

Paper for the 11th UIC Sustainability Conference:
Category: „Sustainable Mobility linked to customers and responsible business”

SBB's Engagement for Sustainable Mobility: Taking the Next Step

Faced with increasing competition, growing needs for mobility, global challenges in the fields of energy and climate change, and with emerging new technologies, SBB wants to re-align its successful environmental strategy. It builds on SBB's continuous engagement for improving the environmental performance of rail and transfers it into the broader view of sustainability. Top management attention and stringency in defining targets, implementing measures and evaluating performance provide the foundation for achieving truly sustainable success.

Swiss Federal Railways SBB have a long track record of engaging in sustainable mobility. The foundation for its environmental advantage over other modes of transport was laid in the 1920s, when the entire network was electrified and SBB built its own hydroelectric power stations. In 1999, a formal environmental organization under the guidance of the Rail Environment Center was installed.

Since then, a number of notable improvements have been achieved, among them:

- **Noise:** protection of 89'000 inhabitants from excessive railway noise by the construction of 193 km of noise barriers and the retro-fitting of 1100 passenger coaches and 1000 freight wagons with K-blocks
- **Energy:** reduction of specific energy consumption in passenger traffic by 20%, energy savings of 67 GWh in the first two years of the on-going energy savings initiative
- **Air emissions:** equipment of 54% of the diesel fleet (257 units) with particle filters, thereby virtually eliminating soot emissions
- **Soil:** screening of 6000 potentially contaminated sites, detailed assessment of 500 sites with significant levels of contaminants and clean-up of 12 of the most hazardous ones
- **Safety:** equipment of 623 railcars with derailling detectors in order to reduce the risk when transporting dangerous goods
- **Climate:** launch of a company-wide climate protection initiative in 2009

Rail in Switzerland has a high market share of 17% and 43% in passenger and rail traffic, respectively. It also has an impressive environmental advantage over other modes of transport: its average energy efficiency is roughly 4 times higher, while its carbon footprint is 20 times lower compared to road and air traffic, both on a per passenger-km and a per ton-km basis. In order to further develop sustainable mobility and to foster the shift to rail, SBB wants to re-align its environmental strategy and to focus it on the current challenges of climate change, energy supply and increasing demand for mobility. The strategy to be approved by the Executive Board in May 2010 has several noteworthy elements which may serve as a model for other organizations as well.

Sustainability framework: sustainability is a complex issue which is difficult to communicate and to put into practice. As a first step in developing its strategy, SBB has therefore established a working definition of sustainability (figure 1). Based on the triple bottom line, it identi-

Swiss Federal Railways SBB

Rail Environmental Center

Hochschulstrasse 6 · CH-3000 Bern 65

Phone +41 (0)51 220 51 86 · Fax +41 (0)51 220 44 75

remy.chretien@sbb.ch · www.sbb.ch/umwelt

fies key issues both in an internal and an external view. The performance in each of these issues can be measured using appropriate indicators.

Sustainability cockpit: SBB has defined a set of nine sustainability indicators (figure 2) and has set quantitative targets for the five-year period 2010 – 2015. These indicators represent the management cockpit for the entire company. The yearly targets are cascaded down to all relevant units in the entire organization, and they are also the reference points for the performance evaluation of the managers in charge. By this mechanism, management attention for sustainability issues is automatically built into the system. This includes environmental performance, which is a topic that is often outside the immediate focus of managers and is delegated to specialized entities outside the normal organizational structures.

Environmental performance indicator: In its strategy “ecological sustainability” SBB has identified four main objectives and corresponding fields of action:

1. improve environmental performance (→ CO₂, noise, air emissions)
2. reduce costs and risks associated with environmental issues (→ energy, contaminated sites, vibration)
3. use the environmental advantage of rail in marketing and communication (→ stakeholder dialogue, green marketing, sustainability reporting)
4. develop SBB towards a leader in sustainability (→ environmental management, innovation, renewable energies)

For each objective, one field of action is defined as being of top priority, and corresponding quantified yearly targets are set for the period 2010 – 2015 (figure 3). The four individual environmental targets are weighted and converted into points. As a sum, they represent the environmental performance indicator which in turn is one of the nine key indicators of SBB’s management cockpit.

Economical benefits: The measures of the program entail investments of about € 19 million and generate a cumulated return (EBITDA) of about € 170 million. Most of the benefits result from energy savings which generally have rather short payback times, while in the long run the electricity produced by SBB’s own solar power installations will also contribute to the positive return. Additional, not yet quantifiable benefits derive from marketing and communication campaigns aimed at further strengthening public and political support for rail and at increasing its market share thanks to its excellent sustainability record.

Hence, even though it focuses on the ecological dimension of sustainability, SBB’s new environmental strategy is truly sustainable. The stringency with which its goals are implemented at all levels of the organization, starting at the very top, ensures that the targets are met and lasting success can be achieved. The strategy increases the environmental performance of the company and at the same time generates economic value. By further developing the environmental advantage of rail, the strategy paves the way for sustainably satisfying the ever increasing need for mobility of our generation and generations to come.

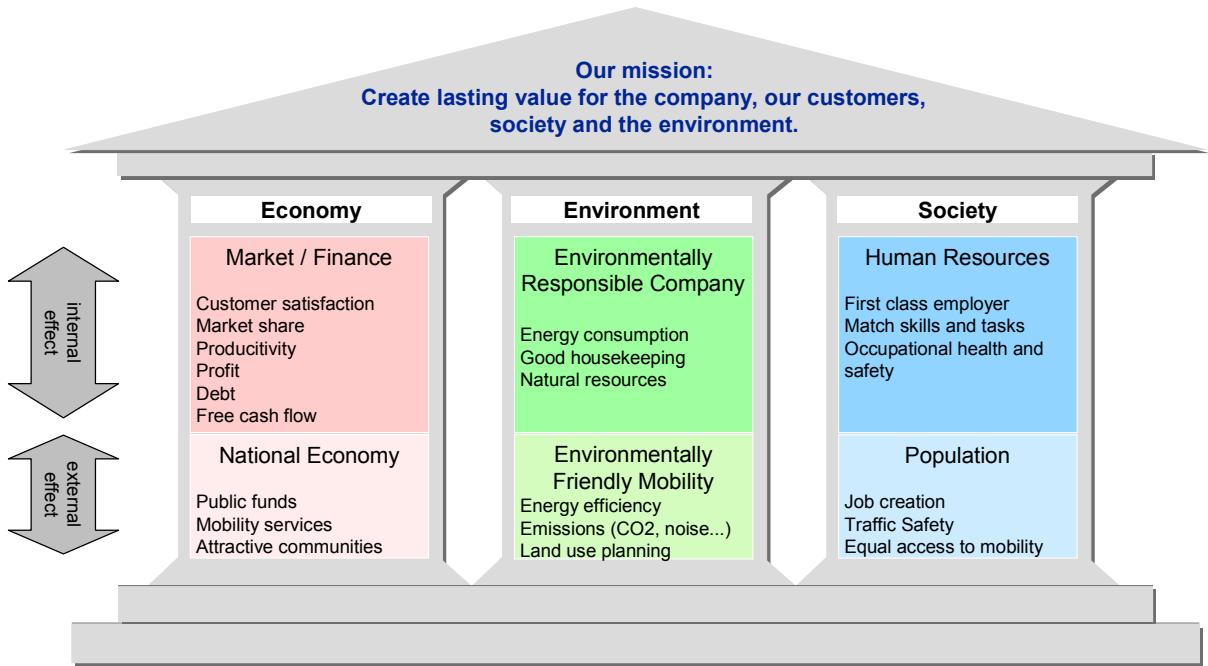


Figure 1: “Sustainability house” – triple bottom line model adapted to the situation of a railway company.

		Company-wide Objectives	Economy	Environment	Society
Market	1	Market Share	●	●	
	2	Customer satisfaction	●		●
	3	Company image	●		●
Finance	4	EBITDA	●	●	●
	5	Free Cash Flow	●		
Performance	6	Punctuality	●		●
	7	Safety	●	●	●
	8	Ecological sustainability	●	●	
	9	Satisfaction of personnel	●	●	●

● = primary focus of the goal
● = indirect effect of the goal

Figure 2: SBB’s sustainability cockpit represents the company’s strategic priorities. The 9 objectives and derived yearly targets are the basis for the individual performance goals of key business units and the respective managers.

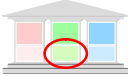
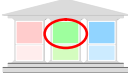
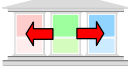

Objective		Key Performance Indicator	Effective 2009	Target 2015
1. Increase environmental performance		CO ₂ -Emissions	137'000 t (0 EP)	123'000 t (30 EP)
2. Reduce costs and risks associated with environmental issues		Energy savings	68 GWh (0 EP)	230 GWh (40 EP)
3. Use environmental advantage in communication and marketing		Public image of SBB as environmentally friendly company	75.1 (0 EP)	76.7 (20 EP)
4. Develop towards a leader in sustainability		Implementation of environmental management	20% (0 EP)	100% (10 EP)
		Index "ecological sustainability"	0 EP	100 EP

Figure 3: Objectives and targets 2015 of the ecological sustainability strategy. The targets for each of the four objectives are converted into Eco-points (EP), an arbitrary unit used for normalizing the different categories. As a sum, they represent the indicator "ecological sustainability", which in turn composes one of the nine targets of the company-wide sustainability cockpit.