

Checklist: Economic Opportunities for Environmental Improvements

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Linking environmental initiatives, opportunities or benefits to “the business” has been a goal of ESG practitioners for years. Yet practical, easily understood examples of how to do this are not common. This checklist is a non-exhaustive guide, listing example potential environmental improvements with *reasonable* indicators of value. There is a separate Checklist that focuses on risk reduction valuation, so those are not included here. This checklist is intended to help users think about how they identify and categorize business benefits of environmental activities/initiatives. Users will likely find additional opportunities.

Examples below are not based on price premiums for environmentally preferable products or other approaches that have generally proven unrealistic. Potential indirect value indicators may be more difficult to determine.

This is broken across two categories – operational and strategic goals.

- **Operational goals.** These are matters and opportunities intended for manufacturing, processing or other operational locations/functions of companies, although some apply to office settings. Generally speaking, these relate to operating cost savings and risk reduction opportunities.
- **Strategic goals.** These are opportunities aligned with or supporting high level corporate strategies and goals, cutting across all operations and management. These are sometimes linked to Board directives, shareholder pressures or senior executive directions, but can also reflect product strategies.

A third category for economic opportunities related to ESG/environmental improvements is corporate financial instruments. This includes loan terms/covenants, pricing components and market response to stock/bonds. This checklist does not cover these opportunities.

Operational Opportunities

Air		
	Direct economic value	Indirect value
Reduced air emissions (volume or loading), including those resulting from fuel switching	Reduced fuel or chemical use from which emissions originate; reduced emissions control equipment capital and O&M cost; reduced downtime due to emissions control equipment; potential to create saleable carbon offsets; improved insurable risk profile	Reduced regulatory burden; increased operational flexibility; reduced staff time/effort; reduced public exposure; improvements in ambient air quality; improvements in ESG ratings; reduced shareholder activism

Freshwater Use		
	Direct economic value	Indirect value
Reduced freshwater use	Reduced chemical usage (water treatment, boiler chemicals, etc.); reduced water pump energy/electricity (for company operated water sources)	Reduced municipal water pump energy/electricity; reduced public exposure; improvements in ESG ratings; reduced shareholder activism
Reduced water withdrawal	Reduced water pump energy/electricity (for company operated water sources); reduced loss (evaporation) during storage and conveyance	Reduced regulatory burden; reduced impact on area flora, fauna, indigenous cultures or natural resources; public exposure; improvements in ESG ratings; reduced shareholder activism
Reduced wastewater discharge (volume or loading)	Reduced wastewater treatment chemical and electricity usage; reduced wastewater treatment equipment capital and O&M cost; reduced downtime due to wastewater treatment equipment; reduced laboratory costs; potential to create saleable carbon offsets; improved insurable risk profile	Reduced regulatory burden; reduced staff time/effort; increased operational flexibility; improvements in receiving stream water quality; public exposure; improvements in ESG ratings; reduced shareholder activism

Waste Management		
	Direct economic value	Indirect value
Reduced packaging from suppliers	Reduced disposal/recycling cost; reduced cost of goods from suppliers; reduced transportation cost/weight	Positive branding impact; improvements in ESG ratings; reduced shareholder activism
On-site waste reuse	Reduced virgin chemical cost	Reduced off-site waste disposal liability
Increased separation of waste from recyclables	Reduced disposal/recycling cost; reduced cost of virgin materials (where recovered materials can be reused on site); improved revenue from scrap/recyclables sales	Reduced off-site waste disposal liability
Reduction of regulated waste generation	Reduced disposal/recycling cost; reduced PPE and safety training cost reduced safety incidents; improved insurable risk profile	Reduced regulatory burden; increased operational flexibility; reduced staff time/effort; reduced public exposure; improvements in ESG ratings

Process Chemicals		
	Direct economic value	Indirect value
Reduced chemical use	Reduced chemical purchasing cost; reduced air emissions and wastewater treatment burden & cost; reduced waste management costs; reduced PPE and safety training cost; reduced safety incidents; reduced chemical inventory reporting burden; potential to create saleable carbon offsets; improved insurable risk profile	Reduced human exposure risk (employees, community and customers); increased operational flexibility; reduced staff time/effort; reduced opportunity for spills/leaks; reduced off-site waste disposal liability
On-site waste reuse	Reduced virgin chemical cost	Reduced off-site waste disposal liability; reduced public exposure; improvements in ESG ratings
Chemical substitutions to lower toxicity/flammability alternatives	Reduced chemical purchasing cost; reduced PPE and safety training cost; reduced safety incidents; improved insurable risk profile	Reduced human exposure risk (employees, community and customers); increased operational flexibility;

		reduced off-site waste disposal liability

Energy Use		
	Direct economic value	Indirect value
Reduced process steam/heat loss	Reduced cost of energy to produce steam/heat; reduced loss of boiler water treatment chemicals and makeup water; reduced safety incidents; reduced equipment downtime	
Reduced plant air pressure loss	Reduced cost of energy to maintain air pressure; reduced equipment downtime	
Reduced loss of controlled atmospheres	Reduced product loss through contamination/spoilage; reduced wasted energy needed to create lost controlled environment; reduced controlled environment equipment downtime	
Redesigned transportation packaging	Reduced wasted space in transport; improve efficiency of transportation emissions & costs; reduced cost of packaging materials	Reduced packaging waste management burden at distribution & retail locations; positive branding impact; improvements in ESG ratings; reduced shareholder activism

Land Use		
	Direct economic value	Indirect value
Improved agricultural/horticultural practices	Reduced water and chemical use; reduced stormwater/wastewater management needs; potential to create saleable carbon offsets	Positive branding impact; improvements in ESG ratings; reduced impact on surrounding natural environment; reduced shareholder activism
Consideration of natural elements in development	Reduced stormwater/wastewater management needs; lower	Reduced impact on surrounding natural environment, biodiversity

	landscaping costs; reduced disruption of natural environment & cultural resources; reduced regulatory burden	and indigenous peoples; attractiveness of green space

Strategic Opportunities

Customer Use			
	Direct value to customer	Direct economic value to company	Indirect economic value to company
Reduced product packaging	Reduced packaging waste disposal/recycling effort and cost; reduced product shipping costs	Improved customer demand for product; reduced product cost; reduced product shipping costs	Positive branding impact; improvements in ESG ratings; reduced shareholder activism
Reduced water consumption	Reduced water use/wastewater treatment cost; reduced water treatment chemical costs	Improved customer demand for product	Positive branding impact; improvements in ESG ratings; reduced shareholder activism
Reduced end-of-life waste management burden	Reduced end-of-life management effort & cost	Improved customer demand for product; source of materials recovery	Reduced off-site waste disposal liability; positive branding impact; improvements in ESG ratings; reduced shareholder activism
Chemical substitution	Lower human or environmental toxicity of products used	Reduced regulatory burden & costs	Reduced liability exposure; positive branding impact; improvements in ESG ratings; reduced

			shareholder activism

New Products & Services			
	Direct value to customer	Direct economic value to company	Indirect economic value to company
Launching products/services aligned with emerging/predicted ESG sensitivities	Access to products/services aligned with new key buying criteria	New revenue streams; potentially reduced competition; set initial market price and expectations	First mover market advantage; positive branding impact; improvements in ESG ratings; reduced shareholder activism