



**Methodological guide to assess the sustainable & performance shares of Saint-Gobain's solutions
"Solutions for Growth"**

1 Context and objectives

1.1 Context

With its Purpose (“Making the World a better home”) as well as its vision (“Be the worldwide leader in light and sustainable construction”) being clearly outlined, Saint-Gobain’s strategy is to move from an offer based on products to an offer based on solutions, delivering benefits in terms of sustainability and performance for the customers and serviced by its local (for construction markets) or global organization (for High performance solutions).

A project called ‘Solutions for Growth’ has been launched in 2020 in order to:

- Identify solutions-based portfolio relevant for Saint-Gobain’s stakeholders on which to communicate on the benefits of “Sustainable and Performant Solutions”
- Determine a standard method to be easily rolled out across the organization, the regions and stakeholders

1.2 Objectives

The objective of this methodology is to identify Saint-Gobain’s solutions benefits, and to calculate the *Sustainable & Performance* shares of Saint-Gobain’s solutions. The *Sustainable* share is to be communicated publicly, whereas the *Performance* share will support internal action plans. The benefits identification will also drive innovation and intensify the exchanges on best practices between the local Sales and Marketing teams.

2 Calculation rules

2.1 Scope of the study

The calculation identifies the share of Turnover linked to Sustainable and Performant solutions of Saint-Gobain.

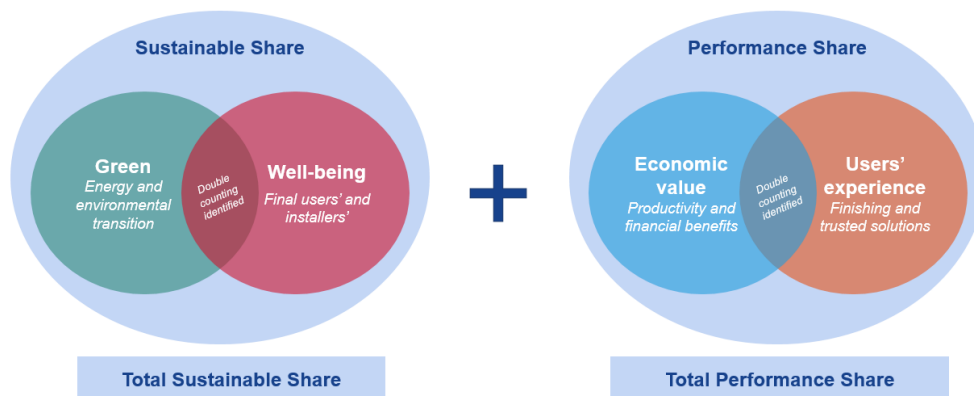
Four dimensions have been considered to characterize Sustainable or Performance shares

For Sustainable share

- 1. Green share**
 - Energy & carbon efficiency
 - Natural resource optimization
 - Enabling technologies
- 2. Well-being share**
 - Safety & security
 - Comfort (thermal, acoustic, visual/daylight, indoor air quality, ergonomics)

For Performance Share

- 3. Economic value share**
 - Productivity and financial benefits
- 4. User's experience share**
 - Trusted solutions
 - Aesthetics & design



Scope of reporting

The perimeter considered is all consolidated entities of Saint-Gobain at the end of a year. Changes in scope such as acquisitions, sales or mergers are integrated or excluded of the scope following the Group's financial consolidation. The integration of an acquisition could be postponed due to the existing reporting, the availability or consistency of the data.

The scope excludes intra-company sales.

The scope is all external sales (R04), i.e. sales made with non-consolidated third parties: companies not belonging to the Group, non-consolidated Group companies and Group companies accounted for by the equity method.

Two sources of data are used:

- Financial data from the financial reporting system from internal financial reporting system;
- Specific financial data from local software of financial controllers when needed, to go into more detail in product portfolio analysis (for ex. for Gypsum in construction, for Life sciences and Construction Industry in High Performance Solutions).

The share is calculated based on the Turnover data of the annual reporting.

2.2 General principles

The calculation is based on the analysis of the solutions manufactured and/or distributed by Saint-Gobain. By solutions, we mean a group of products and/or services answering together to a customer need (for ex. ETICS).

Sustainability eligibility can either be achieved by the nature of the benefits of the product/solutions or by the benefits induced by the application market.

The analysis has been done following 2 stages.

1- Product portfolio analysis

The target is to evaluate potential benefits provided by the products or product families/groups according to the defined criteria explained in dedicated sections.

By product family/group, we mean products with the same technical characteristics or taking part in the same technical systems (no matter their application market).

To assess the identified benefits of the product portfolio, 2 main sources have been used:

- Internal experts and BU CEOs have been interviewed to identify the products eligible to sustainable and performance share on their area of expertise;
- Benchmark of market and competitors have been done on some/all products to assess the level of performance of the benefits to consider a solution as sustainable or performant (i.e. products including a recycled content) based on public information.

The level of granularity to assess the benefits of the product portfolio has been defined by each entity, with >450 product lines analyzed globally at Saint-Gobain Group level:

- For regional construction, 2 to 3 levels of product groups were analyzed with each business (Premix, Gypsum, insulation...) leading to >250 lines of products analyzed.
 - For example, for Gypsum activity, it has been defined 3 levels of Product Group in the *Board Product portfolio*
 - *all Board products* (PG_Level2) → *Laminated Board* (PG_Level1) → *Laminated Sandwiches* (PG_Level0)
- For High Performance Solutions (HPS), most products groups (life sciences, abrasives, mobility...) were analyzed 2 levels below except from Ceramics (3 levels below) and Construction Industry (1 level below relevant only). This led to >100 lines of product segmentation analyzed.
- For Distribution, all analyses were conducted 2 levels of product groups below Distribution (145 lines of product segmentation analyzed). When no precise information was available on products characteristics (products considered as "others"), the product family turnover has been neutralized in the turnover mapping.

2- Identification of **application markets** in which the products are sold (ex: electric vehicle, exterior walls...)

The application market is defined as the final market in which the products are sold.

- For High Performance Solutions (HPS), the application market is the final destination of Saint-Gobain's product. It can be either the product, or the components that will take part in (components for electrical vehicles, glass grid for roads...) or the manufacturing process they contribute in (ceramics for steel making for example).
- For regional construction, the application market is the destination of the products in the building, for example exterior walls, roofing, decoration...

The destination of Saint-Gobain’s products can be different depending on countries local markets and construction codes. We defined local use-cases in several countries to help qualify application markets and map Saint-Gobain’s products’ benefits depending on final usage.

Each use case is built on (1) *a detailed perimeter* and (2) *a reference scenario*, representing code or market average solutions. (3) *Saint-Gobain’s solutions are then studied* to identify benefits accountable for Saint-Gobain products, with the following methodology:

- Which “level” of solutions within Saint-Gobain’s portfolio must be chosen for the use case?
- To which reference must we compare the Saint-Gobain’s solution?

All Saint-Gobain’s end-markets are well represented by the 26 use cases, that are representative of 70% of 2020 Saint-Gobain turnover when considering end-market x country sales segmentation.

- New residential construction: 9 use-cases
- New nonresidential construction: 6 use-cases
- Non-residential renovation: 3 use-cases
- Residential renovation: 5 use-cases
- Civil engineering & infrastructures
- Mobility: 1 use-case
- Industrial markets: 2 use-cases

Considering construction market evolution dynamic, the use-case are considered to be representative of local end-market x country sales for 3 years. They will be revised every 3 years.

3 Sustainable share calculation

3.1.1 General principles

The calculation of the **Green turnover** is the sum of turnover of the product lines in the following segmentation: ‘Energy & Carbon Efficiency’, ‘Natural Resources Optimization’, and ‘Enabling products & services’

Total Green turnover (M €) = Σ turnover ‘Energy & Carbon Efficiency’+ Σ ‘Natural Resources Optimization’ + Σ turnover “Enabling products & services”

When a solution is selected for 2 out of 3 categories, prior selection is ‘Energy & Carbon Efficiency’, but only potential residual turnover is counted in the 2nd category ‘Natural Resources Optimization ’or ‘Enabling products & services’.

The estimation of the Sustainable turnover is integrating a proportion of turnover considered in ‘Double counting’ representing part of turnover of activities/solutions eligible to both Green and Well-Being shares. For each possible double counting, the maximum share has been taken at the most detailed layer possible.

Ex: We consider two products family (A and B) with the same sales

Product family	Green Share	Well-being share	Sustainable share
A	50%	0%	50%
B	30%	50%	50%
Product family A&B	40%	25%	50%

This hypothesis is conservative: if we had conducted the analysis at a more detailed layer, products with green properties within B family might not be the same ones having well-being properties within B family, leading to a higher sustainable share for B product family in reality.

The calculation of the **Sustainable Share** is the Sustainable turnover divided by Total Group Turnover following formula:

$$\text{Sustainable Share (\%)} = \frac{\text{Sustainable turnover}}{\text{Total Group Turnover}}$$

Regarding the yearly update of the Sustainable share, only turnover data will change. All other parameters (composition of each share, and selection of the products) will be kept stable. A revision will be done after a 3 years' period aligned with the revision of the use-cases.

3.1.2 Calculation of Green Share

The calculation of the Green turnover is the sum of all turnover of the product lines in the following segmentation: 'Energy & Carbon Efficiency', 'Natural Resources Optimization', and 'Enabling products & services'.

Calculation of 'Energy & Carbon Efficiency'

By products

For the calculation, the selection of the following products/solutions (including manufacturing & distribution) have been considered:

- 1- Product families allowing direct or indirect energy savings/energy consumption reduction during usage
 High Performance Solutions (HPS)
 - Ceramics: performance ceramics & refractories
 Regional construction
 - Product families allowing energy consumption reduction within the external products family: reflective products, insulated or ventilated products
 Distribution
 - Autoclaved aerated concrete within the civil engineering family
 - Ventilation and Heating (excluding Air Conditioning)
 - Damproofing, Metal, Roof Windows, Roof tiles within the roofing product line
- 2. Systems lowering energy needs for the same material removal performance/for an industry
 - High performing Abrasives & Composites systems
- 3. Products that will bring benefits as part of systems (not only insulation)
 - Plaster and mortar that are part of insulation system (Façade renders and ETICS insulation Boards, adhesive & embedding Mortars...)
 - Industrial insulation and green roofs within the *other specialties* family
 - LBM (Light Building Materials) Products contributing to thermal insulation

By application markets

- 1. When the energy efficiency of the building is improved:

Saint-Gobain **insulation and glazing solutions** reduce operational carbon emissions from heating and cooling, thanks to better energy efficiency. The carbon emitted to produce a Saint-Gobain insulation product is balanced some months after installation thanks to the energy savings.

In Saint-Gobain's solutions, the following application markets have been considered:

Solutions	Application market considered
Construction	
Insulation	Exterior walls, roofing, heating air & water
Gypsum	Partitions (embodied carbon reduction through light construction) and exterior walls

Glass	Exterior walls. Single glazing have been included for emerging markets
Architectural specialties	Exterior walls
Distribution	
Interior solutions	Insulation, considering construction hypothesis for application markets
Joinery	Windows & entrance doors
Plumbing	Insulation systems
Renewables	All product families

2. Product families with green technologies as end-market (ex: electric vehicles, solar panels, windmills, trains, insulation)

Saint-Gobain's solutions for Electrical Vehicles (EV) improve battery efficiency (save battery life, improve thermal management for energy). **In solutions with green technology for EV as end-market**, have been considered:

- Abrasives & Composites systems sales to EV
- Sales to green mobilities: EV, trains, tram & bus
- Sales for insulation ethics, EV (Laid screen, Mesh...)

3. Solutions reducing the embodied carbon emissions of buildings

In building Design, switching from massive to lightweight construction solutions is less carbon intensive. Lightweight partitions made of gypsum board and metal studs are usually significantly less carbon intensive than massive brick or concrete partition walls. In **Light construction products have been considered**:

- Light construction product families (mainly plasterboards in substitution to bricks).
- Partitions & Exterior walls (excl. ceilings, finishing & deco)
- Roofing panels
- Timber/Panels

Calculation of 'Natural Resources Optimization'

The calculation of the "Natural resources Optimization" contribution was conducted for product families not already considered in other Green shares (energy & carbon efficiency or enabling products & services).

Ex: if 42% of glass optimize natural resources, but for construction already 76% is energy efficient → Only $42\% \times (100\% - 76\%)$ is considered in natural resources optimization

By products

1. Adding less carbon-intensive raw materials in particular by increasing recycled content in our products is helping the decarbonization of the built environment

For Saint-Gobain's manufactured products, the following approach has been considered:

- Benchmark the market and competitors to identify which products include a recycled content above average for comparable products
 - For Glass, the benchmark is based on a 2018 European Glass association study
 - For Gypsum, only plasterboards were considered eligible. Benchmark is based on experts' knowledge of competitors' level based on public information
 - For Insulation and Premix, the benchmark is based on competitors' publications & targets communication
- Set-up a proposed threshold for Saint-Gobain, in line with market & competitors benchmark
- Calculate the % of production with recycled content above threshold

For the calculation, it has been considered the part of production with recycled content above market average (and not already considered in energy efficiency or light construction). Source of data is internal environmental reporting system. The analysis was conducted at a production site level, for a full year time scope.

For High Performance Solutions (HPS), similar approach has been considered for:

- Saint-Gobain Glass supplied to Mobility business
- Thin wheels within the Abrasives product family

2. Products extending industrial equipment lifespan

Repairable solutions got their life span extended. Saint-Gobain is committed to innovate and take these criteria into account.

- Ceramics: product families enhancing furnaces durability, reducing repair needs
- Abrasives: high performing product families lowering grain consumption
- Construction Industry: reinforcement product families extending buildings lifespan, for ex. road glassgrid

3. Products helping adaptation to water stress

- Canalization business as a whole
- Distribution of cast-iron products within the Civil Engineering product family

4. Products preserving or allowing substitution of natural resources

- Premix as alternatives for sands, cement substitutes (dairy, flying ashes...), "wasterials"
- Life Sciences: product families allowing resources management (water, cleaning agent, energy) in high-end drugs market (analysis conducted 1 level under the life sciences product family)
- Distribution of water treatment products & taps, analysis conducted 1 level under the *Plumbing* and the *Sanitary product families*

Calculation of “Enabling products & services”

The category ‘Enabling products & services’ is considering solutions & services that

- either optimize existing carbon-intensive technologies to minimize its impact
- or is necessary to implement energy & carbon efficiency activities (see previous paragraph for detail of these activities)

1. Products optimizing existing technologies

Saint-Gobain manufactured product families eligible are:

- Ceramics: product families optimizing Steel Industry and catalyze product families allowing energy consumption reduction;
- Abrasives: products & solutions that enable our customer to drive their sustainable transformation for example finer grinding tolerances, friction control, “specially designed” abrasives made for battery powered tools;
- Mobility: Sales of products optimizing ICE vehicles (carbon intensive industry);
- Construction Industry: Products for dry wall partitions.

2. Distribution of enabling products: necessary to implement energy efficiency activities

Analyze was conducted 2 levels below the distribution product portfolio to identify product families necessary to implement energy efficiency activities, for ex. clay & metal for civil engineering, roofing, electrical, plumbing, sanitary, lighting, joinery...

3.1.3 Calculation of the Well-Being share

The calculation identifies the share of Well-Being Turnover linked to Saint-Gobain’s **solutions** in the following segmentation: ‘Acoustic comfort’, ‘Thermal comfort’, ‘Visual comfort’, ‘Indoor Quality’, ‘Safety and security’ and ‘Ergonomics’. Saint-Gobain’s eligible solutions have been selected for their additional benefits with regards to current regulations.

The R&D teams in charge of the Sciences of materials were involved to develop the methodology and supply scientific data.

Calculation of ‘thermal comfort’

Thermal comfort is defined contribution to an optimal temperature: not too cold, not too hot.

Saint-Gobain offers several product categories that have a direct impact on thermal comfort (with improved thermal properties compared with standard). Analysis was conducted by products, for external walls application market only.

Regional construction

- Glass: double or triple glazing for external walls
- Gypsum and ceilings: product families taking part in exterior wall lining from the inside (glued or framed systems)
- All insulation product families to reduce heat loss or summer heat gains
- External products allowing energy consumption reduction (reflective products, insulated or ventilated products)
- Premix: products being part of external insulation systems (ETICS...)
- Renders that insulate and provide weather defense
- Glazing to let the sun in or block it out depending on the climate
- Smart membranes to improve airtightness and manage moisture
- Architectural specialties for exterior walls (excluding single glazing)
- Kaimann product families & Leca product families, excluding infrastructure and flower pot

Mobility: Products with improved thermal properties compared with standard (specific glazing)

Distribution

- A/C & Heatings
- Interior solutions: same hypothesis as construction for ceilings, gypsum and insulation
- Joinery products interfacing rooms or outside/inside
- Solar heat
- Products being part of insulation systems

Calculation of 'Acoustic comfort'

Acoustic comfort is defined as contribution to acoustic protection, for well-balanced sound.

Saint-Gobain offers several solutions categories that have a direct impact on acoustic comfort:

Regional construction

- Sound insulating glazing (glass in windows and facades).
- Saint-Gobain acoustic insulation glazing
- Plasterboards, insulation, wall rendering which specially when used as a system, provides acoustic insulation
- Gypsum: partitions, Acoustic panels & ceilings, exterior lining with mineral wool
- All ceilings by nature
- Premix: products being part of external insulation systems including acoustic insulator (PSE is excluded)
- Insulation: Internal walls, External walls with acoustic properties, internal technical insulation
- Acoustic ceilings and wall panels and interior lining improving room acoustics;

Distribution

- Interior solutions: same hypothesis as construction for ceilings, gypsum and insulation
- Joinery product families separating rooms or outside/inside
- Roof windows

High Performance Solutions (HPS)

- Automotive product families allowing noise reduction (laminated glazing or vibration reduction)

Calculation of 'visual comfort'

Visual comfort is defined as maximization of daylighting, to aid productivity and alertness.

For the calculation, the selection of the following products/solutions have been considered:

Regional construction

- All glass products excepted consumables & appliances application markets
- Architectural specialties: all excepted shielding

Distribution

- Joinery product families allowing light transmission (windows, shutters & glazed doors)
- Roof windows

High Performance Solutions (HPS)

- Product families allowing light transmission (transparent)
- Product families that provide a direct access to natural light

Calculation of 'Indoor air quality'

Indoor air quality is defined as contribution to keep indoor air fresh and clean or allowing harmful pollutants reduction.

For the calculation, the selection of the following products/solutions have been considered:

High Performance Solutions (HPS)

- Construction Industry: product families improving air quality (active technologies or facilitating windows opening) by making ambient air healthier by eliminating high % of the formaldehyde concentration

Regional construction

- Fiberglass, wallcoverings with sanitizing properties, preventing the development of mold and bacteria on the surface of walls and continuously and permanently capturing the formaldehyde in the application area
- Glass: solvent-free mirrors
- Gypsum: Activ'air product families and washable products, incl. washable ceilings for hospitals
- Insulation: Indoor product families with low or non-emissive binder
- Architectural specialties: product families with low VOC emissive binders

Distribution

- Products being part of ventilation systems

Calculation of 'Safety & security'

Safety & Security is defined as reduced occupational risks for end-users and the workers during construction, renovation or deconstruction of buildings. For ex. inert or non-hazardous waste, no or limited release of hazardous substances during installation, low dust, soft touch/less itchy/non-irritant products.

Saint-Gobain's solutions that have been selected for their additional benefits with regards to current regulations in security and safety range.

High Performance Solutions (HPS)

- Solution for fire and heat protection: anti-flammability solutions for cars, especially for lithium ion battery systems
- Life Sciences: single-usage drug manufacturing process allowing cleanliness & quality benefits
- Medical devices with above average safety benefits, or allowing quicker recovery for patients
- Ceramics: product families for medical imaging application market
- Abrasives: Products families with competitive advantage on safety aspects: cutting and grinding discs for rail-track to improve the safety and comfort of high-speed trains etc.
- Mobility: glazing product families
- Insect screens for disease prevention

Regional construction: products that reduced occupational risks for the workers during construction, renovation or deconstruction of buildings

- Insulation: new wool
- External products: product families with extra protection layer
- Premix: low dust product families
- Canalization: products allowing cleanliness of water supply

Distribution: analysis was not conducted as a first approach due to complexity needed; calculation result is zero by default

Calculation of 'Ergonomics'

Ergonomics is defined as reduced risk of musculoskeletal disorders (MSD): lightweight, smaller packaging, small dimensions...

For the calculation, the selection of the following products/solutions have been considered:

1. Saint-Gobain Lighter products or part of lighter systems

- HPS abrasives: thin abrasive wheels, products reducing hand vibrations
- Gypsum: non-solid metal fastening system

2. Saint-Gobain easy to install products

- Insulation: (ultimate) or easy to install (blowing wool)
- Premix: easy to install (self-leveling screed, pomp trucks...)
- External products: easy to install products

Distribution: analysis was not conducted as a first approach due to complexity needed; calculation result is zero by default

- Mobility: distributed products within AGR product family, with product availability and delivery service
- Life Sciences: non-invasive surgery; single usage products preventing sanitizing operations
- Construction Industry: fast-installing products with same hypothesis as regional construction products

Distribution

- Detailed analysis by product was non conducted due to high complexity
- Turnover delivered directly to the customer or at jobsite was considered, with e-commerce to be added in further study

4 Communication guidance

This methodological guide has been developed in order to illustrate in a robust and transparent way the methodology used to calculate the sustainable share

The communication on the annual sustainable share of sales, based on the methodology will be reviewed by an independent third party.

Performance share enables Saint-Gobain to quantify the value added of our solutions and convey these benefits adequately to stakeholders. The performance benefits are used to structure marketing prospective and operational action plans