

SKANSKA

Low carbon roadmap





Front cover: a Nissan Leaf electric vehicle in use on our Peterborough Highways Services contract

Low emission transportation

Vehicles, fleet and plant contribute a significant proportion of development and construction related carbon emissions.

We aim to decarbonise our construction transportation as soon as technology allows. We are exploring alternative options for low or zero emissions logistics and transportation. We have invested in electric vehicle charging points at our head office and many of our project offices, and we promote electric vehicles within our company car fleet. We work with manufacturers to pilot low emission vehicles, such as hydrogen fuel cell cars, and we procure electric commercial vehicles on many of our projects.

This is just one example of our low carbon leadership.

Low carbon roadmap

Our vision is to be the recognised low carbon leader in the construction industry.

Accelerated climate change resulting from human impact is one of the defining environmental concerns of our generation. In response, the global commitment to reduce carbon emissions by following the Paris Agreement on climate change represents a collective call to action that all sustainable businesses should support. At Skanska, we are responding with both the action that is needed and the leadership to inspire others to do the same. Our company purpose is to build for a better society; this now needs us to play our part in achieving significant carbon reduction.

As well as being high carbon emitting, the construction industry is also facing significant efficiency and productivity challenges, and at Skanska we must continually innovate and improve to remain profitable. Carbon is an excellent proxy for cost and resource efficiency, and to truly demonstrate low carbon leadership we must understand the relationship between carbon and cost, and find new ways to drive down both.

Our Journey to Deep Green™ outlines Skanska's commitment to environmental leadership where we already measure the carbon, energy, materials, waste and water performance of our projects using our Color Palette™. This low carbon roadmap provides additional guidance on the focus areas we think will have the largest impact for reducing carbon emissions during the construction phase of our projects, and also for helping our customers to reduce carbon emissions over the life of their built assets.

Please join me as we lead the way in bringing sustainability and profitability together.



Gregor Craig
President and CEO
Skanska UK



**We
build
for a
better
society.**

Playing our part

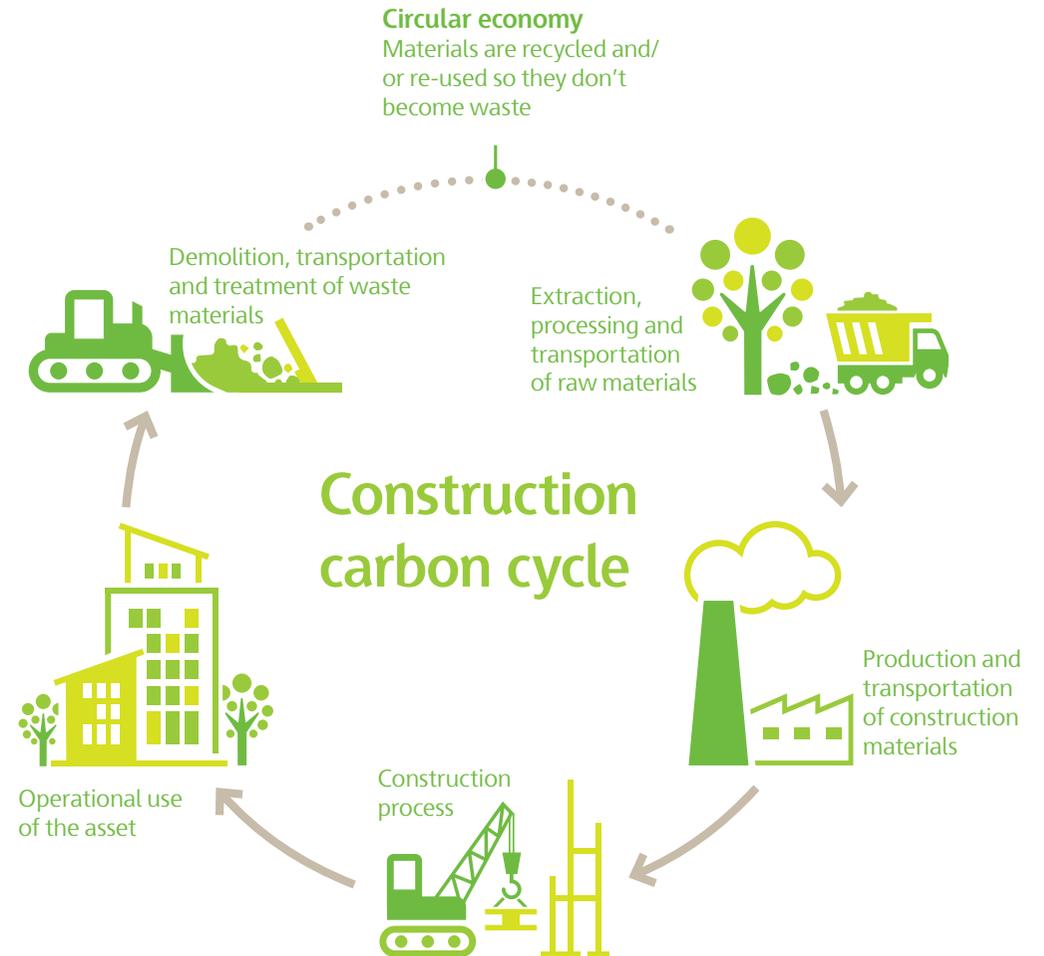
Construction is a high carbon emitting industry, accounting for a considerable proportion of energy use and emissions globally.

Constructing assets such as buildings, roads, railways, tunnels and bridges involves emitting carbon, primarily through electricity use, fuel usage for vehicles and plant, and from the production of materials, such as steel and cement. There are continued emissions throughout operation and maintenance, again from electricity and fuel usage. And finally, there are emissions from customers using the asset, such as electricity plug-load in buildings or fuel emissions from vehicles on a road.

As a leading contractor and developer we can play our part by reducing carbon emissions on our projects, whether we are the developer, construction contractor or maintenance contractor. By reducing carbon emissions we can reduce capital costs and improve efficiency; this is measured in the 'carbon' line of the Color Palette. We can reduce emissions by using fewer or different materials, employing different production techniques, using lower emission transportation, planning fewer journeys and minimising our use of non-renewable grid energy.

We can also support our customers to reduce carbon emissions over the whole life of their assets, particularly where we have design responsibility. We can do this by building energy efficient assets and maximising the use of renewable energy sources; this is measured in the 'energy' line of the Color Palette and can mean lower costs for our customers.

The low carbon roadmap provides guidance for reducing both our own and our customers' carbon emissions, because the successful businesses of tomorrow will make money and improve their environmental impact at the same time.



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Skanska UK low carbon roadmap

Working with
the low carbon
roadmap

Focus area	Establishing	Progressing	Embedding
Measurement and target setting	<ul style="list-style-type: none"> Direct carbon emissions are externally reported and verified using a transparent methodology Whole life carbon reduction targets are incorporated into some projects where we are responsible for design Suppliers are asked for carbon emissions performance data during the procurement process 	<ul style="list-style-type: none"> Short and long-term targets for the reduction of direct carbon emissions are established and communicated All projects set construction phase carbon reduction targets Direct and supply chain carbon emissions are estimated and reported externally using a transparent methodology Whole life carbon reductions from baseline are reported for projects where we are responsible for design Carbon emissions performance data is included in the supplier performance management process 	<ul style="list-style-type: none"> Short and long-term targets for the reduction of direct and supply chain carbon emissions are established and communicated Direct and supply chain carbon emissions are verified by a recognised external body All suppliers report project carbon emissions Whole life carbon reductions from baseline are reported for all projects
Financial and commercial solutions	<ul style="list-style-type: none"> An internal whole life carbon investment fund is available for low carbon solutions with associated whole life cost benefits Project teams understand how the deal commercially impacts the implementation of low carbon solutions The annual investment cost for carbon balancing direct emissions to neutrality is understood 	<ul style="list-style-type: none"> Opportunities for whole life carbon investment are always considered by project teams Business development teams always explore innovative contractual solutions to better share commercial incentivisation of decarbonisation across the value chain External funding for low carbon research, development and innovation is actively sought An externally verified carbon balancing programme is established to offset direct carbon emissions 	<ul style="list-style-type: none"> Financial return from whole life low carbon investment is annually reported Project teams always establish shared low carbon commercial incentives with customers and partners that align the value chain Suppliers are supported to take up low carbon commercial solutions and financing
Estimating and design	<ul style="list-style-type: none"> All estimators have completed life cycle costing and whole life carbon training A central library of carbon and cost data is established, with consistent methods of measurement The carbon capability of estimating software has been reviewed and improvements have been identified The design brief always includes a consideration of the opportunities for carbon reduction All projects produce bid and design phase carbon footprints Designers are always asked to provide design carbon data during tender phase 	<ul style="list-style-type: none"> Opportunities for high impact carbon and cost reduction are identified on every project, and options for addressing carbon hotspots are offered to customers A consistent approach to aligning carbon and cost using the appropriate estimating software has been established There is a process for feeding carbon and cost performance and as-built carbon data back into the central library of carbon and cost data All project designs include construction phase and whole life carbon data Designers are procured demonstrating capability to include construction phase and whole life carbon reductions All projects where we are responsible for design are digitally designed with linked carbon and cost data 	<ul style="list-style-type: none"> All projects where we are responsible for design use digital carbon and cost modelling to deliver construction phase options with lower carbon and cost than the baseline Digital cost and carbon estimating is standard practice on every project A carbon reduction design standard is established and continually reviewed and improved All projects demonstrate optimised whole life carbon and cost performance All projects report on construction phase and whole life variation from baseline
Transportation	<ul style="list-style-type: none"> Policies articulate low or zero carbon emissions aspirations for fleet and transport There is a green travel policy There is a company car policy with a regularly reviewed carbon emissions cap There is a plan for increasing the use of virtual meetings Electric vehicle charging facilities are provided at some workplaces There is an active plan to promote the trial and take-up of innovative low or zero carbon emissions vehicles Project teams always consider lower carbon, lower cost transportation alternatives for project logistics plans 	<ul style="list-style-type: none"> Electric vehicle charging facilities are provided at all workplaces There are policies for virtual meetings and home and mobile working Guidance is provided for incorporating carbon impacts into project logistics plans Project teams collaborate with partners and suppliers to develop the most carbon efficient logistics plans Carbon reductions and cost savings relating to low emission vehicles and virtual working are estimated Options for the increase of low or zero carbon emissions vehicles in the direct company car fleet are regularly considered Suppliers are asked for fleet carbon performance data during the procurement process 	<ul style="list-style-type: none"> The use of virtual meetings is incentivised All direct company cars and vehicles are low or zero carbon emissions There is a plan to support suppliers in taking up low or zero carbon emissions vehicles Suppliers are rewarded during the procurement process for the use of low or zero carbon emissions vehicles Supplier fleet emissions comprises part of supplier performance management
Plant	<ul style="list-style-type: none"> Policies articulate low or zero carbon emissions aspirations for plant Procurement processes always require consideration of low or zero carbon emissions plant There is best practice guidance for procurement and operation of low or zero carbon emissions plant and for low carbon site set-up 	<ul style="list-style-type: none"> There are minimum standards for low or zero carbon emissions plant, including for low carbon site set-up Suppliers are asked for plant carbon performance data during the procurement process All project plant is equipped with emissions related telematics and data is used to provide continuous emissions improvements and cost reductions All investment in owned plant and equipment is based on whole life carbon and cost assessments 	<ul style="list-style-type: none"> Suppliers are rewarded during the procurement process for the use of low or zero carbon emissions plant Supplier plant emissions performance data is reported as part of the supplier performance management process Minimum standards for low or zero carbon emissions plant and site set-up are continually reviewed and improved
Workplaces	<ul style="list-style-type: none"> Energy usage and costs are measured for all offices and asset locations There is an energy management plan for all owned and leased offices Green tariff and renewable energy options are always considered for all offices and asset locations 	<ul style="list-style-type: none"> All owned and leased offices purchase or produce renewable or green energy All cost viable energy retrofit opportunities are implemented at owned and leased asset locations There are minimum energy efficiency standards for all offices and asset locations Smart meters (or equivalent technology) are deployed at all owned and leased offices and energy performance is analysed 	<ul style="list-style-type: none"> All offices and asset locations are powered by renewable energy All offices and asset locations can demonstrate continual improvement for energy use reduction
Materials	<ul style="list-style-type: none"> Policies articulate low or zero carbon emissions materials aspirations The importance of low or zero carbon emissions materials is communicated to all suppliers through the procurement process High impact carbon emissions materials categories are annually identified and communicated Suppliers of high carbon emissions materials categories are requested to share carbon performance data A plan is established to collaborate with industry groups and materials suppliers to identify low or zero carbon emissions alternatives for key materials Best practice and innovative low or zero carbon emissions materials are shared across projects and the supply chain 	<ul style="list-style-type: none"> Procurement processes require materials suppliers to report how they measure and manage carbon emissions Key materials suppliers are always requested to submit costed low carbon alternatives for consideration A strategic plan is established to collaborate with industry to focus on the decarbonisation of key materials There is a minimum standards guide for high carbon emissions materials Suppliers are rewarded during the procurement process for the provision of low or zero carbon emissions materials 	<ul style="list-style-type: none"> A minimum standards guide for high carbon emissions materials is annually reviewed and improved Alternative low or zero carbon emissions materials are always offered to customers Supplier materials carbon performance data is reported as part of the supplier performance management process Annual carbon emissions reductions can be demonstrated in relation to key materials categories
Asset management	<ul style="list-style-type: none"> Project bid teams always offer alternative reduced whole life carbon and enhanced energy efficiency solutions On projects where we are not responsible for maintenance, all carbon performance data and energy usage information (for example, manufacturer's, in-use, commissioning) is shared with customers at handover On projects where we are responsible for maintenance, energy performance data is measured and shared with customers 	<ul style="list-style-type: none"> On projects where we are not responsible for maintenance, customers and/or asset users are offered predictive energy information, energy efficiency consultation and performance gap reduction guidance On projects where we are responsible for maintenance, energy reduction plans are established and measured, demonstrating whole life carbon emissions reductions and cost savings Project bid teams collaborate with customers to provide capital investment with agreed returns for reduced whole life carbon and cost solutions 	<ul style="list-style-type: none"> On projects where we are not responsible for maintenance, customers are offered performance gap consultation as a service Energy retrofit solutions are offered to customers and implemented, where commercially viable Low carbon asset management performance is used as a work winning differentiator

User guide

The low carbon roadmap is a reference tool which provides planning guidance for annual carbon reductions at business unit and operating unit level. It is a matrix representing the eight focus areas of activity where we think improvements will have the largest impact on our ability to reduce carbon emissions as a business, on our projects and for our customers.

The matrix provides a qualitative means to measure progress on the journey to ensuring carbon emissions identification and reduction is embedded everywhere in our business, which is a key part of our commitment to being a low carbon leader.

The columns in the matrix range from 'establishing' through 'progressing' to 'embedding'.

Establishing	Progressing	Embedding
<p>The first objective is to ensure that we are establishing carbon reduction thinking in each focus area. Typically, this might be setting out policy aspirations, communicating about carbon reduction, gathering information or ensuring best practice is consistently applied everywhere.</p>	<p>This describes actionable items that demonstrate increased capability and enhanced standards representing a tangible move towards 'embedding'. Typically, this might be using data to measure reductions and set targets, monitoring the carbon emissions performance of our supply chain, better understanding commercial solutions and low carbon investment, and improving our minimum standards.</p>	<p>This represents the inclusion of low carbon leadership at every level of business activity; from target setting and commercial understanding, through to estimating and design capability, supply chain management and customer support.</p>

The listed items in each column are not exhaustive and there is no mandatory order in which they need to be addressed.

The low carbon roadmap should be reviewed annually at business unit and operating unit level to determine the current position on the matrix, identify the best opportunities for continual improvement and to establish three to five objectives, approved by leadership teams, which should be captured on the annual plan template shown overleaf.

Low carbon roadmap: annual plan template

Operating unit:	
Date approved by leadership team:	
Year:	

Serial	Objective (SMART*)	Roadmap focus area	Owner	Description	Expected impact on carbon emissions	Expected commercial implications	Delivery status

Please contact a member of the Environment team for copies of this template.

* SMART = specific, measureable, achievable, relevant and timely

The Skanska Color Palette

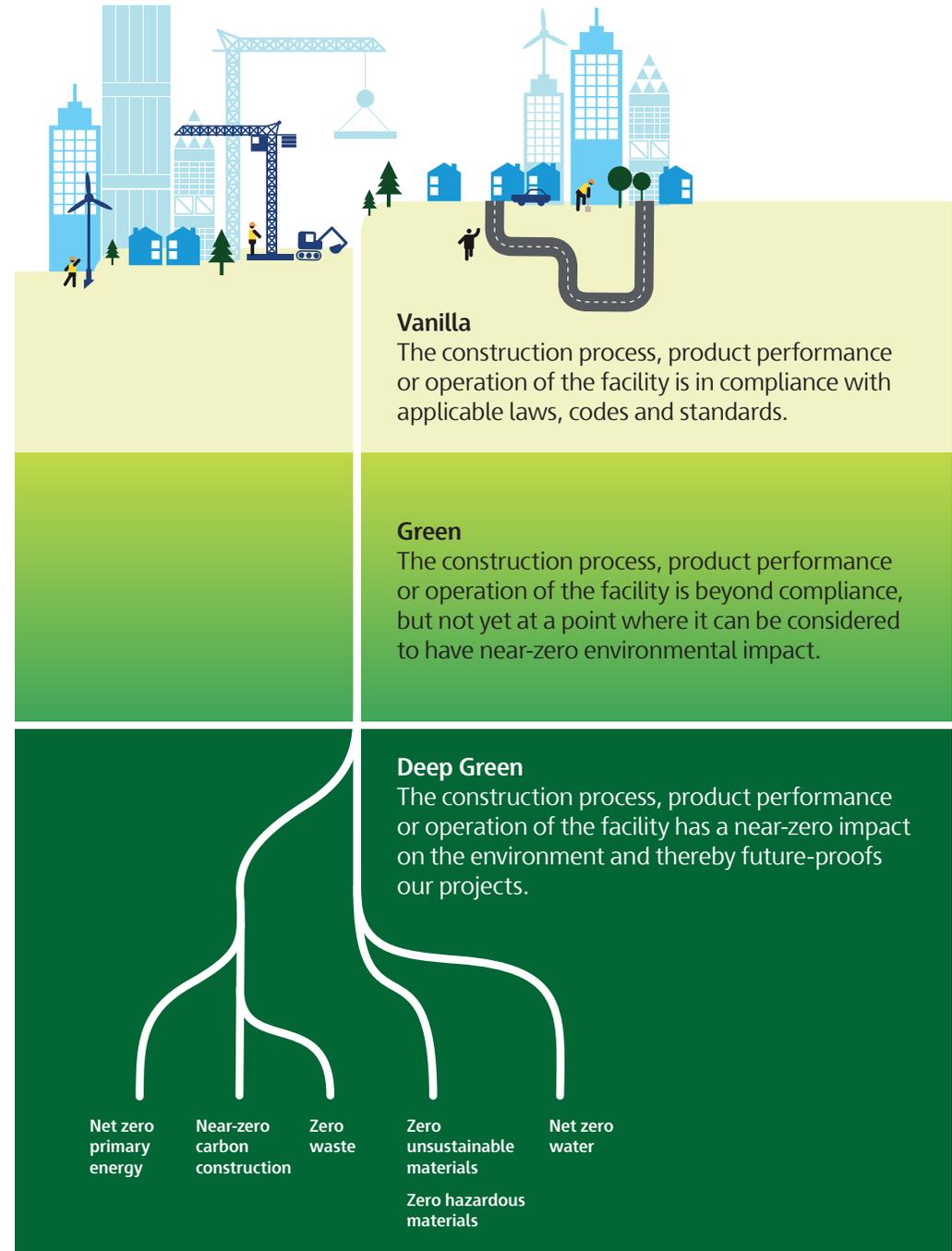
We categorise our projects using the Skanska Color Palette, developed to measure and guide green performance. The range from vanilla to green to Deep Green reflects the stages between legal compliance and near-zero, or even positive, environmental impact.

A Deep Green project is one that achieves zero environmental impact on at least three of the six core areas, covering energy, carbon, materials and water.

They are:

- net zero primary energy
- near-zero carbon construction
- zero waste
- zero unsustainable materials
- zero hazardous materials
- net zero water for buildings and zero potable water for civil and infrastructure construction

The low carbon roadmap is part of our Journey to Deep Green and will help drive us towards near-zero carbon construction.



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