

Respyre

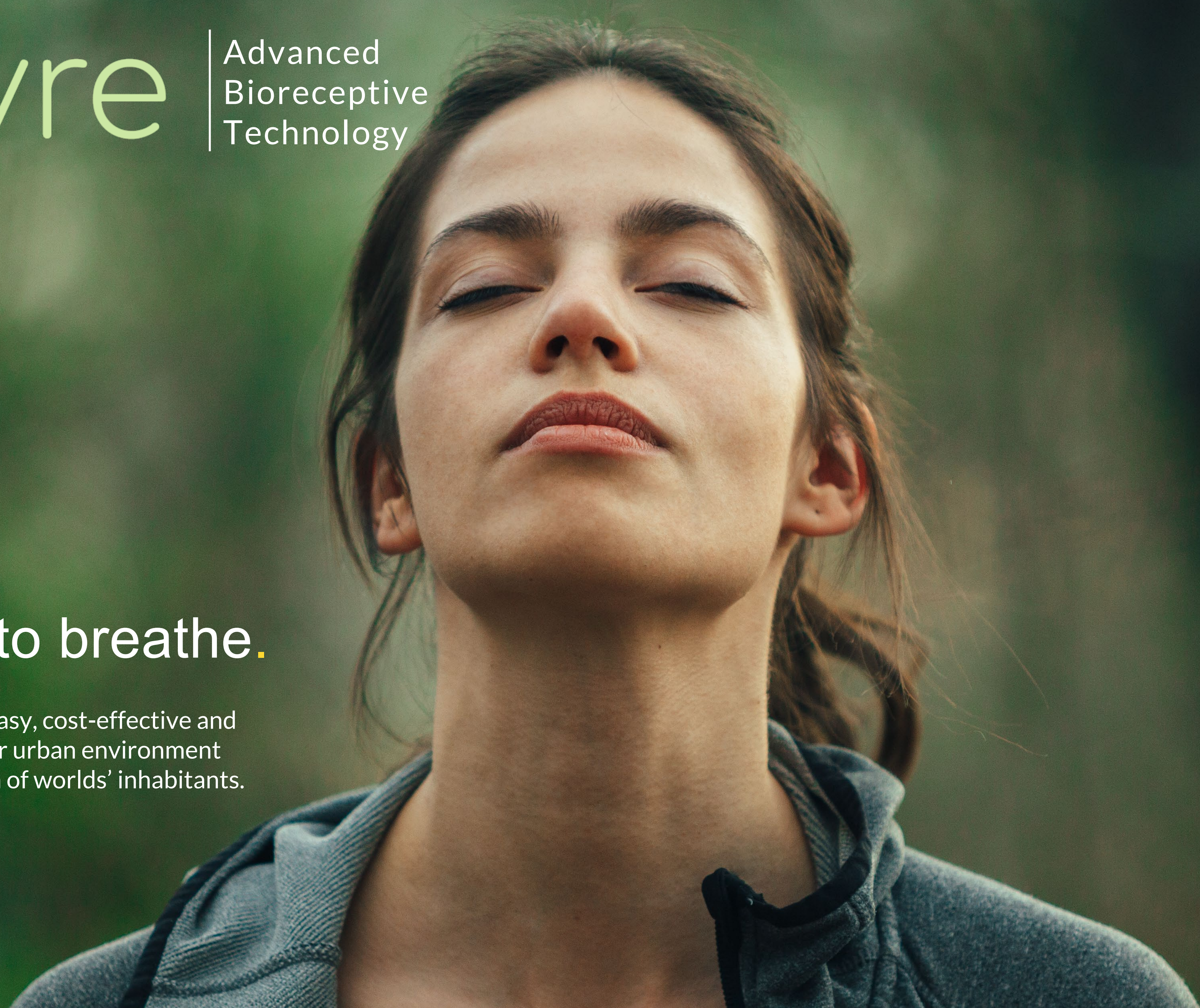
Advanced
Bioreceptive
Technology

Respyre

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Enabling cities to breathe.

At Respyre we create solutions for easy, cost-effective and elegant integration of nature into our urban environment to improve the well-being and health of worlds' inhabitants.



Problem statement.

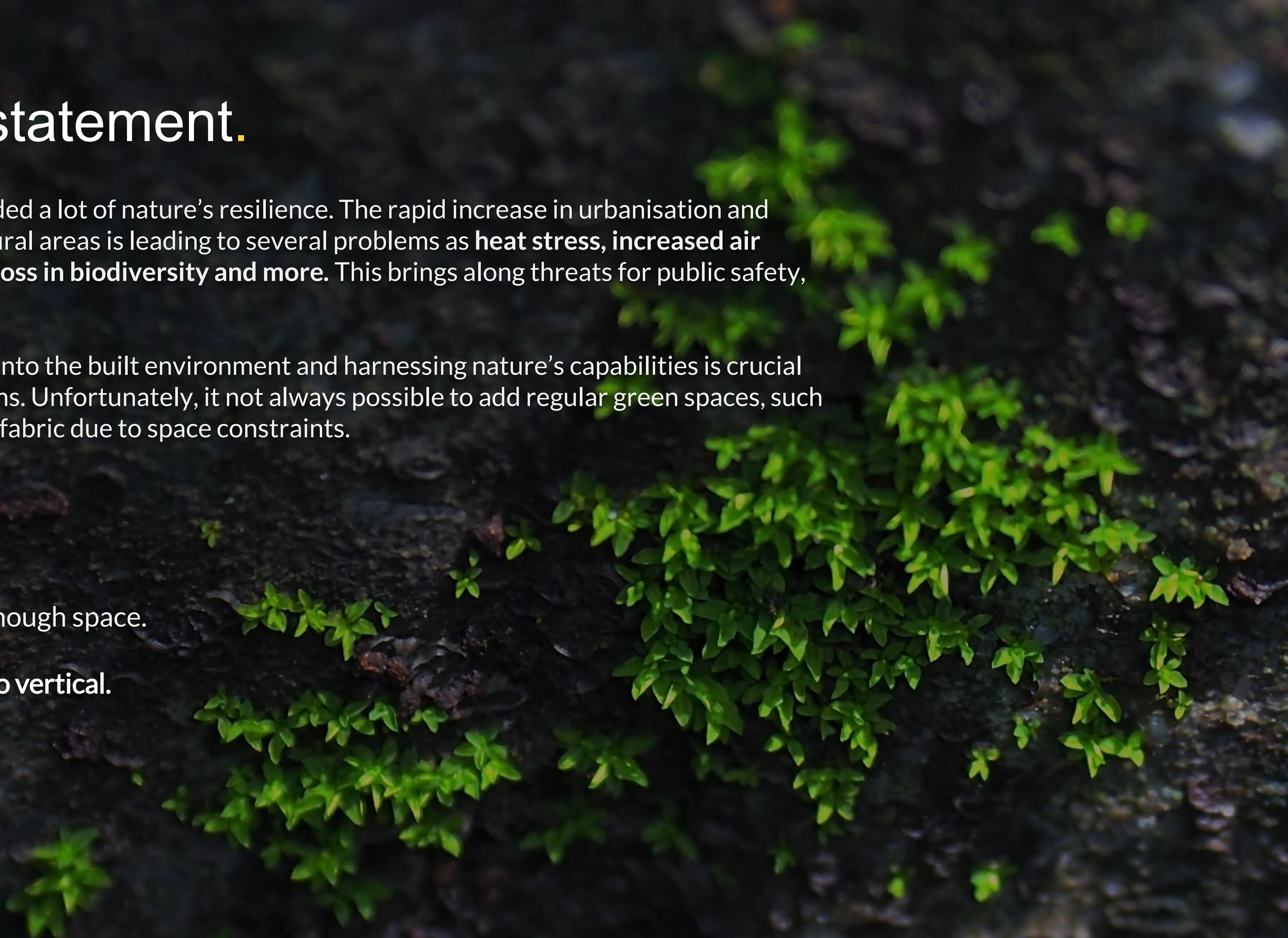
Humanity has demanded a lot of nature's resilience. The rapid increase in urbanisation and associated loss in natural areas is leading to several problems as **heat stress, increased air pollution, flooding, a loss in biodiversity and more**. This brings along threats for public safety, comfort and health.

Reintegrating nature into the built environment and harnessing nature's capabilities is crucial to solve these problems. Unfortunately, it not always possible to add regular green spaces, such as parks, to the urban fabric due to space constraints.

However,

We see more than enough space.

Flip the fabric, let's go vertical.



A Concrete Solution.

We have developed and patent pending for a **new bio-receptive concrete** product, which facilitates **abundant growth of moss**.

While enhancing beneficial ecosystems of moss the underlying construction is protected against weathering, effectively extending its lifetime.

We are working towards a final product that will be easy in application, cost-effective and low in maintenance.



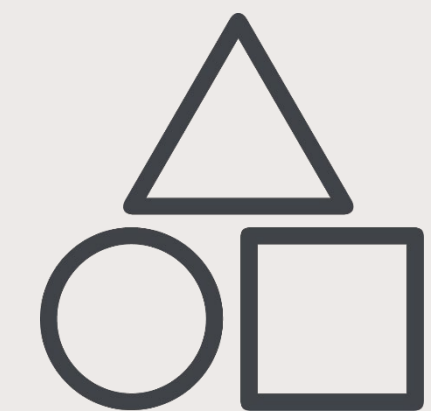
Sustainable

Using recycled concrete aggregates and other residual streams in our products.



Nature-Inclusive

Facilitating abundant growth of moss and other vegetation, creating habitats for crucial insects.



Easy

Our product can easily be applied on existing structures or used for prefab elements and is low in maintenance.

The power of moss.

Flexibility:

Moss absorbs most of its nutrients via its dense leaf system and not via its roots.

Water retention:

Moss is specifically good in absorbing and retaining water after heavy rain showers.

Contaminant reduction:

Moss will be able to remove contaminants (PM10, VOCs, NO_x, NH₃) from water and air.

Sustainability:

Moss cools the air and buildings due to evaporation of water and increased albedo.
It also converts CO₂ to oxygen.

Noise reduction:

Moss reduces noise due to sound absorption by the dense leaf system.

Aesthetic feel:

Moss will improve the aesthetic appearance of concrete surfaces.

Biodiversity:

Moss increases biodiversity on otherwise bare concrete surfaces and provides living environment for insects.

Biomass production:

Moss will produce biomass possibly suitable as renewable resource for new products.



Product opportunities.



Application to existing structures

Using our solution any existing concrete or brick surface can be made bio-receptive.



Stand-alone solutions

Concrete elements can be produced using our patented recipe to be bio-receptive from the start.

Market potential.

We can offer a **cost-effective** and **more functional** product in an existing market

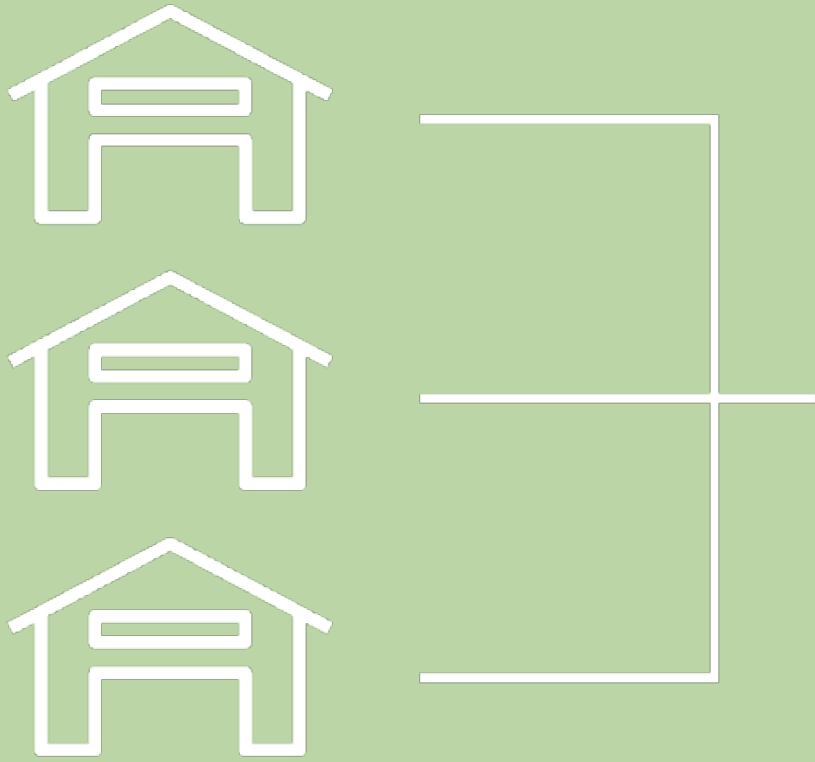
System	Selling price	Price	Required maintenance	Removal of contaminants	Waterretainment	Cooling	Noise reduction	Aesthetics	Biodiversity	Uptake GHGs	Circularity
① Direct ivy	€50-75/m2	Effective, High confidence	Moderately effective	Moderately effective	Not effective	Moderately effective	Not effective	Effective	Moderately effective	Moderately effective	Moderately effective
② Living Wall	€350-1500/m2	Not effective	Not effective	Moderately effective	Moderately effective	Moderately effective	Moderately effective	Effective	Effective	Moderately effective	Moderately effective
③ City Tree	€50.000/tree	Not effective	Moderately effective	Moderately effective	Moderately effective	Effective	Moderately effective	Effective	Moderately effective	Moderately effective	Not effective
④ Bio-receptive concrete	€30-70/m2 (?)	Moderately effective	Moderately effective	Moderately effective	Moderately effective	Moderately effective	Moderately effective	Moderately effective	Moderately effective	Moderately effective	Moderately effective

Effective
 Moderately effective
 Not effective

Level of confidence (full = high)



Position in value chain.



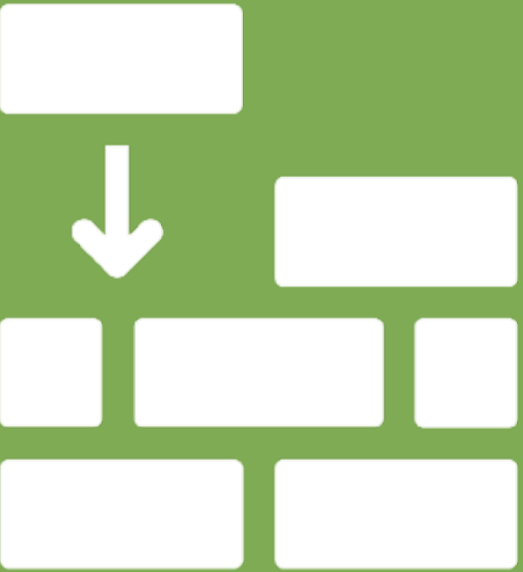
Raw Material Suppliers

Supply of the various materials that make up our products.



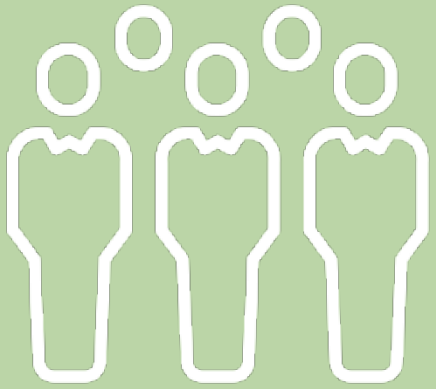
Production*

Combining the raw materials into the patented product as ready-mix or prefab elements.



Application

Applying the product to existing structures or facilitating transport with contracted firm.



End users

Potential customers

- Concrete manufacturers
- Real estate managers
- Construction companies
- Architects
- Governmental instances (*rijkswaterstaat, waterschappen*)
- Hospitals
- Many more

*Production of prefab elements will be done in combination with partner companies.

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Currently we are expanding our team, needing pretty much anything that makes a business thrive!

Pilot projects will be performed to validate these claims, after which commercialization of the product can be commenced.

Are you interested in a demonstration or collaboration for a project?

Please contact us via
info@gorespyre.com