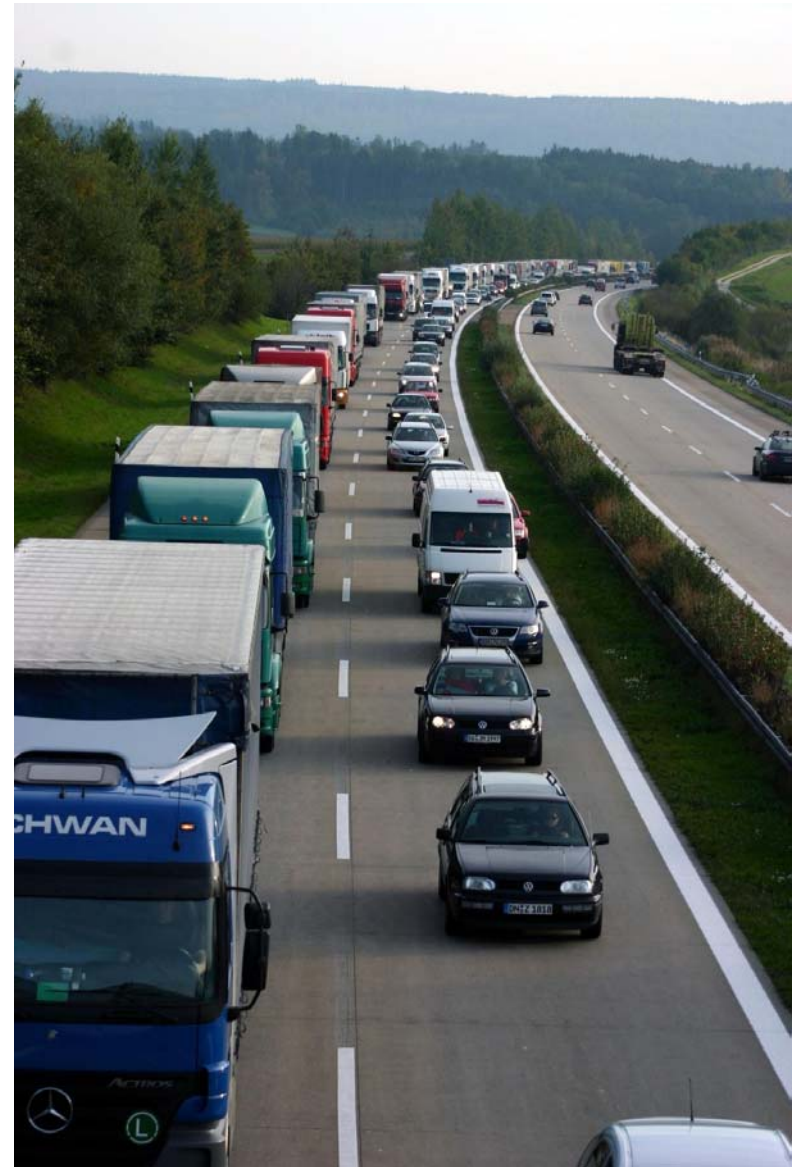


Is sustainable freight transport possible?

Strategy for Sustainable Freight Transport in Germany

Stefan Rodt

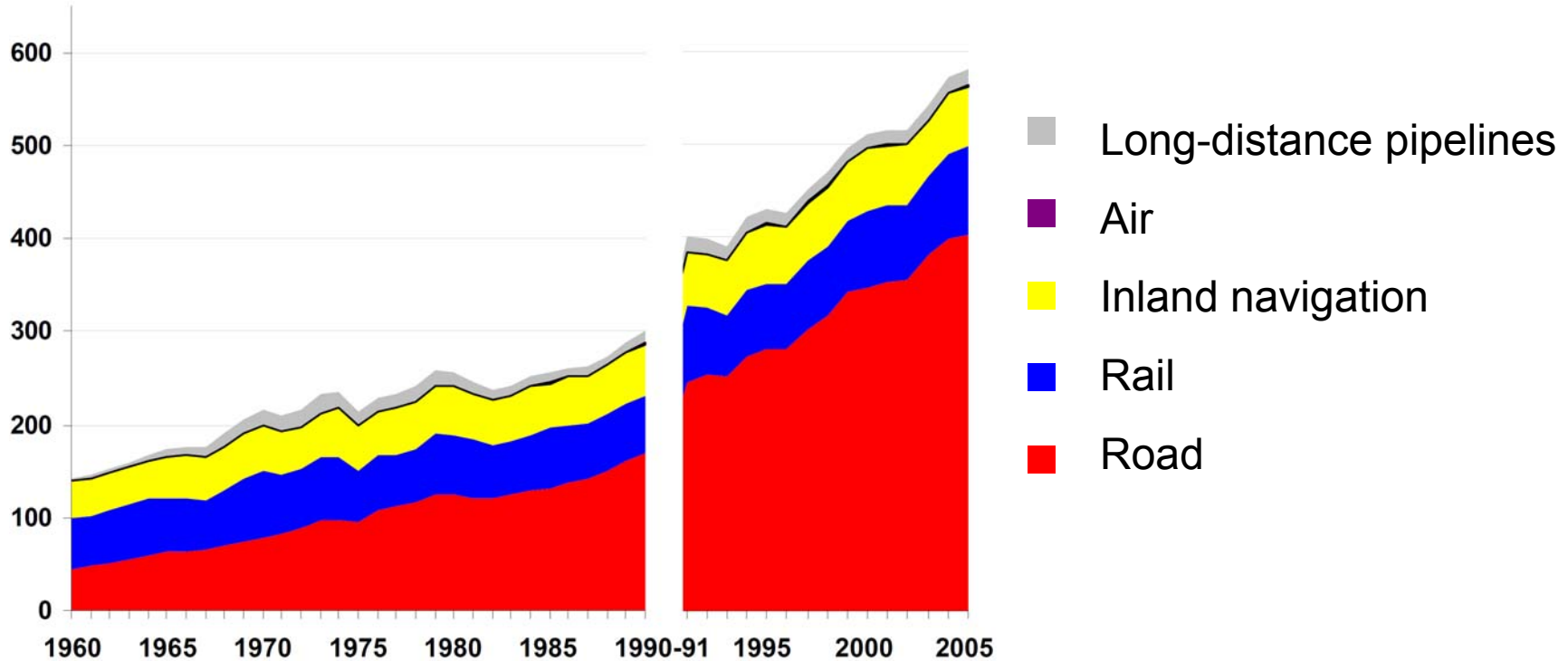
Head of Department
„Transport and Noise“,
Federal Environment Agency
(Umweltbundesamt = UBA)
Germany



Agenda

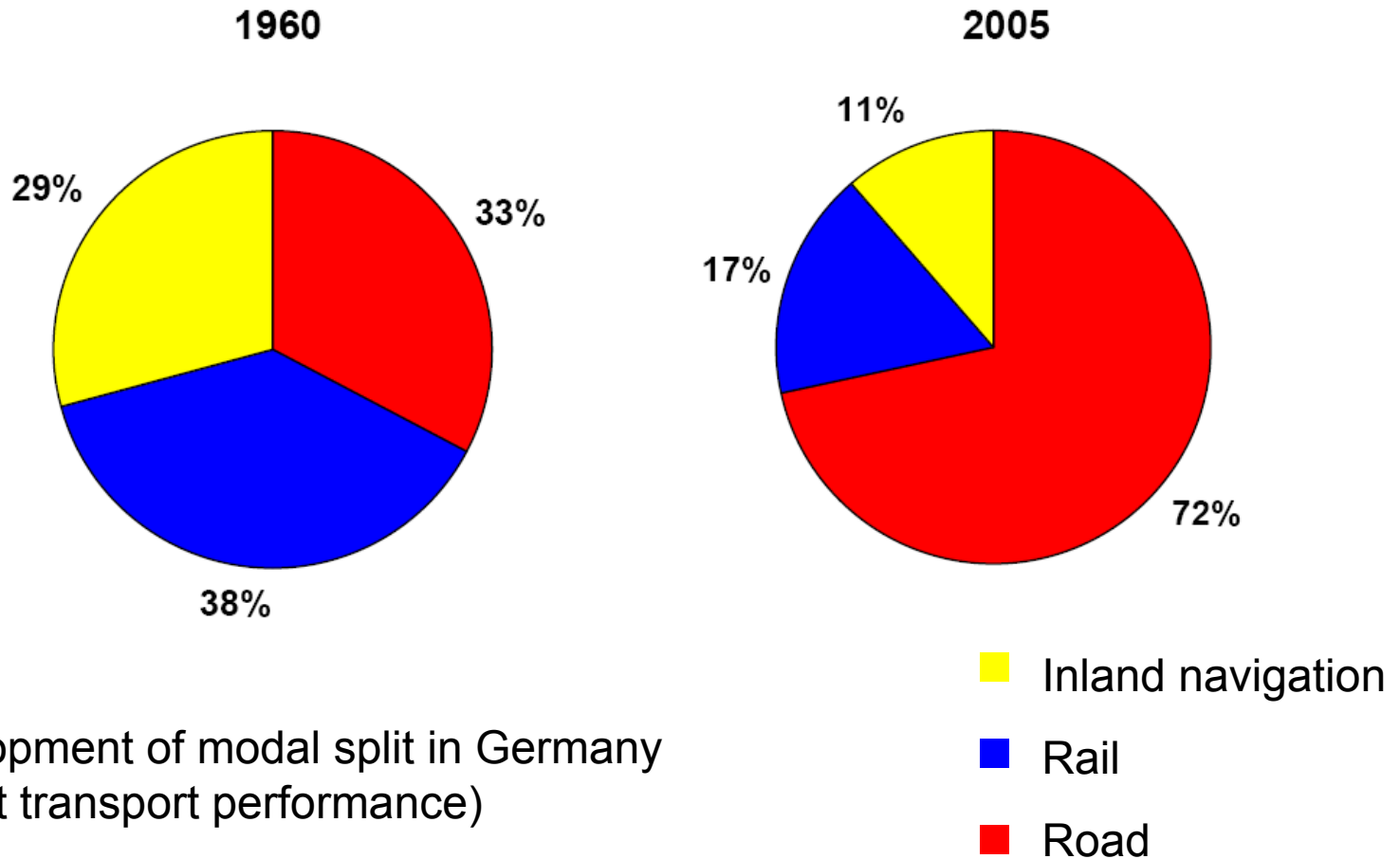
- Development in freight transport in Germany
- Environmental objectives
- Instruments for sustainable freight transport
- Scenario to achieve the environmental objectives
- Conclusions

Development in freight transport



Development of freight transport performance in billion ton kilometres, in Germany, 1960-2005

Development in freight transport



Development of modal split in Germany
(freight transport performance)

Forecast up to 2025

Freight transport performance: road, rail, inland navigation

- actual 2004: 522 billion tkm
- actual 2008: 655 billion tkm
- forecast 2025: 936 billion tkm
- 2008-2025: +282 billion tkm (+43 %)

Road freight transport performance:

- 2008-2025: +230 billion tkm (+49 %)

Reference:
German Ministry of
Transport
(hereafter: BMVBS)

Environmental objectives CO₂ (Germany)

Climate protection:

- trend: increase in CO₂ emissions from 2008 44 million t to 2020 48 million t
- German objective: reduce by 40 % till 2020 compared to 1990
- transport: reduce by 40 million t till 2020 compared to 2005
- freight transport: emissions should not exceed 2005 level

Other objectives:

- reduce air pollutants (EU national emission ceilings)
- reduce noise exposure (long term: World Health Org. level)
- conserve biodiversity and intact landscapes

Environmental objectives (International)

Climate protection:

- United Nations Framework Convention on Climate Change
- EU climate targets: 30 % reduction of greenhouse gas emissions until 2020 if other industrialised countries take similar action
- G8: developed countries reduce by 80 % until 2050

Sustainable transport:

- EU Sustainable Development Strategy 2006: decoupling of economic growth and transport demand, modal shift
- The EU Greening transport package, 2008

Basic measures towards sustainable freight transport

AVOID freight traffic

SHIFT freight transport to rail and inland waterway

REDUCE specific emissions of vehicles

Seven packages of instruments

1. Spatial structural instruments
2. Retain road capacity at current level
3. Further development of the road charge (Lkw-Maut)
4. Optimisation of traffic flow through a general speed limit (Germany)
5. Increase in capacity of rail infrastructure
6. Reduction of noise exposure (avoid increase)
7. Vehicle emissions reduction

Spatial structural instruments

Promotion of regional markets (e.g. food and timber):

- UBA estimation transport avoidance: -2 %

Transport impact assessment:

- 2007-2013 European Regional Development Fund (ERDF): 380 billion €
- to obtain financial support: mandatory target agreements with companies to make their traffic sustainable
- UBA estimation transport avoidance: -4 %

Contribution to reduce road transport: 32 billion tkm

Retain road capacity at current level

15-20 % of traffic increase is caused by construction of additional roads

→ stop addition to road capacity in Germany and EU (Trans-European Networks)

→ keep the current road network in a good state of preservation

Objective of infrastructure planning should be traffic avoidance and modal shift

Focus on rail infrastructure for freight transport in EU

Contribution to reduce road transport: 35 billion tkm

Develop road charge (Lkw-Maut)

Today:

- appr. 17 cent/km, only heavy goods vehicles (HGV) > 12 t and only on motorways
- revenues 2008: 3.5 billion € for motorways maintenance
- positive effects: modal shift to rail from road freight mode, decrease in the number of empty runs

Further development proposed by UBA:

- broadening to cover all HGVs over 3.5 t and all roads
- inclusion of all external costs → increase to 37.4 cent/km

Contribution to reduce road transport: 71 billion tkm

Road charge (EU level implications)

What is already possible (for Germany at national level):

- European Commission Directive 2006/38/EC allows:
broadening the toll's scope to cover all HGVs over 3.5 t weight and all roads

What should be done by EC:

- include all external costs into HGV road charge, at least: damage caused by climatic change, noise, air pollution, accidents,

Increase in capacity of rail infrastructure

UBA scenario leads to an increase in rail freight transport by 80 % until 2025

Increase in capacity of rail infrastructure: biggest challenge for implementation of UBA freight transport strategy

- extension of railway network: +50 %
- operational optimisation of rail transport: +30 %

Concentration on gap closing and hubs

Promotion of inter-modal transport and rail sidings

Contribution to reduce road transport: 49 billion tkm

EU contribution: expand European railway network

Reduction of noise exposure

Important pre-condition for a marked increase in rail freight transport performance

Introduction of mandatory maximum exposure levels

Instruments:

- most important: emission-related route price system leads to reduction of 6 to 10 dB(A)
- acoustic optimisation in national and European railway networks
- aid programme: conversion of freight waggons to new brake systems
- EU contribution: promote reduction of rail noise exposure

Specific vehicle emissions reduction

Tightening of vehicle standards for air pollution and noise emissions (Euro standards)

Inland vessels and diesel locomotives: retrofitting with technology to reduce emissions of NO_x and particulates

Medium term: mandatory CO₂ limit values

EU contribution:

- further development of emission standards

UBA Scenario 2025

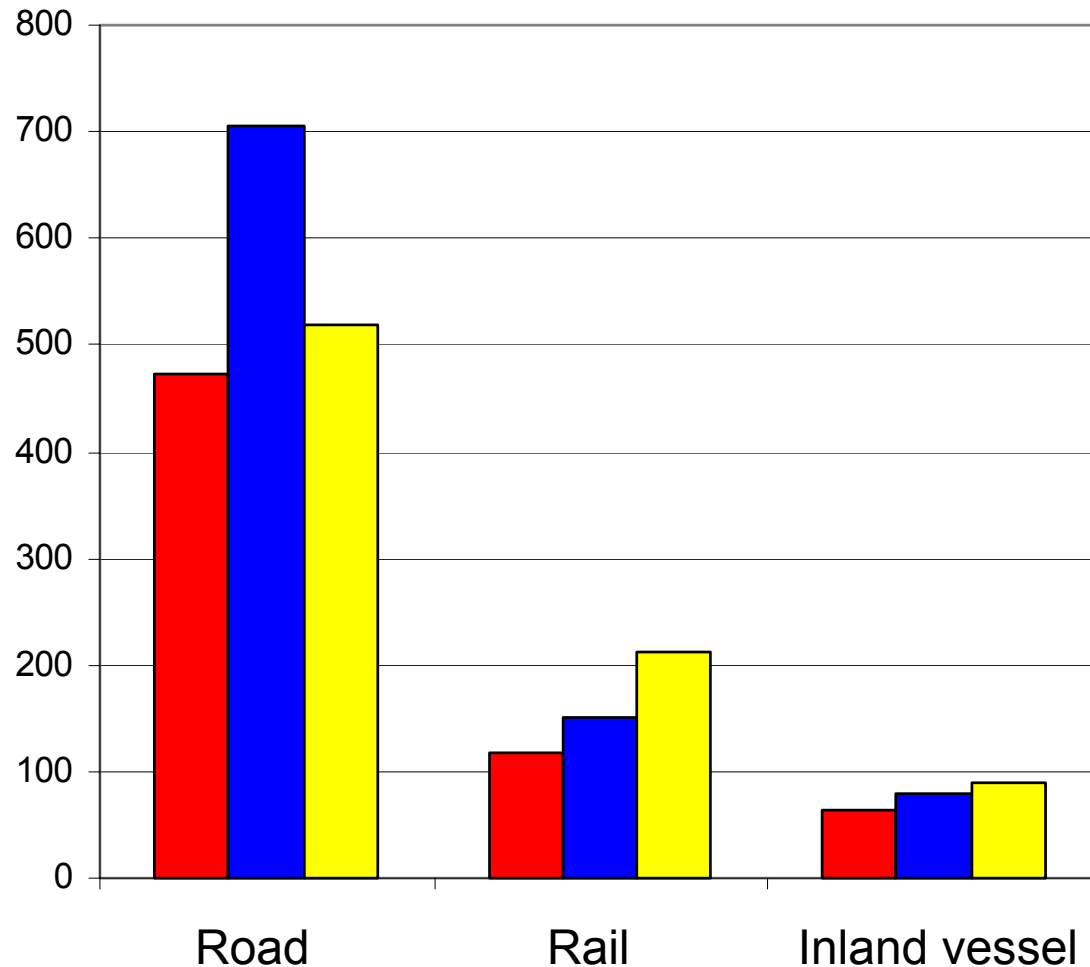
[All data in billion tkm]

	Road	Rail	Inland navigation	Total
Reference year 2008	474	117	64	655
BMVBS Forecast 2025	704	152	80	936
Reduction potential of instruments (sequential computation)				
Spatial structure	-32	-4	-2	-37
No road extensions	-35	0	0	-35
Rail promotion	-49	+38	+11	0
HGV road charge	-71	+26	+0	-45
<i>Total</i>	<i>-187</i>	<i>+61</i>	<i>+9</i>	<i>-117</i>
	▼	▼	▼	▼
UBA Scenario 2025	518	213	89	819

Comparison of growth in transport performance compared to reference year 2008

BMVBS Forecast 2025	230 (+49%)	35 (+30%)	16 (+25%)	282 (+43%)
UBA Scenario 2025	44 (+9%)	96 (+82%)	25 (+39%)	165 (+25%)

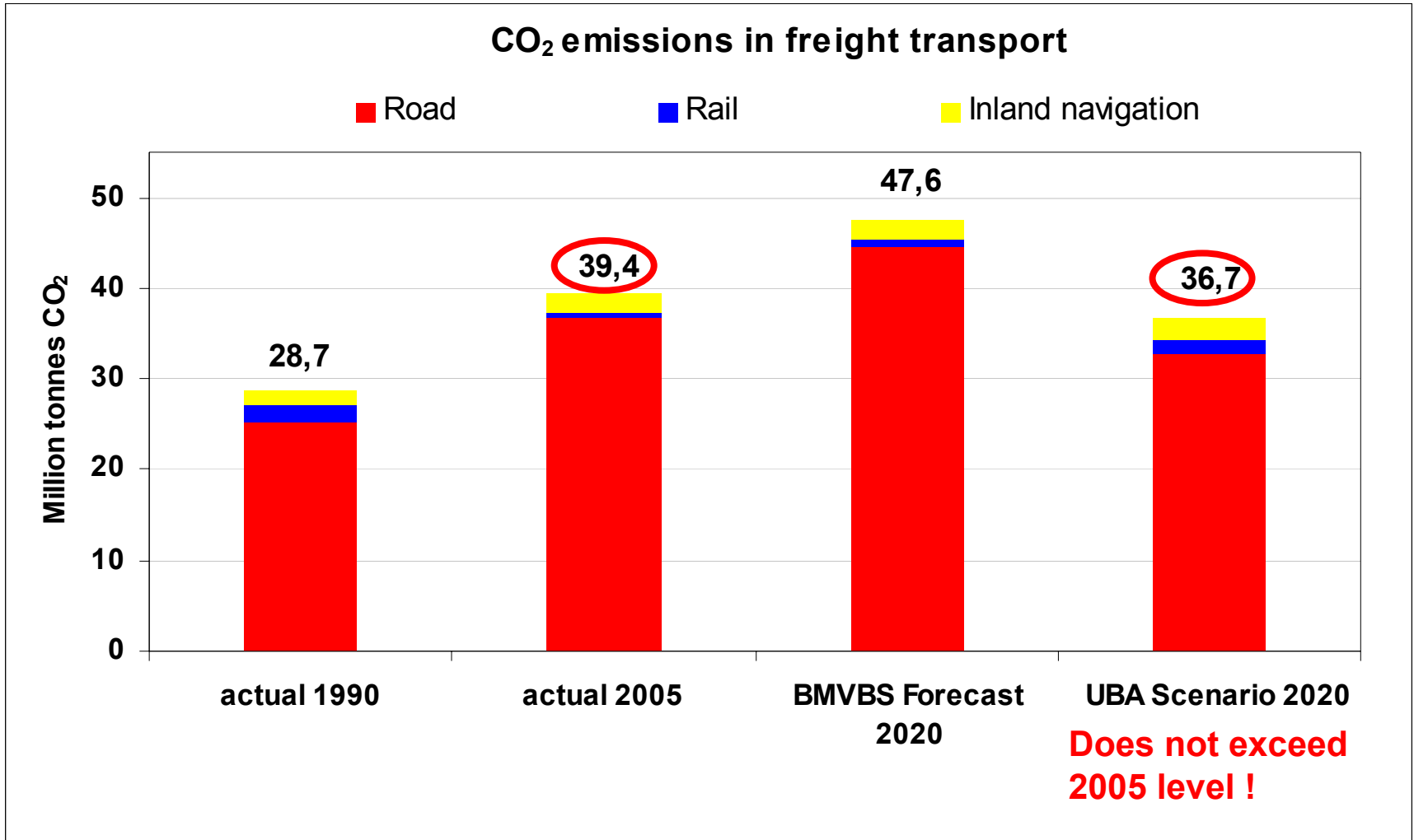
UBA Scenario 2025



Freight transport performance in billion tkm

- Reference year 2008
- BMVBS Forecast 2025
- UBA Scenario 2025

Contribution to climate protection 2020



Conclusion

Were forecasts of the BMVBS to become reality, Germany will not achieve its environmental objectives.

The UBA freight transport strategy could meet the climate protection objectives of Germany.

What the EU can contribute to the UBA strategy:

- transport impact assessment to obtain European Regional Development Funds (ERDF)
- TEN projects may not enlarge road infrastructure
- include external costs in road charge (Lkw-Maut)
- expand European railway network
- promote the reduction of rail noise exposure
- further development of emission standards

Thank you
for your attention!

Stefan Rodt
stefan.rod@uba.de

www.umweltbundesamt.de