

# Green best practices for construction SMEs and how the EU can support

Tips for SMEs from product development to operations on site.

## 1. Introduction

There are compelling reasons why SMEs in the construction sector are looking to become more sustainable by using environmentally friendly materials or methods. Especially for micro or small enterprises that are competing with the big players in the building industry, opting for sustainability is a good basis from which to move forwards, as:

- It can generate increased profit: SMEs can increase their competitiveness and find new business opportunities, especially in the long-term;
- Customers want it: Private and public tenders increasingly demand sustainable solutions;
- It leads to customer savings: Customers can save money on energy, water and running costs with smart and sustainable designs and materials.

### DID YOU KNOW

The Building Performance Institute Europe says that 97% of EU buildings need to be renovated because they are energy inefficient. To meet energy and climate targets, 3% of these buildings need to be renovated each year

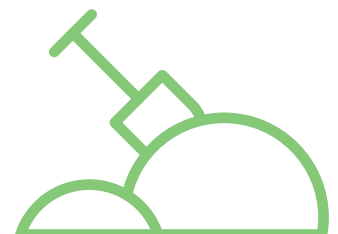
Therefore, SMEs and micro-enterprises in the technical sectors and installers segment need to be informed and capable of managing the change so that they can be part of and benefit from this trend.

**These things combined – customer interest, regulatory and policy changes and the existing stock of buildings needing renovation – represent an excellent chance for SMEs to win new business and be part of the sustainable growth.**

This leaflet is for small manufacturers of materials, and also installers/building companies/services in construction. We have collated some practical ideas for you in three key sections: sustainable materials, end of life/waste management, and process/skills. At the end, we have ideas for making your business environmentally friendly<sup>1</sup>.

As always, be sure to check the legislative and non-legislative context that you are operating in and how this can influence the approach you take. Look for existing national/regional incentives as well!

<sup>1</sup> The projects quoted in the leaflet are mainly financed by the EU LIFE Programme



## 2. Innovations to consider

**As an SME in construction, you can green up buildings from materials to machinery, end of life and waste management to processes and skills, to your actual back office. Here are some concrete examples.**

### 2.1 Sustainable Materials

Building innovations often begin with interesting materials, which come either from waste being turned into 'new' materials or by using a natural material more efficiently. These are some examples of materials that save customers money in heating and cooling costs. You can use tiles and panels such as these, or even apply for funding to develop your own innovative materials on a commercial scale.

- Operating in France, Spain and Portugal, [LIFE HERO TILE](http://www.lifeherotile.eu) ([www.lifeherotile.eu](http://www.lifeherotile.eu)) can help building owners save up to 30%–50% of energy required for cooling. In Mediterranean regions, the roof is the most exposed element to solar radiation, and this causes excessive heating of the attic and upper floors, therefore causing a high energy requirement for cooling. Hero Tile has developed two new types of roof tiles (Marseillaise and Portuguese tiles) with a shape characterised by higher air permeability through the overlap of the tiles, and better energy performance by passive disposal of solar radiation through under-tile ventilation.



- [LIFE PHIPP](http://www.balticfloc.lv/ee/live-phipp-ee) This SME from Latvia (<http://www.balticfloc.lv/ee/live-phipp-ee>) is producing building insulation panels made of recycled paper and wood fibre for only 30% of the classic material costs. These innovative insulation mats are designed to be easy-to-install, structurally sound and with thermal insulation properties comparable to those of mineral wool. They do better when it comes to breathability, recyclability and fire management, too. Moreover, their wide availability in retail building material stores makes it easy for individual homeowners to look at samples closely. Not only do the mats reduce greenhouse emissions and minimize the use of hazardous materials, keeping installers safer, but they also decrease the insulation costs of the building owner.



- [LIFE+ DIGITALIFE](http://digitallife.active-ceramic.com) This Italian SME (<http://digitallife.active-ceramic.com>) reduces the environmental footprint of the tiles coating process by offering a digital printing solution. Achieving savings in energy and water consumption and decreasing the use of chemical solvents by 30%, using this digital printing technology rather than spraying techniques reduces the overall environmental footprint of the coating process by about 53%.



## 2.2 End of life and reducing waste

Properly sorting and sustainably disposing of waste is a 'quick win' for construction companies who want to demonstrate that green methods are effective. There are two ways to think about this – firstly regarding the logistics of construction waste, and secondly, regarding the use of secondary raw materials (e.g. those made from a recycled source material coming from demolition sites).

When innovations like this come together with smart processes on your construction site, you can achieve a great win for your client in terms of sustainability. Some key points to think about:

- Consider deconstruction rather than demolition. Mobilise and motivate your team to take action by raising their awareness of good practices in this area;
- Audit the site at the beginning of the project and identify any materials that could have a second life in another project;
- When you sort materials salvaged from deconstruction, do it on-site when technically feasible, to avoid transport contamination and mixed waste;
- Look into optimizing resource management and create synergies to reduce costs: energy, waste, transport, etc.

Two companies who have been innovative in this area can give you some ideas here:

- **LIFE GYPSUM to GYPSUM** This French/Belgian project (<https://webgate.ec.europa.eu/life/publicWebsite/project/details/3506>) gives new life to demolished construction gypsum by incorporating it into the manufacturing process of brand new plasterboard. The SME focuses on the deconstruction versus demolition of certain sites to extract gypsum in a quality format so it can be recycled into 'new' gypsum again.

- **LIFE GREEN SINKS** This project developed by an Italian SME ([www.greensinks.com](http://www.greensinks.com)) found that they could reduce the transport of new materials, recover used materials and reduce landfill by creating high-grade kitchen/bathroom sinks from old ones. Collecting sinks from various demolition sites, they reduce the need for importing quartz and cristobalite in order to manufacture new sinks, opting instead to simply take the old ones and re-mix them with recycled mineral fillers.

## 3. Process & skills for installers and small manufacturers

**New construction techniques and processes can be instrumental in making your operations greener, as well as deliver more sustainable buildings.**

Some great examples of companies who implemented such techniques are:

- **LIFE HERO TILE** (already mentioned in Chapter 1 above). This company operating in France, Spain and Portugal developed a free software (**SENSAPIRO** - <https://www.lifeherotile.eu/wp-content/uploads/2019/01/SENSAPIRO-beta-version.zip>) to estimate the energy performance of different roof configurations. Thanks to this tool, carpenters can easily design roofs to be more energy-efficient. This, combined with the tiles designed within the scope of this project, can help building owners to achieve big energy savings, as well as reducing their carbon footprint.
- **LIFE Fit for REACH** ([www.fitreach.eu](http://www.fitreach.eu)) Located in the Baltic region, this organisation creates and shares best practices on managing building materials and offers various solutions aiming to substitute hazardous chemical substances with safer alternatives. For instance, on the website you can find a list of good ideas and also access tools and checklists that aid your team in their chemical management.



Here are some practical tips on how to manage waste in a more sustainable way:

**Communicate.** Create and install guidelines, signs and information boards on the site, and develop clear and easy instructions for the handling of materials and waste. Remember, managing waste on-site is usually easier and more cost-efficient than trying to do it at a secondary location.

**Train the employees.** Organise an introductory training session for every new employee and inform them of work safety and practical arrangements on the site. Make sure to also cover waste management and recycling, and involve them in the recycling rate and material efficiency goals of the project.

**Measure and monitor.** Cover the recycling rate progress and waste management issues in project follow-up meetings and communicate to the team on site too!

**Optimise logistics.** Place the recycling bins so that it is easier to sort the waste than produce mixed waste. Use a waste press to reduce the need for transport. Ensure proper storage, to avoid damaged raw materials. Cooperate with your waste management partner to optimise the collection frequency and find potential stakeholders who can make use of the recycled materials.

**Develop or employ digital solutions.** Technology helps to achieve maximum results in waste reduction. It can be used to provide information on how different factors affect the recycling rate, communicate progress to employees and stakeholders, and optimise material procurement and waste logistics.

Well-organised waste management on a construction site not only improves environmental performance and waste management costs, but it can even improve the overall efficiency of the project. Additional income can be generated if materials

are reused. Many waste management improvement actions are low- to medium-cost, as much can be done with better planning, communication, and management practices.

Additionally, there are regional schemes that work together with SMEs to manage these approaches en masse. How about joining one or encouraging your local municipality to create one?

- **Circular Demolition Project Verification Scheme (Netherlands)** This initiative provides an additional and voluntary project verification of a demolition project to ensure circularity and the sale of demolition materials through:
  - an accurate inventory of the materials retrieved as part of the demolition project and of high-quality materials that can be sold;
  - a thorough demolition and separation plan per demolition material, method of disassembly and demolition, including work instructions and expertise requirements;
  - careful execution of the demolition process through which the retrieved demolition materials are retained for the circular economy; and
  - detailed reporting on the sales channels of the demolition materials released (substance justification).

More information available here: <https://www.veiliglopen.nl/site/media/upload/files/verificatie-circulair-sloopproject-svms.pdf>

Also, try to set up a **smart waste management plan**. This plan would detail how waste management is organised and also cover responsibilities, communication, monitoring practices and risk analysis to recognise potential pitfalls. The [EU Construction and Demolition Waste Protocol \(https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0\\_en\)](https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en) and [Guidelines](#) can support you on this, it has been introduced in 2018 as a proposal to the industry to increase confidence in the construction and demolition waste management process.

As you know, it is one thing to have a plan, but quite another to roll it out with your team. There is an excellent checklist available from the European Resource Efficiency Knowledge Centre for when you organise your waste management plan (<https://www.resourceefficient.eu/en/measure/construction-site-waste-management>). They found that the potential cost and material savings depend on current practices and the characteristics of the project. It has been estimated that 13% of raw materials are discarded unused. With thorough waste management actions, the amount of waste can be reduced by more than half.

**“Committed Craftsmen/Responsible Company” approach (France):** This approach involves dynamic promotion for craftsmen seeking to develop more sustainable practices. Several ideas and practices stemming from this project are also relevant for other groups within the construction sector, such as:

- Creating and sharing online tools where craftsmen can educate themselves collectively on sustainability issues, make their practices evolve, set up an action plan and follow up on it. This also includes using online resources for better communicating their commitments to their clients;
- Forming a network of committed craftsmen, endorsed by an influential regional representative, where workers can exchange information on their practices, share their experiences, work together on new projects and collectively track their sustainability progress. More information: <https://artisansengages.capeb.fr>



Local authorities who take the lead in connecting public awareness of building professionals can also receive funding to develop networks.

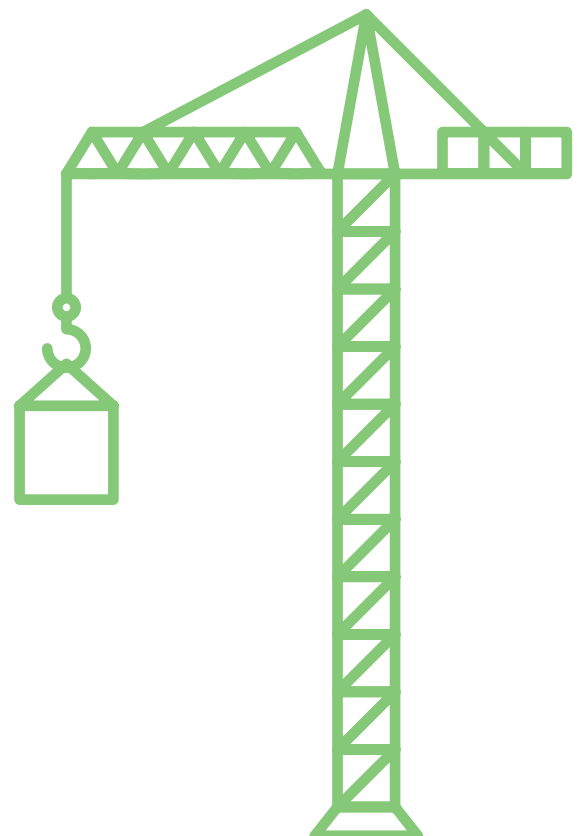
- **LIFE EconomisE** ([www.wwf.fi/en/economise](http://www.wwf.fi/en/economise))  
Based in Finland, the project empowers decision-makers and civil servants to take into account the full building life cycle cost in real estate management, by means of networking activities and expert assistance;
- **LIFE ReNaturalNZE** ([www.liferenatural.com](http://www.liferenatural.com))  
Created in Spain and Portugal, this project trains around 2,000 installers/builders to design and build Nearly Zero Energy Buildings (NZEBS) using recycled and natural materials;
- **LIFE BE REEL** ([www.be-reel.be](http://www.be-reel.be)) is collectively part of the 2050 Flemish and Walloon regional renovation strategies for residential buildings in Belgium. The organisation was funded to train construction professionals (including training of trainers) and renovation advisers that may be consulted by building owners on the latest developments in low energy renovation. This creates a network of knowledge hubs where even building owners will benefit from one-stop-shops and be able to access reliable and affordable information and solutions fit tailored to their needs. A digital exchange & knowledge platform was also launched under this project ([www.be-renovatif.be](http://www.be-renovatif.be)).

Finally, the LIFE Programme also hosts the **BUILD UP Skills** initiative ([www.buildup.eu/en](http://www.buildup.eu/en)) aiming at increasing the number of qualified workers across Europe able to deliver high-energy performance and NZE buildings. Through open calls for proposals, BUILD UP has already funded more than 70 national and transnational projects, involving around 30 countries and targeting over 30,000 building professionals. Perhaps your regional network would also like to be involved!

## 4. Going green in the office

Besides the construction site, SMEs can also contribute to the greening of Europe by implementing initiatives in their offices. Consider these options in your back office:

- Use retrofit lighting: When replacing your lighting, look for energy-efficient bulbs or LED solutions, replace an older lighting system with a newer one, and install automated light timers;
- Plan preventive machine maintenance to keep machinery in working order for longer. Buy energy-efficient appliances, and try to repair before recycling;
- Turn off equipment or electronics when not in use, including computers!
- Buy refurbished tech and equipment, and consider selling your second-hand fixtures and fittings;
- Consider greening your procurement by selecting more sustainable providers/subcontractors and more energy-efficient machinery;
- Assign a member of your team to actively look for good green ideas and implement them in the company (like an innovation scout!);
- Green up your office and get green office supplies: reduce paper consumption – use digital options instead – recycle printing paper, use refillable printer cartridges, reduce water bottles in the office and replace them with jugs in meetings, clean with greener cleaning liquids;
- Consider carrying out an environmental audit of your business. This can enable you to gain benefits such as cutting costs, ensuring better compliance with legislation, as well as improving your reputation with your customers, employees, potential investors and the local community.



## 5. Need more information and support?

### So, you have implemented the quick wins, and you have more significant ideas for greening your SME?

For more in-depth information on further steps and/or access to funds at European, national, regional, or local level to finance your green transition, please ask your SME organisation or regional / local public authority.

#### About the LIFE Programme

The LIFE Programme is the EU's funding instrument for the environment and climate action created in 1992. The current funding period, 2021-2027 has a budget of €5.4 billion.

Check out the application guidelines here: [https://cinea.ec.europa.eu/life/life-support-applicants\\_en](https://cinea.ec.europa.eu/life/life-support-applicants_en) or contact your national contact point: [https://cinea.ec.europa.eu/life/life-european-countries\\_en](https://cinea.ec.europa.eu/life/life-european-countries_en).



Follow the LIFE programme on:  
[ec.europa.eu/life](https://ec.europa.eu/life)  
[facebook.com/LIFE.programme](https://facebook.com/LIFE.programme)  
[twitter.com/LIFE\\_Programme](https://twitter.com/LIFE_Programme) and  
[flickr.com/life\\_programme](https://flickr.com/life_programme)

#### Do you know of a best practice in this sector?

Then flag it up to EREK (European Resource Efficiency Energy Centre) - <https://www.resourceefficient.eu/en>. EREK is the online platform to foster resource efficiency in SMEs. Your best practice will be showcased to all interested parties. The platform is set up by the European Commission and available in 17 languages.

#### About EBC

Established in 1990, the European Builders Confederation (EBC) is a European professional organisation representing national construction employer associations of micro-, small- and medium-sized enterprises. EBC is a member and partner of SMEUnited, the European association of SMEs, and Small Business Standards (SBS), the European association representing SMEs in standardisation.

<https://www.ebc-construction.eu>

[https://twitter.com/ebc\\_smes](https://twitter.com/ebc_smes)

<https://www.linkedin.com/company/european-builders-confederation-ebc>

<https://www.facebook.com/EuropeanBuildersConfederation>



#### About SMEUnited

SMEUnited is the association of crafts and SMEs in Europe with around 70 member organisations from over 30 European countries. We represent the interest of crafts and SMEs in Europe, and our mission is "shaping Europe for SMEs and shaping SMEs for Europe". We act to create an SME friendly climate in the European Union.

<https://smeunited.eu>

<https://twitter.com/smeunited>

<https://be.linkedin.com/company/smeunited>

<https://www.facebook.com/SMEunited.Europe>

#### Publisher

SME United & EBC, October 2021

