Product Stewardship and Sustainability

Ensuring compliance and maximizing the positive impact of your products.

Why choose Arcadis?

We help you anticipate the impacts of (new) legal requirements on your business.

Our regulatory assessment and monitoring provide insights into the interconnections between various sustainability regulations. Complying with CSRD, ESPR, and upcoming CSDDD requirements necessitates product-level sustainability assessments and business transformation at every lifecycle stage.

We guide you through diverse product sustainability assessment frameworks and solutions.

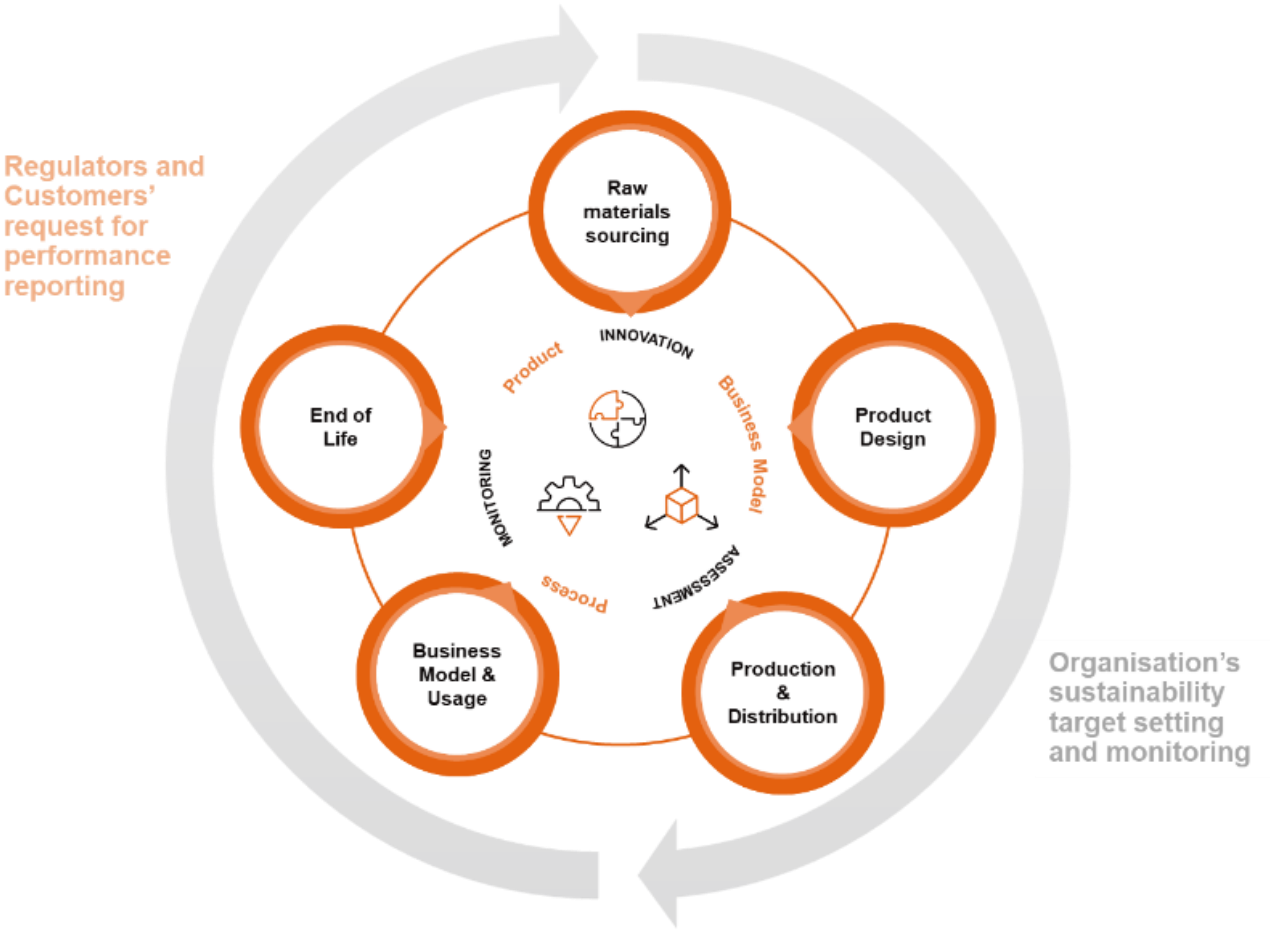
Amidst the growing number of LCA, PEF, and GHG accounting digital solutions, we help define your goals, identify the right methodology, and select the best technology partners.

We help manage cost reduction pressures while meeting your clients' sustainability requirements.

Arcadis supports your stakeholders in defining and implementing strategies that protect your sustainability commitments in a cost-conscious environment.

Partner with Arcadis to not only meet compliance but to exceed it.

Together, we'll craft and execute a product sustainability strategy that drives your business forward.



Product sustainability is at the crossroads of product compliance and organizational sustainability reporting obligations. It showcases your company's performance to clients.

Our value proposition

Technology agnostic partnership to focus on fit-to-purpose solutions.

Anticipate market and regulatory evolutions impacting your business.

Shape a better **understanding** of your data and operational requirements.

Detect risks and opportunities in your upstream and downstream value chain.

Make well-informed **strategic decisions**.

Product sustainability can not only improve your company branding but also decrease your financial risks.

Compliance

Driver: Reduce compliance risks and costs.

Services:

- **Regulatory landscape assessment**
- Corrective actions list
- Substances registration support

Risk management

Driver: License to operate and anticipate compliance costs.

Services :

- Regulatory landscape assessment
- **Hotspot analysis** based on LCA Lifecycle assessment (LCA)
- Internal audit support and disclosure guidance.

Environmental performance

Driver: Operational costs savings.

Services:

- Process/product compliance monitoring (own operations)
- **LCA / EPD** , incl. LC inventory guidance, hotspots identification, KPIs definition → **roadmap**
- **Waste** audits & assessment

Sustainable value chain

Driver: Value chain license to operate and operational costs savings.

Services:

- Value chain compliance monitoring
- **LCA** (cradle to gate / grave)
- **SSbD** assessment
- **Circularity** assessment - Eco-design & Substitution, 7R approach
- Waste reduction strategy/roadmap
- **Suppliers' engagement**
- HR and E&S **due diligence**

Sustainable product portfolio

Driver: Long-term business viability, sustainable branding.

Services:

- **Scope 3** accounting
- Product portfolio sustainability **strategy**
- Portfolio categorization rules / **PEFCR**
- **Circularity** assessment
- Waste reduction strategy/roadmap
- **ESPR readiness** assessment
- **Sustainable procurement strategy** KPIs definition and roadmap
- Stakeholders' engagement
- **Claims**/communication guidance

Stewardship towards sustainability

Reactive — *Proactive*

Regulatory landscape assessment

What we offer:

- Monitor global changes in product regulations or local implementations of product environmental requirements
- Filter relevant information, translate in priorities, timelines, and costs
- Evaluate the business impact of upcoming regulatory changes

How we do it

Tailored to your needs and interests: conduct ongoing or periodical monitoring on certain legislation types, chemicals, markets or for certain product types, using client subscriptions or Arcadis sources.

EU Context

Circular Economy Action Plan Chemical strategy for sustainability

Product sustainability principles driving and driven by legal framework

Sustainability assessment and reporting requirements at corporate level connecting with product lifecycle sustainability assessment (*)

- Corporate Sustainability Reporting Directive
- Critical Raw Materials Act
- Directive on Corporate Sustainability Due Diligence
- EU Deforestation free products Regulation

Product sustainability (eco-design) requirements to enable circularity and net zero objectives (*)

- Eco-design for Sustainable Products Regulation (ESPR)
- Batteries and waste batteries Regulation
- Construction Products Regulation
- Packaging and Packaging Waste Regulation (PPWR)

Product sustainability claims requirements and restrictions (*)

- Empowering consumers for the green transition
- Green Claims Directive

Instruments to reduce waste generation (*)

- Waste Electrical and Electronic Equipment (WEEE) Directive
- Directive on single-use plastics
- Waste Framework Directive (WFD)

Instruments to ensure safer products (*)

- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- Classification, Labelling and Packaging (CLP) Regulation
- Biocidal Products Regulation (BPR)
- Persistent organic pollutants (POPs) Regulation

(*) List is not exhaustive. Depending on client's sector and activities, Arcadis performs a tailor-made assessment of regulatory impacts.

Product Compliance

What we offer:

- Auditing and Portfolio review
- Developing a compliance strategy
- Dossier preparation

How we do it

Auditing and Portfolio review

- Process auditing
- Product auditing

Developing a compliance strategy

- Identify priorities vs nice-to-have actions
- Confirm milestones, timeline, budget and resources needed

Dossier preparation

- Literature searches
- Data gap analysis
- Testing strategy: read-across justification, expert statement, QSAR modelling
- Study monitoring
- Hazard, exposure and risk assessment

Product or Portfolio Sustainability Roadmap

What we offer:

- Baseline definition
- Targets setting
- Strategy definition
- Implementation roadmap

How we do it

- Product lifecycle screening
- Hotspots analysis

- Co-creation and brainstorm workshops
- Trainings

- Strategy review workshops
- Stakeholders engagement – internal and external (suppliers, clients, communities, authorities, …)

Product value chain assessment

What we offer:

- Product lifecycle environmental performance assessment
- Circularity assessment
- SSbD support
- Product compliance assessment and monitoring
- Sustainable procurement guidance

How we do it

Lifecycle analysis
- Environmental Impact Assessments
- Circularity assessment

- Product Carbon Footprint, including upstream emissions

Safe and Sustainable by Design (SSbD) approach
- Safety and sustainability screening for innovation and design options
- Full assessment for chemicals substitution

Sustainable procurement
- KPI's and roadmap definition
- Certifications benchmarking
- Suppliers' engagement guidelines
- Assess product lifecycle compliance with regulations

Sustainable portfolio management

What we offer:

- Scope 3 emissions accounting
- Sustainable products portfolio strategy definition
- Product portfolio categorization
- Portfolio compliance assessment and monitoring
- Sustainable procurement strategy definition

How we do it

Lifecycle analysis

- Product environmental footprint strategy definition
- Stakeholders' engagement across the value chain

- Scope 3 accounting
- Connecting product carbon footprint outcomes with corporate accounting

Portfolio sustainability assessment

- Product categorization strategy
- Sustainability scorecard

- CSRD and ESPR compliance guidance
- Certifications benchmarking
- Stakeholders' engagement

Product environmental impact assessment and reporting

How we do it

Goal and Scope

definition is a key success factor.

We support you in understanding what you need, your target, and how to achieve it.

Data gathering

is a challenge for everyone.

We support you in understanding what you need to collect and how.

Impact assessment

Subject to selecting adequate methodologies, standards and tools.

We support you with fit-to-purpose and reliable approach.

Credible reporting

(incl. claims) and setting-up an effective action plan is crucial.

We support you in assessing relevancy and significance as well as compliance.

- In-depth LCAs vs. screening LCAs
- Product Environmental Footprint (PEF)
- Activity-based Footprinting (ABF)
- Environmental Product Declaration (EPD)
- Product Carbon Footprint (PCF)
- Reviewed and verified LCAs for external use
- Following ISO 14040/44:2006 / PEF / EN 15804

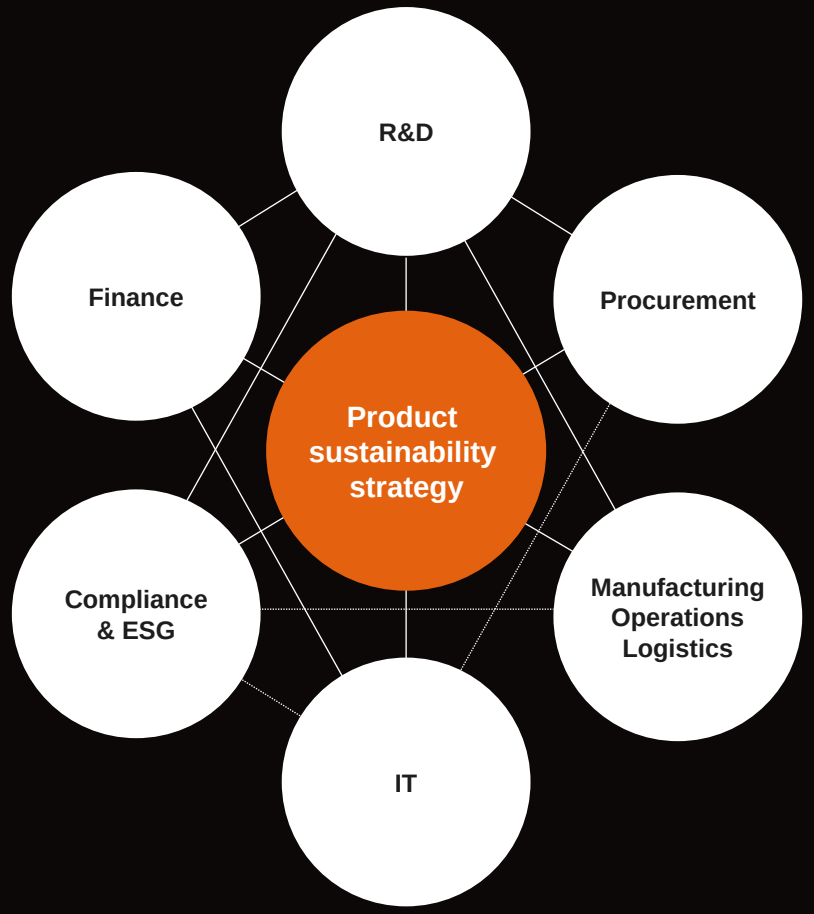
Our toolkit

SimaPro · Ecochain · openLCA · ecoinvent · One Click LCA

Chemicals registration expertise

Other tools can be identified based on your needs & ambitions

Depending on the company maturity or level of ambition, we support the different functions in the organization to develop or implement product sustainability.



Regulatory compliance assessment for
- **Compliance and ESG** reporting
- **Manufacturing, Operations, Logistics** : anticipate impact on operations
- **Procurement** : anticipate requirements to be put on suppliers, selection criteria
- **Finance** : anticipate financial impacts of regulations

Product lifecycle environmental impact assessment as a tool for
- **R&D** : research for alternatives/subtitutes, eco-design
- **Manufacturing, Operations, Logistics** : environmental performance, industrial symbiosis opportunities, …
- **ESG reporting** : substantiated data

Digital services are key to be involved to collect and structure data required to perform such assessment as well as to enable automation of the assessment method.

Target setting and strategy definition will involve and have impact on all the levels of the organization.

Product sustainability leadership

We are the right partner to maximize the positive impacts of your products.

Our references

Confidential client *(pharmaceuticals)*

Product Environmental Footprint (PEF) strategy

Client challenge:

Develop a science-based, consistent and robust methodology to perform product carbon footprint and lifecycle environmental assessment.
Monitor the implementation of Group's sustainability strategy at product level.

Solutions:

- Develop product category rules in alignment with existing standards
- Perform LCA and PCF on pharmaceutical products
- Develop harmonized methodology and governance for product carbon footprint
- Support digital product environmental footprinting strategy definition

International Copper Alliance (ICA)

Industrial symbiosis analysis

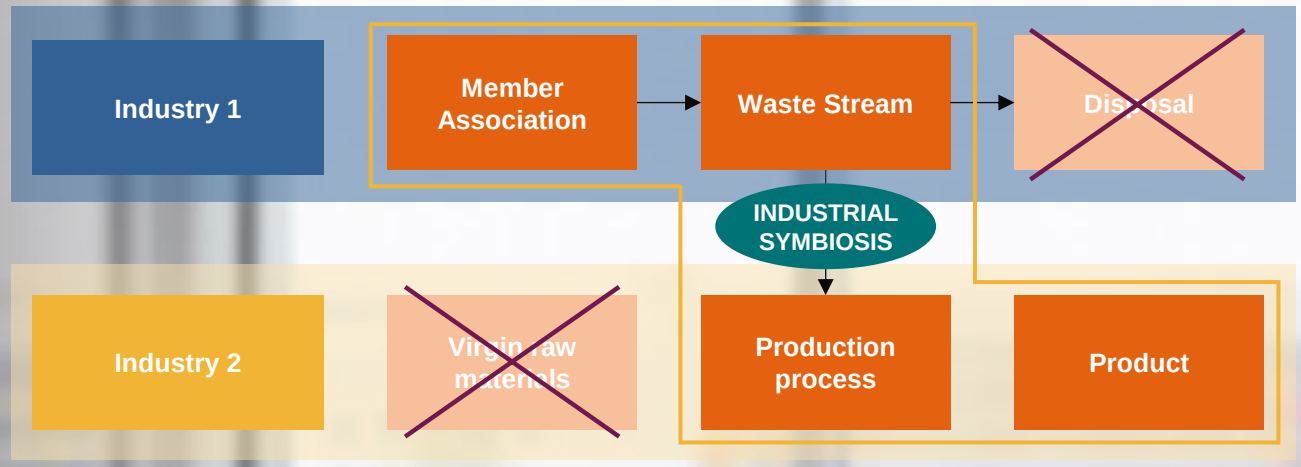
Client challenge:

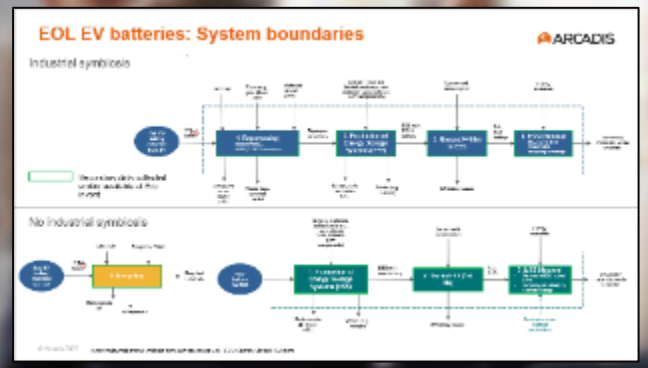
Evaluate potential opportunities of industrial symbiosis for waste streams generated by its members.

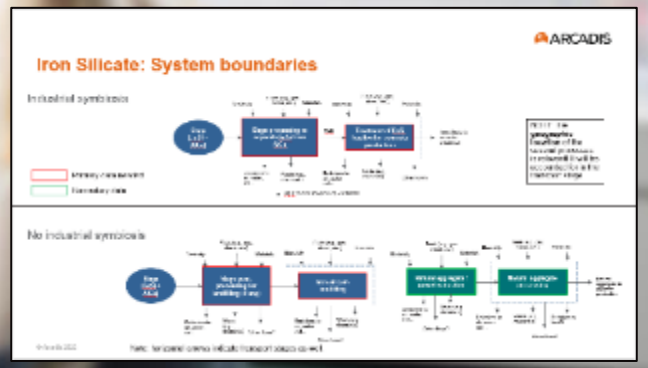
Evaluate and quantify benefits in environmental and financial terms for 2 cases

Solutions:

- Research on the topic of industrial symbiosis in the copper sector (drivers / barriers / success stories / policies)
- Present to the association the potential opportunities identified
- LCA study on two opportunities to evaluate their environmental benefits
  - End of Life Vehicles EV batteries in energy storage applications
  - Iron silicate replacing aggregates
- Market analysis of the two opportunities to evaluate the economic feasibility (market size estimation and cost analysis)







TSO - Europe

Roadmap towards circular business model

Client challenge:

Understand what circular economy would mean for this sector.

Increase stakeholder engagement.

Develop a roadmap to include circularity in the business model.

Solutions:

- Organization of a management workshop to introduce the concept of circularity and analyze opportunities
- Definition of circularity and overview of policies that are relevant for the sector
- Exploration and identification of the business case of circular economy applied to the client
- Development of roadmap and support in the implementation
- Evaluation of actions required based on legislative requirements in e.g., EU Taxonomy, CSRD, Environmental liability directive

AMBITION	GOALS	KPI's	MEASURES	ACTIONS
e.g. ELIA 100% circular by 2050	*e.g. Reach full circularity for copper by 2050*	*e.g. x% recycled copper*	*e.g. Remove decommissioned cabies*	*e.g. Select and plan subcontractor*

Progress management / monitoring

Resource and budget management

Government model / change management

Internal / external communication (incl. short term success stories)

Medical Device company

Activity-based product environmental footprint

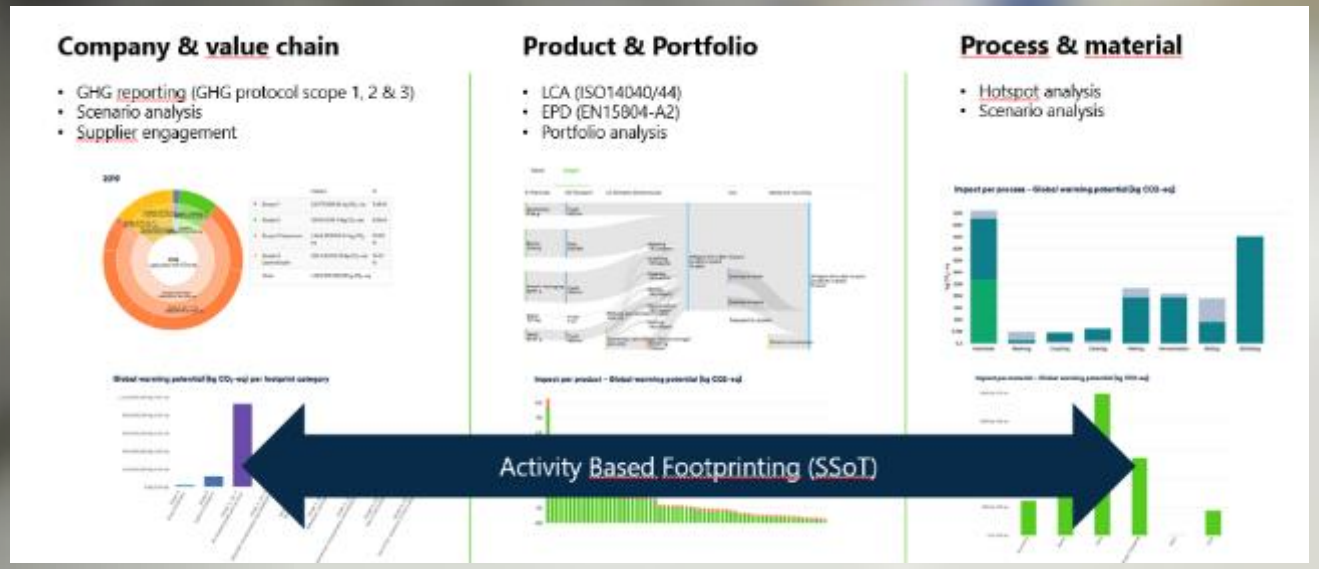
Client challenge:

Understand the footprint of a test strip manufacturing site.

Guide the company with interpretation of results and definition of sustainability actions to improve sustainable production.

Solutions:

- Activity-based footprinting of the site
- Efficient ISO-conform LCA footprint of the value chain of all products produced on site
  - Data gathering
  - Data analysis
  - Evaluation and reporting
  - External verification



Consumer protection association

Sustainability strategy

Client challenge:

Develop a definition for their sustainability strategy.

Solutions:

- Collaborate with a core group dedicated to the definition of the basis of the strategy through several workshops with key stakeholders
- Define the vision, values, communications, roles, needs, and actions for the association
- Set a direction to move foreward with the finalisation of the strategy

Pharmaceutical company

Re-use of tertiary packaging

Client challenge:

"Passive shippers" used to transport "cold drugs" globally requesting a proper waste management system at location of delivery.

Ensure proper reuse of Passive Shipper by implementing return flow and re-use process in collaboration with the pharmaceutical producer.

Increase circularity.

Solutions:

- Design of return flow and re-use process
- Identify and manage operational changes – reverse logistic flow
- Communicate with suppliers and distribution centers, build business case
- Financial assessment: assess the financial impact of the new process
- Environmental assessment using LCA: comparing different scenarios (number of re-use cycles, % lost in the flow, …)

Environmental engineering company

Soil decontamination lifecycle assessment

Client challenge:

The client has developed a soil decontamination process aiming at removing PFAS while improving circularity by enabling re-use of decontaminated soil.

The client is requested by its customers to report about the climate impact of this solution.

Solutions:

- Considering the confidentiality of process data and reporting purposes, Arcadis supported the selection of adequate LCA methodology and reporting format.
- Arcadis performed the lifecycle assessment in alignment with the client's requirements, while ensuring compliance with standard requirements.
- Arcadis assessed limitations and potential improvements for future LCAs.

2 Environmental Performance – Results

2.1 Environmental impacts

The following environmental impacts refer to the functional unit. In other words, they describe the impacts related to the remediation of 1 ton (wet mass) of contaminated soil via the soil washing process, as described by the system boundaries.

Table 4. Environmental impacts according to the categories selected by the EPD 2016 method.

Parameter	Unit	Upstream	Core	Downstream	Total
Global warming potential	kg CO2 eq.	Confidential			
Acidification (fate not incl.)	kg SO2 eq				
Eutrophication	kg PO4--- eq				
Photochemical oxidation	kg NMVOC				
Abiotic depletion, elements	kg Sb eq				
Abiotic depletion, fossil fuels	MJ				
Water scarcity	m3 eq				
Ozone layer depletion (ODP) (optional)	kg CFC-11 eq				

The global warming potential indicator (climate change) reports a total impact of XXX CO_2 eq per ton of soil entering the treatment process.

Without comparing this result with the performance of other processes, we can refer to another soil washing process that reports a total of XXX kg CO2 eq / ton of waste treated.

Chemical industry

Product Carbon Footprint and Scope 3 GHG emissions accounting

Client challenge:

The client is increasingly facing the demand for Product Carbon Footprint (PCF) reporting from its customers.

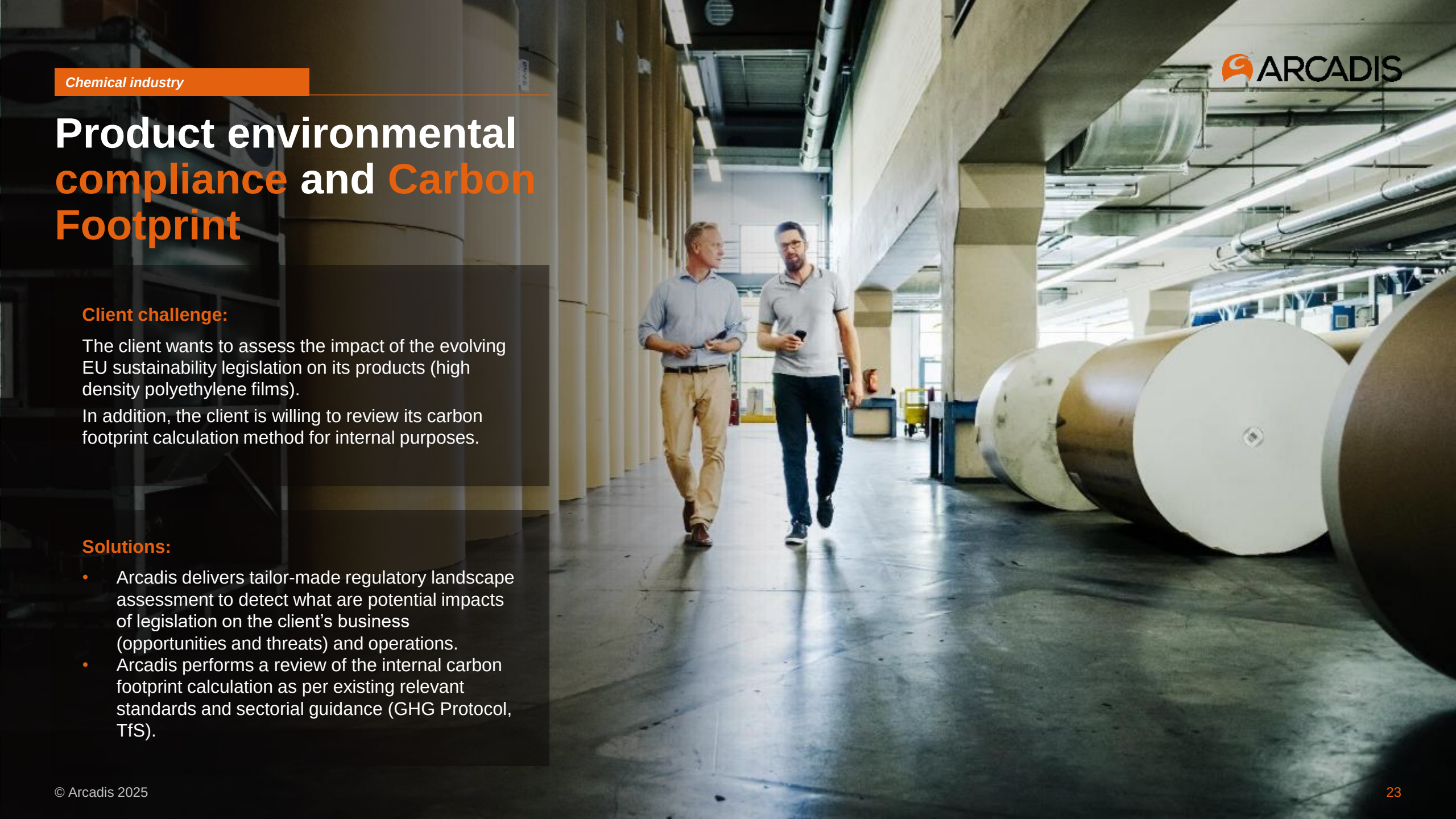
The company is required to report its Scope 3 GHG emissions and faces major challenges to account for Scope 3 category 1 emissions.

Solutions:

- Arcadis supported the client in piloting Product Carbon Footprint (PCF) calculations for a group of products, following Together for Sustainability guidelines. We developed a dedicated tool and guidelines to enable future PCF calculations.
- Arcadis supports further to company's climate strategy definition with product portfolio carbon footprinting and accounting of Scope 3 GHG emissions related to purchased goods and services.

Chemical industry

Product environmental compliance and Carbon Footprint



Client challenge:

The client wants to assess the impact of the evolving EU sustainability legislation on its products (high density polyethylene films).

In addition, the client is willing to review its carbon footprint calculation method for internal purposes.

Solutions:

- Arcadis delivers tailor-made regulatory landscape assessment to detect what are potential impacts of legislation on the client's business (opportunities and threats) and operations.
- Arcadis performs a review of the internal carbon footprint calculation as per existing relevant standards and sectorial guidance (GHG Protocol, TfS).

Contact us

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This might interest you as well…