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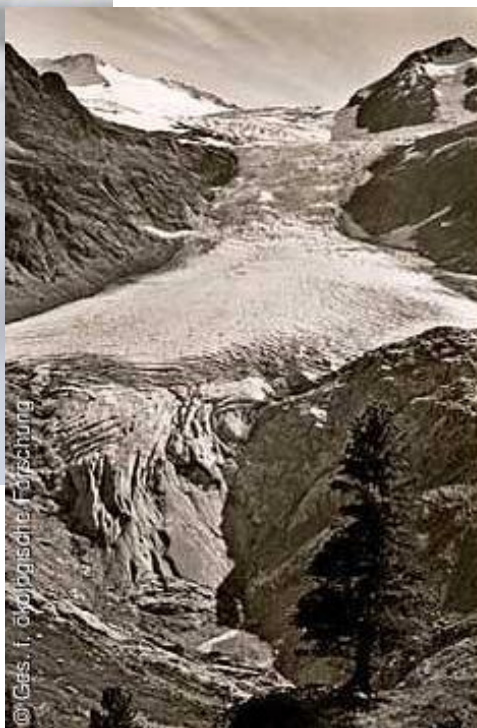
# Energy Saving in Company Practice – The SBB Energy Saving Initiative.

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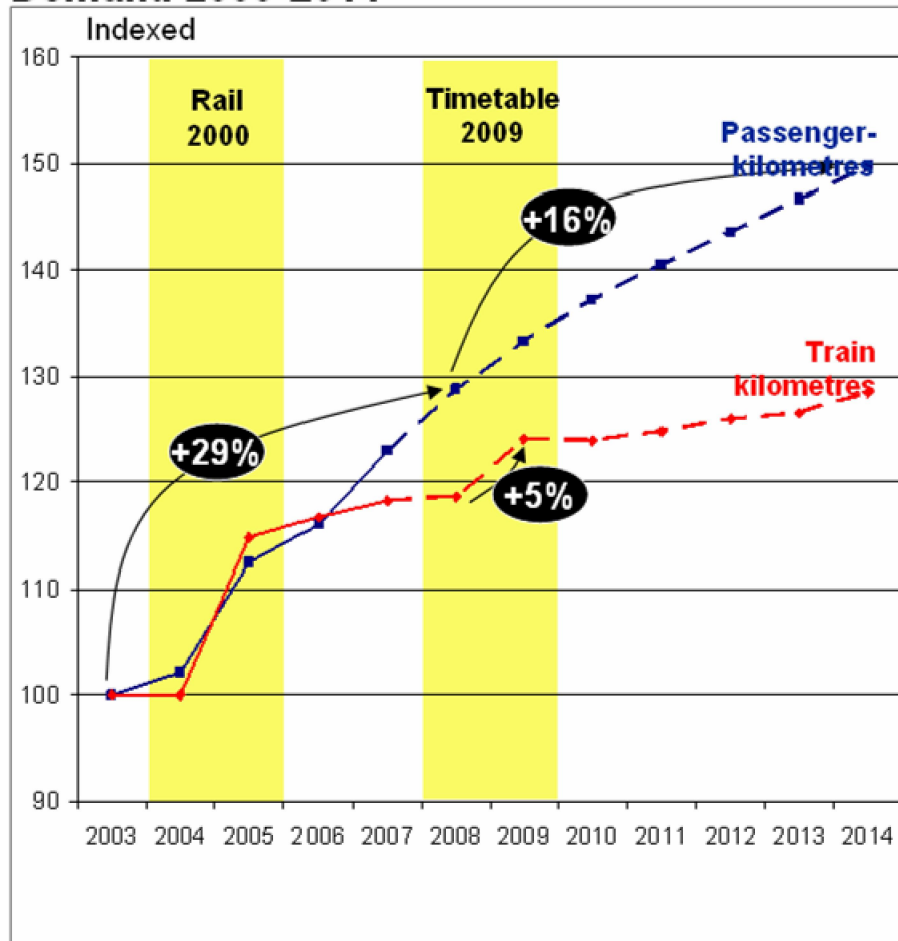
# Energy saving: An important contribution to face global challenges.

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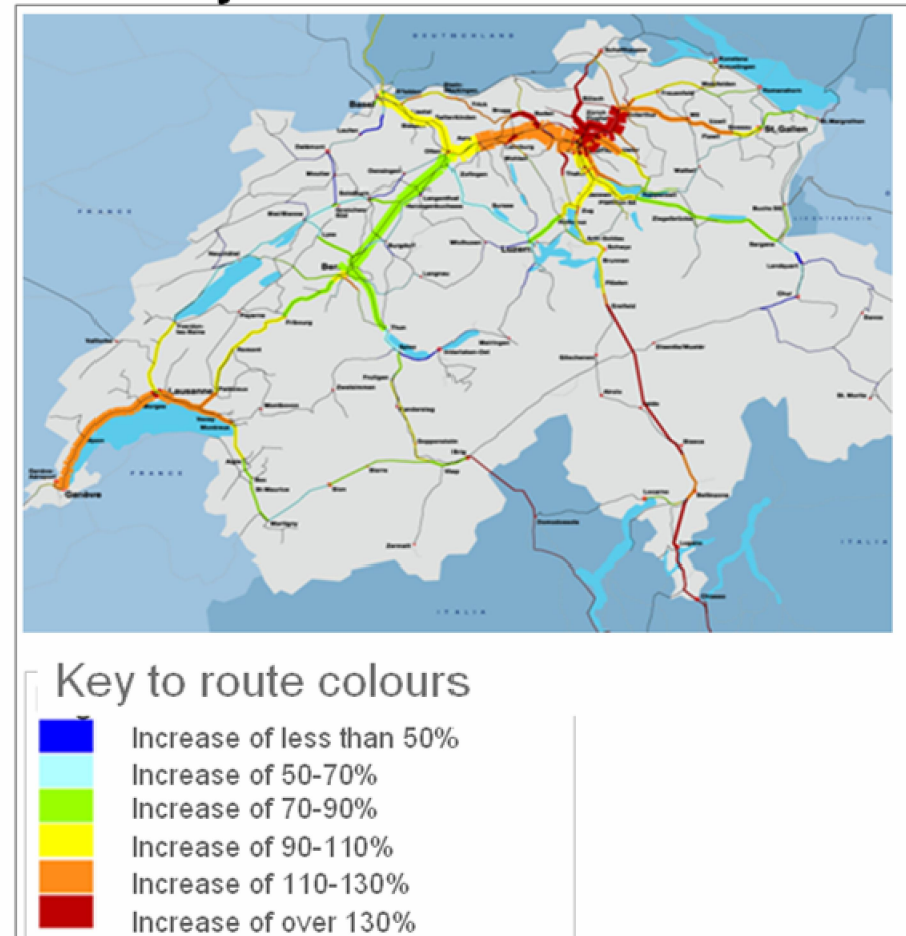


# Energy saving: the most economic answer to increasing energy costs and growing traffic demand for SBB.

## Demand 2003-2014



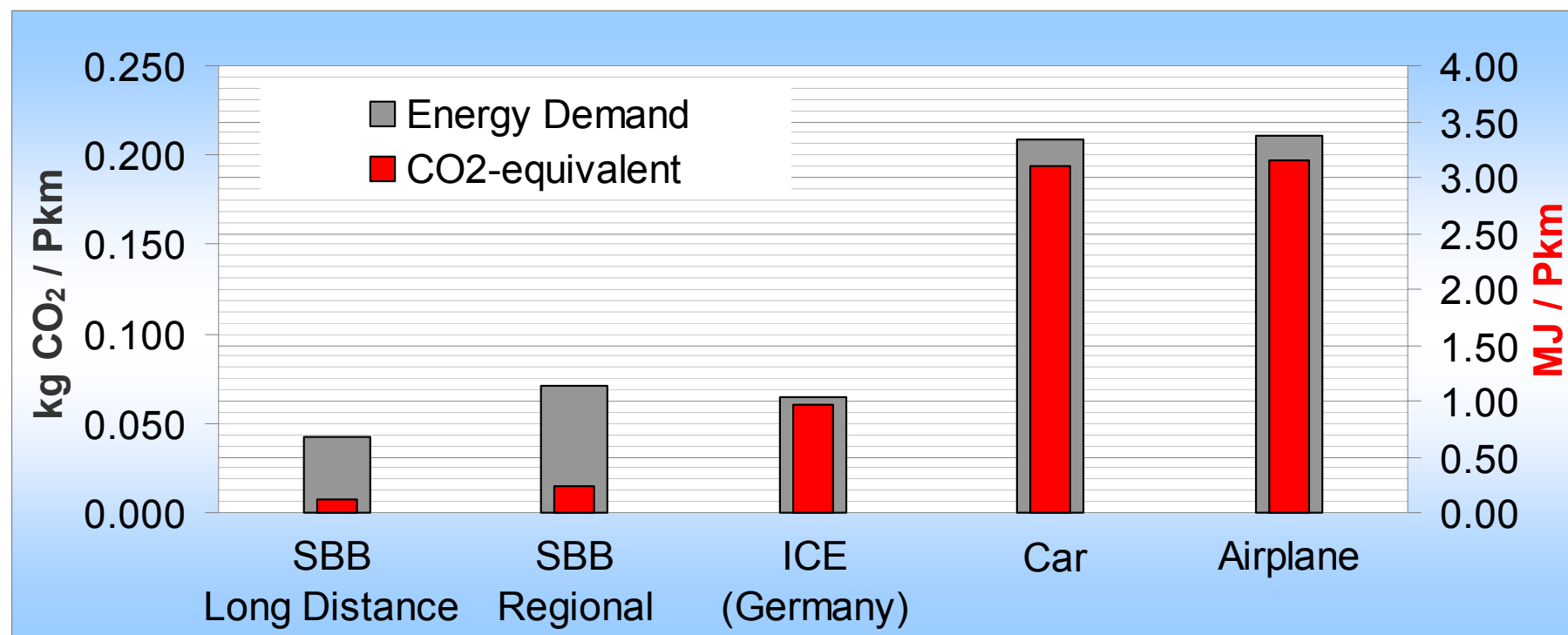
## Demand by 2030



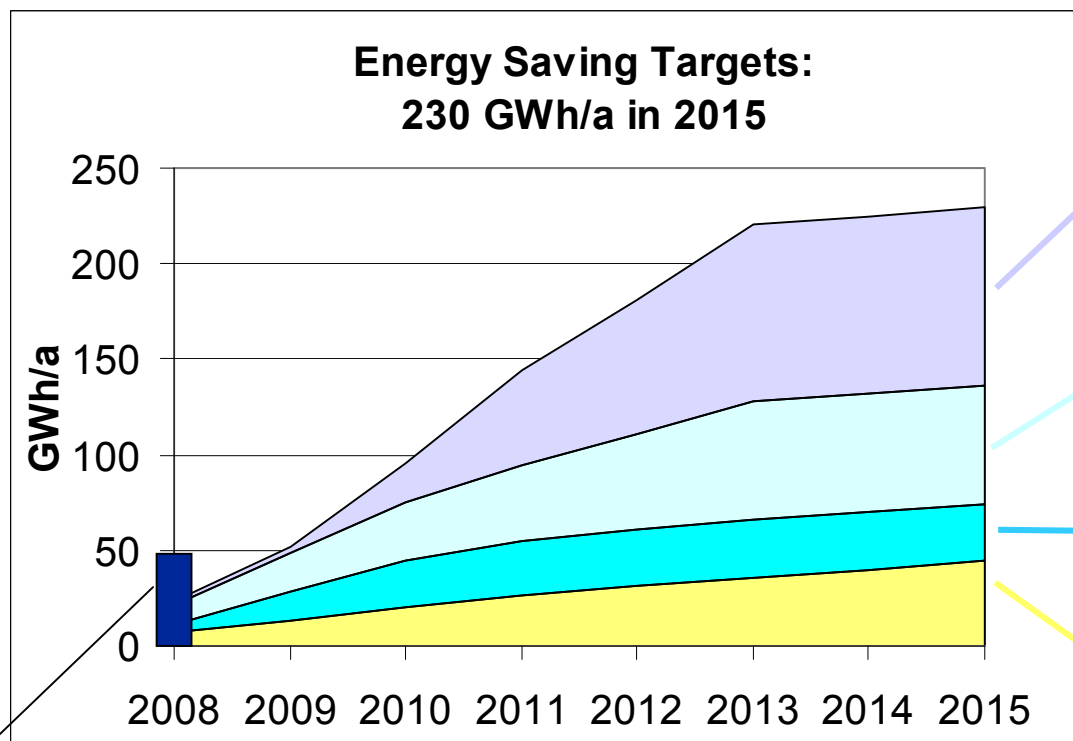
# Energy saving: the best answer to keep or enlarge the environmental advantage of railways.

**Rail compared to road/air:  
Passenger traffic CH**

**→ 4 x more energy efficient  
→ 20 x less CO<sub>2</sub>-emissions**



# SBB Energy Saving Initiative: Until 2015, the SBB will save 10 % of energy with a broad range of measures.



Achieved Savings 2008: 47 GWh/a

- Operations management (smooth traffic flow)**

- Energy efficient driving (locomotive driver)**

- Technical optimisation of locos and coaches**

- Buildings and fixed facilities**


**Energy saving target: 230 GWh/a  
equates to the electricity consumption of 57'500 households.**

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57'500 x



Electricity consumption of typical Swiss Household, 3 persons, apartment house, without electric boiler: 4 MWh/a (Source: S.A.F.E.)

# Results of the first year: we are well on track...

## SBB Energy Saving Initiative



### Operations Management

- ⇒ Pilot projects for active traffic control
- ⇒ optimised traffic flow

**3 GWh**



### Energy efficient driving

- ⇒ Training of all drivers
- ⇒ Focus on use of regenerative brakes

**34 GWh**



### Rolling stock optimisation

- ⇒ starting 2009: EC-wagons, Loco Re460, ...
- ⇒ specifications for new trains



### Buildings, fixed facilities

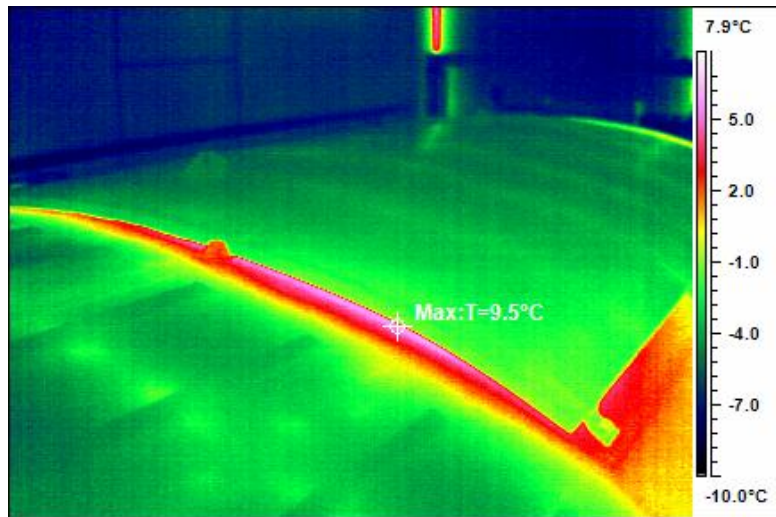
- ⇒ Long term agreements
- ⇒ energy-saving campaign

**10 GWh**

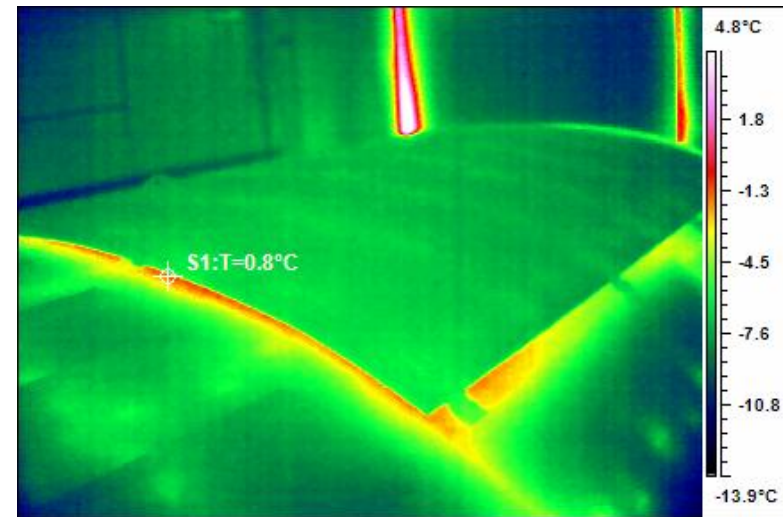
**Savings 2008: 47 GWh**

# Main issues for 2009 / 2010

- Technical optimisation of existing fleet.
  - e.g. Refit of EuroCity-wagons (isolation, ventilation control, energy management for parked wagons)



Roof before modernisation

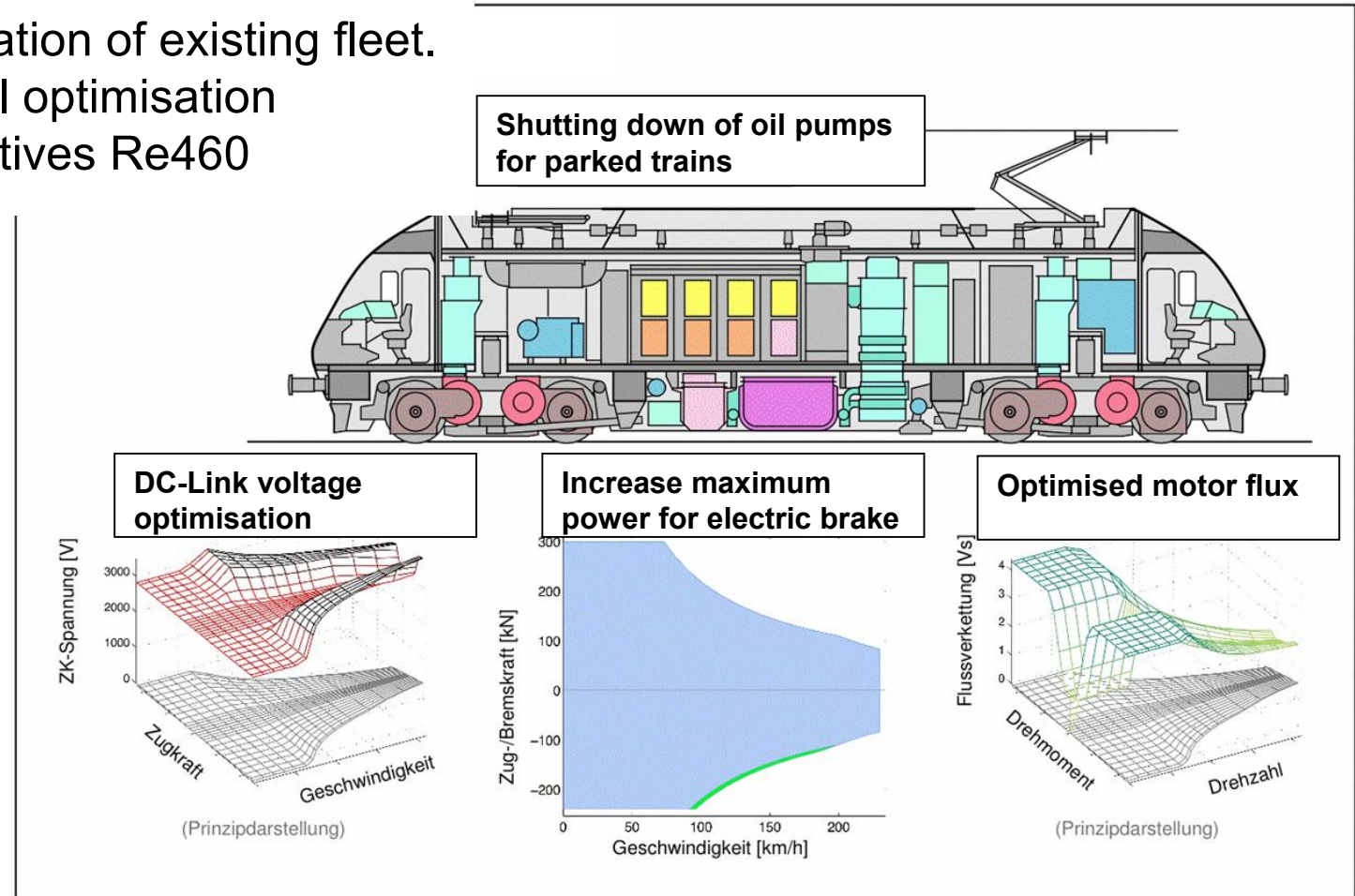


Roof after modernisation



# Main issues for 2009 / 2010

- ➔ Technical optimisation of existing fleet.
  - e.g. Technical optimisation of the locomotives Re460



## Main issues for 2009 / 2010

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- Joint energy saving campaign for locomotive drivers and dispatchers (brochure with energy saving tips, focus on efficient cooperation)



## Main issues for 2009 / 2010

- Implementation of systems for optimised traffic flow management.
- Smoother traffic and avoidance of signal stops at bottlenecks in the network.
- Effect: Timetable stabilisation and energy efficiency gains.



# Conclusions

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- SBB energy saving initiative: beneficial for corporate image and economical success.
- Energy efficiency with top priority for SBB board. Energy saving targets part of individual agreements on objectives for the management.
- Energy saving measures in buildings in action.
- EcoDrive-trainings for locomotive drivers successfully performed.  
Focus: regenerative braking.
- Technical measures on rolling stock with relevant contributions, independent from driving behaviour.
- Biggest saving potential by optimised traffic flow in the very dense network with mixed traffic freight/passenger.