



Online-Appendix

„KPIs for Sustainability: Defining the Strategy for a Sustainable Future in the Insurance Industry“

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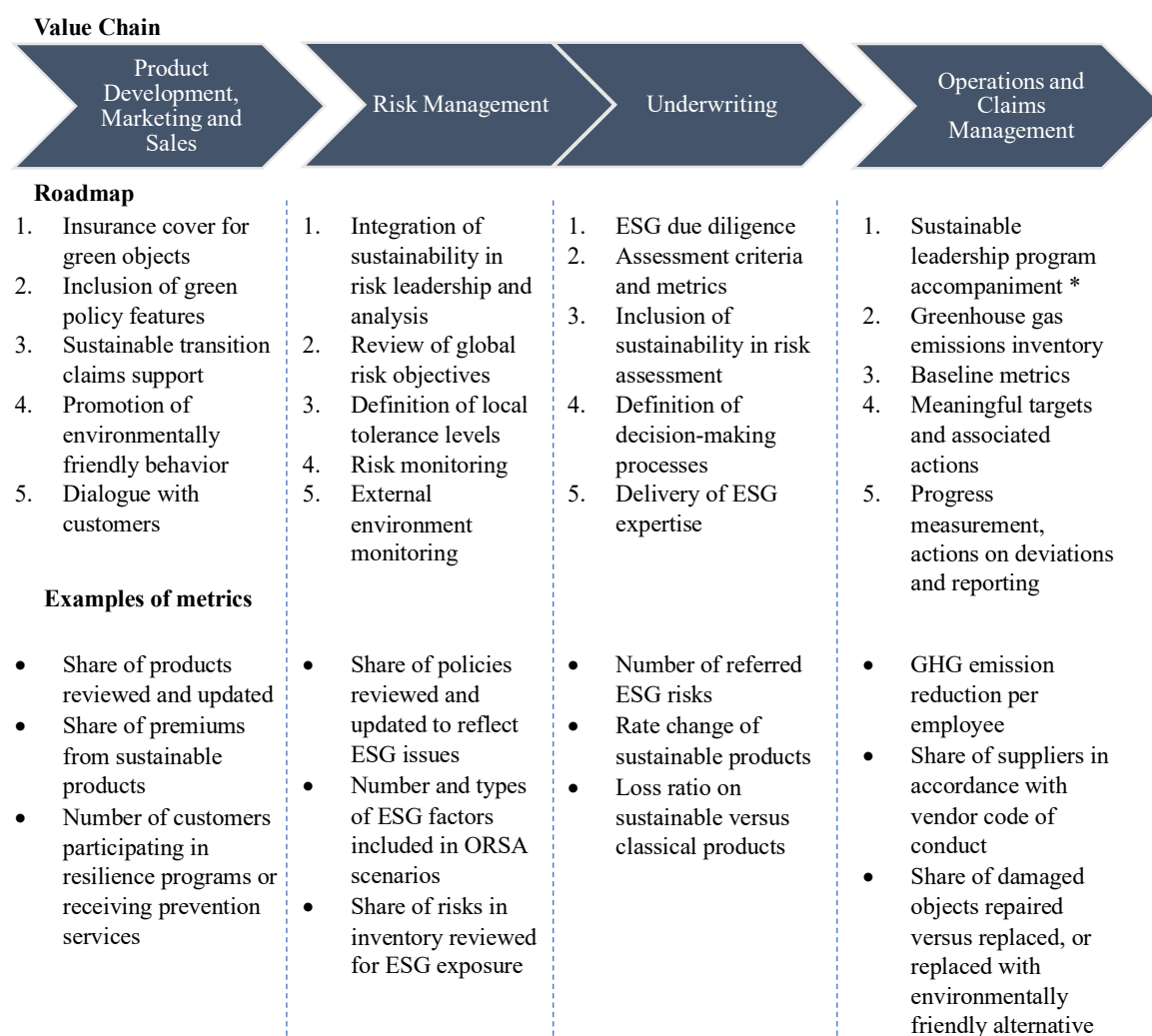
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Appendix

Environmental			
Strategic Goal	KPI	Measurement	Target
To improve the use of renewable sources	Renewable sources	Renewable sources/other sources	
To reduce superfluous resources consumption	Efficiency resources rate	Energy used per thousand product units (kWh/1000 product units), total consumption of water and other resources per thousand products (1/1000 product units)	
To reduce greenhouse gas emissions	Total direct or indirect emissions of greenhouse gases by weight	CO ₂ /1000 products units	
Environment's safeguard	Waste reduction rate	Percentage of waste generated per thousand product units	
To improve the effort of green-ness	Percentage of reusable/recycled material	Recycled material used/total material used	
Social			
Strategic Goal	KPI	Measurement	Target
Inclusion of all society members in developing sustainable goals	Integration rate	Questionnaire	
Stakeholders' relationship	Stakeholders' satisfaction rate	Questionnaire	
To participate at the social initiatives	Number of social initiatives at national and local level	Total social initiatives at national and local level	
To increase employees' satisfaction	Employee satisfaction rate	Questionnaire	
Social marketing policies	Customer satisfaction rate	Cost analysis	
Economic			
Strategic Goal	KPI	Measurement	Target
To increase return of investment	ROI related to environmental protection	Cost analysis	
To increase the revenues associated to sustainability dimensions	% additional revenue (additional price premium brand differentiation, income from recycling / closed loop programs, sustainable innovations)	Financial reporting	
To enhance technology process	% of investments in environmental technology	Investments in environmental technology / total investments	
To guarantee the quality of the process	% production sites with environmental certification, environmental information accuracy rate, environmental information availability rate	survey	

Appendix 1: The sustainability perspective based on Hristov and Chirico (2019, p. 12)



* Note: Sustainable leadership is an overarching theme in all steps of the value chain

Appendix 2: Roadmap towards a sustainable insurance industry for executive management (cf. Stricker et al., 2022, p. 14)

	KPI			
Environmental	<ul style="list-style-type: none"> - Emission of ozone-depleting substance rate - Emission of greenhouse gases rate - % of emission other environmentally affecting gases - Carbon footprint rate - Sulphur dioxides (SOx emissions) - Nitrogen oxides (NOx emissions) 	<ul style="list-style-type: none"> - % of waste generated per thousand product units - Dangerous waste generated rate - % of hazardous material over total waste - % of reuseable/recycled material - % of waste recycled off/on site - Waste reduction rate - % of waste reduced off/on site - % pollution indicators 	<ul style="list-style-type: none"> - Energy intensity (energy used by thousand product units) - Electricity consumption (total consumption per thousand products) - Gas consumption rate - Soil use rate - Water use rate (total consumption of water and other resources per thousand products) 	<ul style="list-style-type: none"> - Renewable energy rate - Reusable/recycled material rate - Renewable energy rate - Renewable electric sources rate - Sustainable water use rate
Goals	✓ Reduction of gas emissions	✓ Improvement of use of renewable sources	✓ Reduction of natural resources consumption	✓ Reduction of waste and improvement of efforts to address “green-ness”
	KPI			
Social	<ul style="list-style-type: none"> - Employee satisfaction rate - Employee turnover rate - Number of training hours per employee - Rate of employees that are shareholders - Support employee rate (physical activity, health, care and medicare) 	<ul style="list-style-type: none"> - Employment rate - Internal relation rate - Health and safety rate - Training rate - Diversity rate - Opportunity rate - Employee satisfaction rate 	<ul style="list-style-type: none"> - Equality rate (male to female rate) - Child labor rate - Forced labor rate - Number of disciplinary actions - Social security rate 	<ul style="list-style-type: none"> - Charity donations rate - Number of social initiatives at national and local level - Total expenses for social initiatives - % participations in social initiatives - Consumer, supplier and employees’ satisfaction rate
Goal	✓ Employees’ acceptance of organizational change	✓ Guaranteeing the quality of environmental and working conditions	✓ Guaranteeing the respect of the human rights	✓ Participation at the social initiative and maintaining a high level of responsibility
	KPI			
Economic	<ul style="list-style-type: none"> - Cost of ownership linked to energy, cost consumption, environmental tax - Growth of gross margin - Total costs and investments relating to environmental protection - Environmental cost savings - Amount of environmental penalties 	<ul style="list-style-type: none"> - % of additional revenue - % additional price premium brand differentiation - % of income from recycling / closed loop programs - Sustainable innovations rate 	<ul style="list-style-type: none"> - Investments in technology rate - Environmental technology levels - % of new environmentally sound product development - Response to environmental product request rate - Response to environmental programs rate (for suppliers) - Amount of environmentally safe alternatives 	<ul style="list-style-type: none"> - % of production sites with environmental certification (ISO 9001, ISO 14001, ISO 50001, UNE 166002 and OHS AS 18001) - Environmental information accuracy rate - Environmental information availability rate - Supplier rejection rate
Goal	✓ Increasing return of investment	✓ Increasing the revenues associated to sustainability dimensions	✓ Enhancing technology process	✓ Guaranteeing the quality of the process

Appendix 3: Sustainability Key Performance Indicators based on Hristov and Chirico (cf. 2019, p. 8)