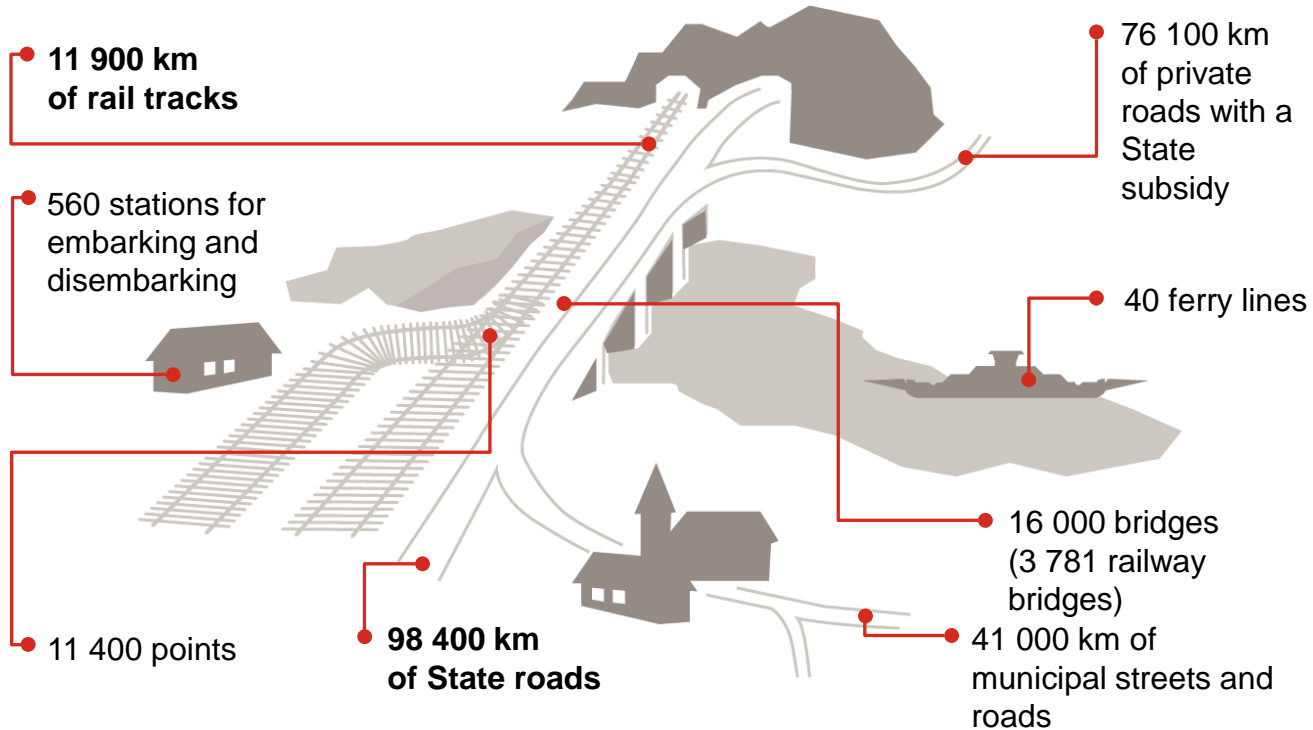
TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION



Trafikverket – tasks

- Responsible for the long-term planning of the traffic system for road and rail transport, shipping and aviation
- Responsible for the construction, operation and maintenance of State roads and railways
- 6 500 employees
- All services are sourced from large number of external companies
- Business volume year 2014, 5,5 billion Euro

Sweden's roads and railways



Present environmental requirements

Conditions used in all projects:

- Environmental management
- Environmental Plan
- Light Duty Vehicles, Heavy Duty vehicles, Non-road mobile machinery
- Fuels
- Chemical products
- Hazardous substances in materials and articles

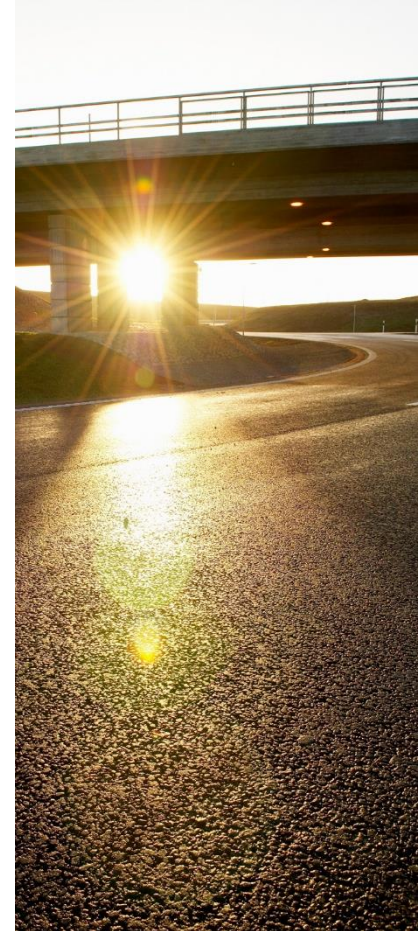
- Simply not enough to meet challenge of today!



Goal and vision (to be decided by Executive board)

- Reduce energy consumption and climate impact in a life cycle perspective including building, operation and maintenance of the infrastructure
- **The vision to year 2050 is to build infrastructure without net emission of climate gases.**
- **Goal for year 2025**
 - 30 percent lower climate impact 2025 compared to 2015
- **Goal to year 2020**
 - 15 percent lower climate impact compared with 2015

Goals are set in percent and are related to average environmental performance of today (year 2015) for standard works within our business



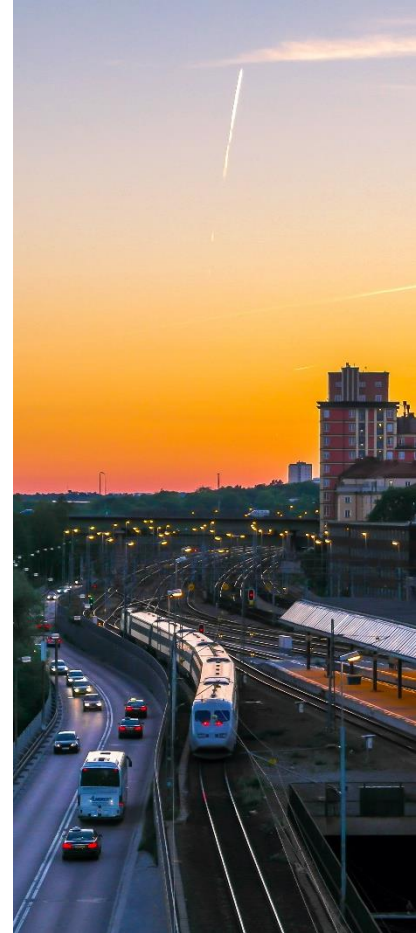
Focus area 2015

- Defining what is an OK environmental performance!

- Set up requirements to stimulate cost-effective reduction of CO₂
- Analyse consequences of different models and performance levels (triggers like bonuses, penalties or firm demands)

Motive

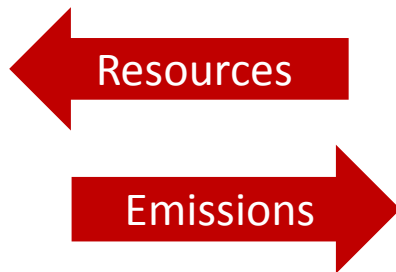
Investments, operations and maintenance of infrastructure have a significant climate impact. These activities represent approx. 10 percent of road and railway's total climate impact (life cycle perspective)



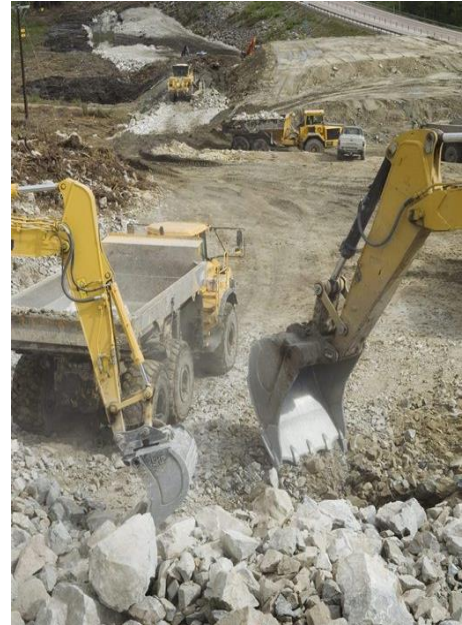
Klimatkalkyl - Climate calculation tool

Extraction of raw materials
Refining
Transport
Construction
Operation
Maintenance
Waste management

- Calculations according to ISO 14041:2006



- Quantifying resources and emissions for each activity in the system.



Trafikverket's model for energy and climate calculations of transport infrastructure in a life cycle perspective (except traffic)

Climate calculation tool

- Can be used for individual projects or parts of projects or the whole infrastructure system
- Tool for decision support, basis for project improvement and to set targets of climat-performance

Emission factor

Default estimates on
resource consumption

Emissions

The model is owned by Trafikverket but is open and available through the website <http://www.trafikverket.se/klimatkalkyl/>



Future process for climate and energy requirements in contracts

- Applicable for all projects >5 milj Euro
 1. TRV defines a climate budget regarding CO₂.
 2. Goals are set in the contract.
 3. The contractor/technical consultant reports a climate declaration when the project is finished
- By defining functional requirements, what to be achieved to reduce CO₂, the supplier market is expected to reach goals in a cost efficient way)
- Forward commitment with supplier market give time to adapt
- Tests in RFQ during 2015 before implementation



Reference object – E4 Stockholm bypass

- Two requests for tender, turn key projects, were sent out spring 2015.
- Condition in contract: Reduce carbon foot print by 10% compared to default values in Climate budget
- **Procedure:**
 1. Contract signed
 2. Contractor defines base level in (tonnes CO₂) given by conditions in the request and by using default values of the performance regarding Carbon foot print
 3. Contractor identifies potential savings and implement these in the design
 4. Contractor builds the construction and declare verified results
- If contractor refers other emission factors than default values, verification has to be done with EPD® or corresponding



Sum up

- We define "environmental performance" with help from the Climate calculation tool
- We will test methods during year 2015 in order to implement routines 2016

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