

Reducing embodied carbon in infrastructure projects

Perspectives on Norwegian transport entities' policies

DRAFT REPORT



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Bellona in brief

The environmental organization Bellona is an independent non-profit foundation with the aim of solving climate and environmental problems. Since 1986, Bellona has been engaged in the most important environmental issues nationally and internationally and are renowned for its understanding of technology and solution-oriented approach. Today, approx. 100 engineers, biologists, economists, lawyers, political scientists and journalists work at our offices in Oslo, Brussels, Berlin and Vilnius, and we have representatives in several EU countries and in the US. Our webpage is in [Norwegian](#), [English](#), [German](#) and [Russian](#).

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Contents

Preface	4
1 Introduction	5
2 Norwegian public procurement policy	6
2.1 Norwegian climate targets	6
2.2 Public procurement and emissions	7
2.3 Recent policy developments	8
3 Emissions policies in Norwegian transport entities	10
3.1 Current overall government priority: Direct emissions	10
3.2 Norwegian Public Roads Administration	11
3.3 Nye Veier AS	12
3.4 Bane NOR SF	13
3.5 Status on indirect emissions reductions	15
4 Options for strengthened policies on indirect emissions	17
5 Reducing emissions from infrastructure projects	18
5.1 Public procurement as a driving force	18
5.2 Recommendations	20
References	21

Preface

Industrial emissions were at the core of the Bellona Foundation's work almost 40 years ago, and remain so today. Decarbonising industry is a vital part of transforming our society, as we are dependent on it for the main building blocks – cement, steel, and chemicals. Ensuring a thriving, zero-emission industry in Europe is part of strengthening competitiveness, resilience, and the fabric of our society.

This report is developed as part of a project on embodied carbon in road and rail infrastructure, supported graciously by the European Climate Foundation.

Throughout 2025, we have been in touch with people across the transport and construction sector, who have contributed time and insight to our work. We wish to thank everyone for their vital contributions in support of our work.

1 Introduction

The construction sector is at the heart of any comprehensive climate-neutrality agenda, yet much of its environmental footprint remains “hidden” deep within the materials we build with. The term “embodied carbon” refers to the greenhouse gas (GHG) emissions generated over the full life cycle of a construction material: from the extraction of raw materials, through manufacturing, transport, installation, maintenance, and ultimately disposal or recycling [Bellona, 2023]. While operational emissions (e.g., heating, cooling, energy use during use) have long been the focus of climate policies, embodied carbon increasingly dominates the carbon budget of new construction, especially due to the use of carbon-intensive materials such as cement and steel.

In this context, public procurement emerges as a pivotal lever to reduce embodied carbon emissions, while enhancing industrial competitiveness and helping the case for decarbonisation. Since public authorities are major buyers of construction materials, often commissioning large building and infrastructure projects, their procurement choices can meaningfully shape market demand. By including environmental criteria in procurement processes, governments can steer investment toward low-carbon options, creating “lead markets” that reward sustainable production and accelerate decarbonisation [Bellona, 2024].

Within the European Union’s (EU) policy environment, this opportunity is especially significant. As shown in a Bellona report on green public procurement, cement and steel production account for roughly 10% of the EU’s total emissions. Given that public procurement represents approximately 14% of the EU’s GDP (of which around 1.4% goes to construction), the public sector’s purchasing power has the potential to shift a substantial share of demand toward low-carbon materials [Bellona, 2024].

However, unlocking this potential requires a shared understanding of what “low-carbon” actually means in the context of construction materials. The foundational report “Embodied Carbon Terms of Reference Report – Establishing a common framework of understanding for low-carbon construction materials in Europe”, developed by Bellona and supported by the European Climate Foundation, set to fill this gap by clarifying the need for definitions, measurement methods, and political-technical implications, particularly for cement and steel, two of the most carbon-intensive materials in construction.

At the same time, the decarbonisation pathway of sectors like cement remains challenging. According to Bellona’s “Net-Zero Pathways for European Cement”, cement remains a cornerstone of buildings and infrastructure across Europe. However, current production methods contribute a significant share of the EU’s CO₂ emissions, and achieving climate neutrality by 2050 will require structural reforms in production processes, material composition, and demand patterns.

Against this backdrop, there is a compelling case for integrating embodied-carbon criteria into public procurement across the EU. Doing so could not only deliver immediate emissions reductions but also signal long-term demand for low-carbon materials — helping to decarbonise heavy-industry sectors and align construction practices with the EU’s broader climate and sustainability goals. This is also true for Norway, as it seeks to decarbonise its transport infrastructure at scale.

2 Norwegian public procurement policy

2.1 Norwegian climate targets

Norway’s climate targets are established under its Climate Change Act and its commitments to the Paris Agreement, and they set legally binding national goals for reducing greenhouse gas emissions relative to 1990 levels. Under current legislation, Norway aims to reduce its emissions by at least 55 percent by 2030 and has updated its ambitions to target a 70–75 percent reduction by 2035; these targets are communicated internationally as Nationally Determined Contributions under the Paris framework. In the longer term, Norway has set a statutory objective of becoming a low-emission society by 2050, implying emission reductions in the range of 90–95 percent compared with 1990 levels [Lovdata, 2025].

Norway’s national targets are closely linked to the European Union’s climate policy framework through its participation in both the EU Emissions Trading System (ETS) and the Effort Sharing Regulation (ESR), despite Norway not being an EU Member State. Emissions from sectors covered by the ETS, such as power generation, petroleum activities and large industry, are regulated through a common European cap-and-trade system, meaning reductions in these sectors are achieved at EU/EEA level rather than through a national cap. Emissions from non-ETS sectors, including transport, buildings, agriculture and waste, fall under the ESR, which assigns Norway binding national reduction obligations aligned with EU climate targets. The ETS and ESR are the main components through which Norway fulfils its national climate targets in coordination with the EU.

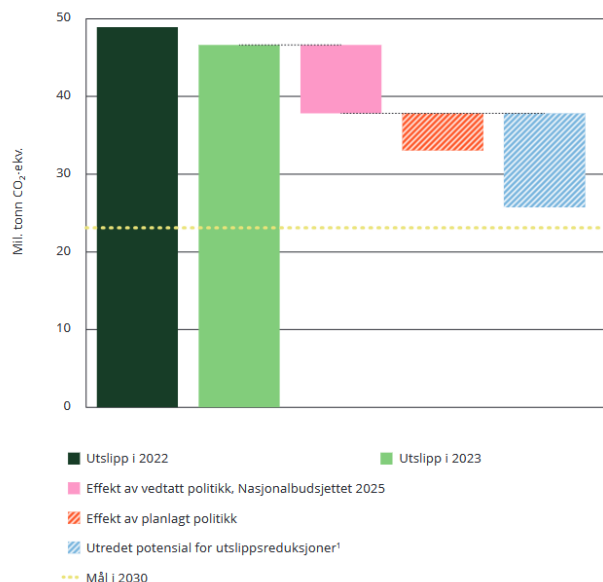


Figure 1: Expected emissions reductions and explored potential reductions for 2030. Source: Regjeringen (2024).

However, the report “Regjeringens klimastatus og -plan”, published as an attachment to the Norwegian 2025 State Budget, revealed that current policies do not meet the 2030 target [Regjeringen, 2024]. The figure below shows a gap between effects of planned policies (orange bar) and the 2030 target (yellow

dotted line), estimated at ca. 10 million tonnes CO₂e. Even including the potential policies explored (light blue bar) for 2030 does not bring policy in line with targets. The 2026 State Budget did not include a similar figure. The budget documents do however state that the 2030 gap has widened, due to reduced impact of certain policies (such as methane inhibitors in agriculture) and slower increases in use of certain measures (such as biofuels).

2.2 Public procurement and emissions

Norway procured goods and services in 2024 for 835 billion NOK annually, or 70-75 billion EUR [DFØ, 2025]. This accounts for ca. 16% of Norwegian GDP¹, which is similar to EU procurement at 14% of EU GDP. The climate impact of these procurements is estimated at 10,3 million tons of CO₂e, based on 2021 data [Menon Economics, 2023].

Emissions from procurement compares to ca. 23% of Norway’s direct emissions. This number is likely to have increased since 2021, as public procurement-related costs have increased vastly (see figure). Inflation and general cost increases likely caused part of this increase, but part is likely also linked to increased activity and thereby emissions. Scaling emissions with 50% of the increase in procurement cost from 2021, results in a total of 11,8 million tons of CO₂e for 2024, or 26% relative to total emissions in Norway².

In any case, emissions related to Norwegian public procurement are sizeable and likely comparable to a quarter of total emissions in Norway.

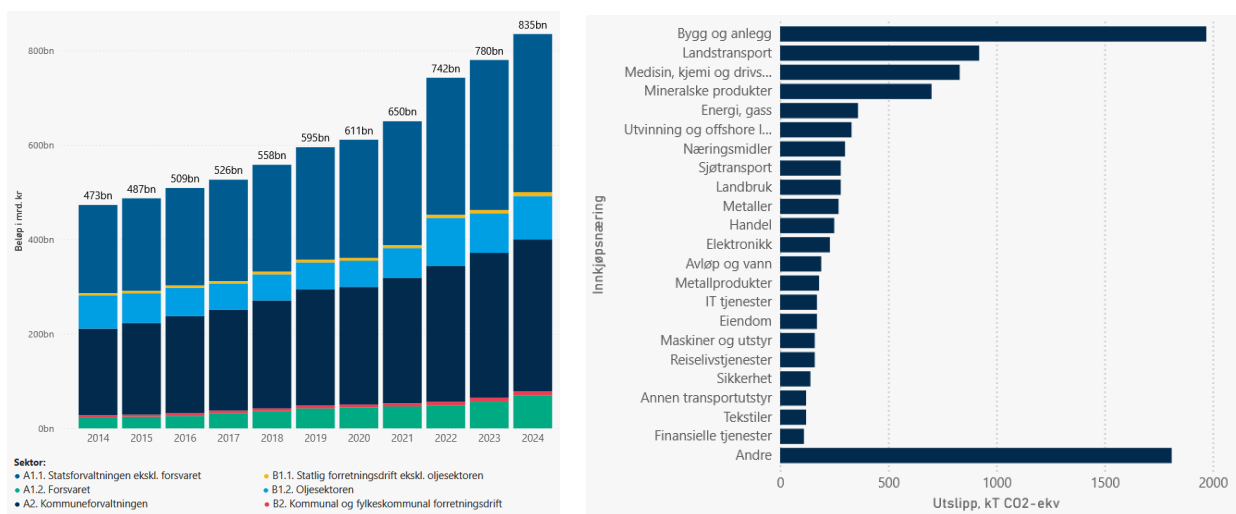


Figure 2: Increase in expenditure on public procurement 2014-2024 (left), and emissions allocated by sector (right). Source: DFØ (2025), Menon Economics (2023).

The Menon Economics report also estimates emissions from procurement by sector. The largest sector by far is construction, with total emissions close to 2 million tons of CO₂e. Land transport is a distant second at less than 1 million tons of CO₂e. The dominance of the construction sector is not similarly reflected in

¹ Norwegian 2024 GDP ca. 5172 billion NOK, according to National Budget for 2025 [Regjeringen, 2024,2].

² Calculation based on public procurement for 650 bn NOK in 2021 [DFØ, 2025]].

financial value of procurements by central, regional, or local governments³, and therefore points to more emissions-intensive products as a key driving factor of the difference between sectors.

Further, the report notes that “only 20 percent of emissions occur in production of the actual goods or services procured. The other 80 percent occur farther up the value chain”. Although this wording is slightly ambiguous in use of the word “production”, the report clearly refers to 20 percent of emissions occurring as a direct result of the procurement, such as emissions from construction machinery used at a site. The report notes that emissions occurring farther away from the procurement will be increasingly complex to address through requirements on suppliers.

With construction as the biggest sector by far, and 80 percent of emissions farther up the value chain, the report from Menon Economics (2023) points to indirect emissions as a key factor for emissions reductions in Norwegian public procurement.

Against this backdrop, the availability of a common and recognised methodology for calculating indirect emissions is particularly important. In Norway, NS 3720 provides a standardised method for whole-life greenhouse-gas calculations for buildings, covering emissions from materials, construction, maintenance, and replacement over the building life cycle [Standard Norge, 2018]. While NS 3720 is formally a voluntary standard, it is referenced by the Directorate for Building Quality (DiBK) as the methodological basis for climate accounting under the technical building regulations (TEK17 § 17-1), and is widely used by industry actors to document embodied emissions in construction projects.

In the context of public procurement, NS 3720 is therefore not a procurement requirement in itself, but it already functions as a de facto reference methodology where contracting authorities choose to include embodied-carbon considerations in tenders. Guidance and proposed procurement criteria increasingly refer to NS 3720 when requesting climate accounts or comparing bids on emissions performance. This makes the standard a practical tool for addressing the large share of procurement-related emissions that occur upstream in the value chain, and positions it as a useful foundation for more systematic integration of embodied-carbon criteria in Norwegian public procurement going forward.

2.3 Recent policy developments

The current Law on Public Procurement came into force 01.01.2017. It introduced a 30% weighting factor for climate and environmental considerations in all public procurement but limited it to cases where such considerations were “relevant”, which reduced the effectiveness of the policy. In 2024, a new requirement mandated the use of a 30% weighting factor, dispensing with the consideration of relevance.

The 30% weighting factor is no fix-all. A common criticism towards this approach is that it can drive marginal improvement but not radical transformation. As an example, it may support reduced use of standard materials but not the substitution for zero-emission materials. It may award a contractor that

³ Comparison made with “Statsforvaltningens innkjøpsvolum” and “Kommunene and fylkeskommunenes innkjøpsvolum” [DFØ, 2025].

uses electric vehicles to and from a construction site but have little or no effect on the vast majority of emissions related to materials use.

The 2024 policy therefore also includes an exception provision, where other requirements on climate and environment can replace the weighting factor if it increases impact. This must be justified in the procurement documents. Also, exceptions will be made if the procurement, by its nature, has a climate footprint and an environmental impact that is insignificant.

This policy change results from an investigation by the National Audit Office in 2022, which brought strong criticism of Norwegian policy to increase green public procurement [Riksrevisjonen, 2022]. The investigation concluded that:

- The government has not done enough to ensure that public procurement actually becomes greener,
- it takes time to develop good data and statistics, but the need has been well-known for many years and still not been addressed,
- many procurers lack a holistic approach, systems, and processes to ensure that climate targets on procurement are met, and
- interdepartmental coordination is not good enough.

The investigation also spawned a governmental commission, Anskaffelsesutvalget, established in 2022 to develop the basis for a new law on public procurement. The commission concluded, among other things, that:

- Public contracting authorities must (...) accept certain additional costs. Additional cost must be in reasonable proportion to benefits for society.
- Main barriers to increased green public procurement are lack of time, resources and expertise among contracting authorities. Strengthening requirements will require more expertise and increase complexity.
- Standardized minimum requirements will require less capacity and expertise from the individual contracting authority and can also make the market more predictable for suppliers. They can also contribute to the public sector becoming a more significant customer in the market, which may result in more suppliers adapting their product range in line with the need for green transition.
- Norway should follow developments in the EU and ensure rapid implementation and enforcement of the standardized minimum requirements that will be developed in the coming years. In less mature markets, weighting criteria or a combination of minimum requirements and weighting may be better suited. Provisions in the procurement regulations must therefore have sufficient flexibility.
- It is a continuing challenge that long-term operating costs and other life-cycle costs are not taken into account to a greater extent in public procurement. [Regjeringen, 2023]

A proposal for the new law on public procurement is completed by the Ministry of Trade, and sent to Parliament. At the time of writing, it is still unclear when the law will be debated, and come into force.

3 Emissions policies in Norwegian transport entities

The three entities involved in road and rail infrastructure in Norway are the Norwegian Public Roads Administration (NRPA, NO: Statens Vegvesen), Nye Veier, and Bane NOR. All entities are owned by or organized under the Ministry of Transport, and receive policy direction from this Ministry.

3.1 Current overall government priority: Direct emissions

The Norwegian Ministry of Transport, in their policy direction for its transport entities, prioritises reductions of direct emissions. Supporting Oslo municipality's leading efforts for many years, the government is focusing decarbonisation efforts on the use of electrified heavy machinery. These direct emissions are relatively simple to target and have a clear benefit in terms of local emissions.

The main reason for the government focus on direct emissions is, however, that reductions in direct emissions count directly toward Norwegian climate targets, while indirect emissions generally do not.

The emissions from public procurement, described in section 2.2, are mainly scope 3 emissions for Norwegian procuring entities. They are most often not directly linked to the product or service procured, and, "increasingly complex to address with requirements on suppliers" [Menon Economics, 2023]. Efforts in reducing these emissions will mainly provide reductions in industry emissions in the pan-European Emissions Trading System, supporting the overall target for reductions, and will then not count towards the Norway-specific climate target under ESR, which Norway is legally bound to fulfill.

The annual mission letter (NO: "oppdragsbrev") from the government to Bane NOR clearly exemplifies this. In the letter the government states that Bane NOR shall contribute to reaching Norway's climate targets "in particular related to the Effort Sharing Regulation". Here, the Ministry states that reducing emissions that are covered by ETS "do not contribute to realizing Norwegian obligations towards the EU and the UN", and that there "may therefore be a risk that such measures increase costs without reducing total emissions" [Samferdselsdepartementet, 2024].

Due to different organizational structures, the different transport entities are subject to different regulation. Nye Veier and Bane NOR are owned by the state (rather than part of it), and therefore also subject to overall instructions set out by the government on what it expects from its state-owned enterprises. These instructions are provided in the White paper on ownership policy (NO: "Eierskapsmeldingen", see also Box 2 below). In the white paper, the government expects that the "company reports on direct and indirect greenhouse gas emissions and climate risk, and uses recognised standards for reporting greenhouse gas emissions and climate risk." [Nærings- og fiskeridepartementet, 2022]. This statement increases the scope beyond the priority set out by the Ministry.

Finally, an argument that is less openly stated but which Bellona perceives as underlying many conversations, is that the government should not necessarily prioritise to pay more for low-carbon materials, when it has, in some cases, already invested large funds in the decarbonisation of the production of the same material. This issue is discussed in section 5.1.

3.2 Norwegian Public Roads Administration

NRPA in brief

The Norwegian Public Roads Administration (NRPA) is a government agency (NO: “etat”) organized under the Ministry of Transport, holding overarching responsibility for Norway’s national and European road networks, as well as for the regulation of road users and vehicles. As the principal authority in the country’s road transport sector, it oversees infrastructure that carries approximately two-thirds of all national traffic. NRPA is charged with the planning, construction, operation, and maintenance of this portion of the road network, ensuring its safety, efficiency, and long-term functionality. In addition, the agency plays a key role also in standardization and regulation, and in national transport preparedness.

NRPA is led by a senior civil servant, a “Roads Director” (NO: “vegdirektør”), and receives direct steer from the ministry annually.

In the annual grant letter (NO: “tildelingsbrev”), in the section “Contribute to fulfillment of Norway’s targets on climate and environment”, the administration is given as one of four key parameters “GHG emissions from the agency’s construction work, ferries, operations, and maintenance”. No further parameters are given specifically on emissions reductions.

In the subsection “Other guidelines”, the ministry asks NRPA to be “informed” on expected emissions developments and drivers, socioeconomic costs for different climate action measures, and “technology, costs, barriers, and opportunities for implementation of climate technology in the sector” [Samferdelsdepartementet, 2024,2].

Targets and policies

NRPA has committed to meeting climate targets in their operations. The following targets are listed as priorities:

1. 55 percent reduction in greenhouse gas emissions from road transport by 2030.
2. 55 percent reduction in greenhouse gas emissions associated with the construction, operation, and maintenance of the road network by 2030.
3. 55 percent reduction in greenhouse gas emissions from internal operations by 2030.
4. Increased resilience of the national road network through comprehensive climate adaptation measures.

To point 2, NRPA adds a specific comment on materials and masses, saying that the target “encompasses emissions arising from material production and transport, ferry operations, mass transport, construction and maintenance machinery, and land-use changes”. Furthermore, NRPA commits to “select materials and products with low greenhouse gas emissions to help reduce emissions from the construction, operation, and maintenance of the road network and ferry operations” [Statens Vegvesen, 2025].

As an attempt to address the issue, NRPA is developing an action plan on indirect emissions. The plan, described as containing a list of possible internal and external measures and actions, is drafted and currently on consultation in the organization. It will form the basis for dialogue with the Ministry on how to approach the issue of indirect emissions.

NRPA will also be identifying opportunities on indirect emissions project-by-project. Certain projects, e.g., where the potential for reductions of direct emissions is low, are candidates for implementation of other measures.

More generally, NRPA is subject to the law on public procurement, described above, and the 30% weighting. However, NRPA has publicly stated⁴ that instead of using the 30% weighting of environmental factors, it actively uses the regulation's exception provision to set more specific targets on emissions reductions. This means that NRPA will set targets for each project such that these targets, taken together, shall provide an overall better outcome than an overall weighting requirement.

3.3 Nye Veier AS

Nye Veier in brief

Nye Veier AS (literal translation: New Roads) is a limited liability company (NO: "aksjeselskap, AS) wholly owned by the Norwegian government, and tasked with development, construction, and maintenance of selected major highways in Norway. Although government-owned, with the Minister of Transport as the company's AGM, Nye Veier has a different role than NRPA. Nye Veier is a vastly smaller organization, originally established with a mandate on major highways, and has in later years also taken on smaller road projects and a railway project.

The company was established on 04.05.2016 by the Solberg government, with the goal of building highways quicker at a total lower cost. They explicitly prioritize road projects on a socioeconomic basis, choosing projects that have the highest such benefit. Nye Veier has a framework agreement with the Ministry of Transport, securing funding for construction and maintenance of roads, as well as project development. Funding from toll roads contribute to the financing of the company's portfolio. Annual investments total ca. 10 billion NOK.

Targets and policies

Nye Veier has committed to the following climate targets:

1. 50 percent reduction in GHG emissions from construction by 2030, relative to 2005.
2. 75 percent reduction in GHG emissions from operations by 2030, relative to 2005 [Nye Veier, 2025].

⁴ At events on public procurement, e.g., at Arendalsuka 2025.

Nye Veier's main approach is to create a "Nye Veier GHG budget" as baseline for all projects which includes both direct and indirect emissions. Emissions reductions measures for both categories are therefore relevant. These calculations become part of the tender documents and basis for competition.

Several further measures are generally used to influence indirect emissions. Nye Veier sets a "hard minimum" requirement for emissions reductions in percentages, based on their GHG calculations. The exact percentage varies between projects and shall generally increase over time, according to Nye Veier. Beyond that, award criteria on emissions reductions are used to distinguish suppliers and contractors. In certain contracts, Nye Veier has also included an "innovation fund", from which contractors can apply for funds to implement additional climate mitigation measures. This has not been used widely but considered as a potential measure to stimulate innovation also after the awarding of contracts.

Unlike NRPA, Nye Veier does not use the exception provision. As a result of the 2024 regulatory change mandating the 30% weighting, internal discussions concluded on continuing the developer GHG budgeting, minimum requirements, and award criteria.

3.4 Bane NOR SF

Bane NOR in brief

Bane NOR SF is a wholly state-owned enterprise (NO: "statsforetak", SF) responsible for Norway's railway infrastructure, including operation, maintenance, and development of the railway network. The infrastructure portfolio comprises approximately 4200 km of tracks, 335 stations and stops, and more than 4300 properties. Their annual procurements amount to 20 billion NOK, making Bane NOR one of the largest procurement authorities in Norway. The enterprise is owned by the Ministry of Transport.

Bane NOR was established 1 January 2017 as part of the liberalization of the Norwegian railway system, where the former Norges Statsbaner (NSB) was broken up into many different companies and enterprises as a way of introducing competition and lowering cost.

Targets and policies

Bane NOR has committed to the following climate targets:

1. 50 percent reduction in GHG emissions from construction by 2030 [Bane NOR, 2025].

In its annual climate reporting for 2024, Bane NOR states that their activities cause emissions of ca. 1 040 000 tons CO₂e. More than 99% of emissions occur in the value chain, as indirect emissions [Bane NOR, 2024]. Still, Bane NOR does not have any publicly available commitments or targets linked to indirect emissions or materials consumption.

Box 1: Project “Sustainable value chain and materials use in road construction”

Nye Veier leads the research and innovation initiative “Bærekraftig verdikjede og materialbruk i vegbygging” supported by the Grønn Plattform funding scheme, which aims to enable Nye Veier to meet its commitments of 50 percent emissions reductions in construction by 2030 [Via Cluster, 2025]. The project, running originally from 2023 to 2025 and extended into 2026, plans to develop new sustainable technologies and expertise with strong export potential, while significantly reducing construction-related emissions. It brings together seventeen partners representing the entire value chain, including infrastructure owners, contractors, industrial actors, and research institutions.



Figure 3: Low carbon material Silica Green Stone, made from waste from Eramet smelter plants, used in construction of the new E39 in Lyngdal. Photo credit: Nye Veier.

The project is organized around emission-reduction strategies, sustainable materials for road bodies, tunnel solutions, roadside structural elements, and the development of an innovation system designed to guide new Norwegian green technologies from research to market. This system—referred to as “the European road”—seeks to remove barriers between disciplines and technology domains, ensuring that promising solutions can be introduced and scaled more effectively.

Materials and methods are being tested and verified in pilots. These include the use of industrial by-products, secondary raw materials, and recycled resources in applications such as asphalt mixes, tunnel concrete, and concrete elements for roadside structures. The project aimed to validate at least 10 new solutions – the current estimate for the project period is 17 new solutions [Nye Veier, 2025,2].

In its annual mission letter from the Ministry of Transport states that “Bane NOR SF shall in 2025 contribute to the fulfillment of Norway’s targets on climate and environment”, with reference to the government’s annual White paper on climate [Samferdselsdepartementet, 2024]. The targets are “in particular related to the Effort Sharing Regulation” (ESR), specifying “reduced emissions as a result of traffic transferred from road to rail (...) as well as reduced direct emissions from the development and operation of the railway infrastructure”. However, in their assessment of climate risk, Bane NOR shall also “assess emissions throughout the value chain”, including emissions covered by the Emissions Trading System (ETS), outside ESR. This is further echoed in the government White paper on ownership policy.

Bane NOR currently focuses mainly on reducing own emissions. Recently, a new 2026 target has been set at 6% emissions reductions in own operations. A similar annual target has not previously been used. In their tertiary reporting for 2025, Bane NOR states that the project “Klimabanen” will define updated climate targets and measures for Bane NOR, increasing the trajectory towards 2030, with first version of the plan expected by “T3 of 2025 or T1 2026” [Bane NOR, 2025,2].

In December 2025, Bane NOR announced a procurement agreement for up to 3 million railway sleepers over the next 8 years, using near-zero emission cement in its production [Bane NOR, 2025,3]. This represents a big step forward, going beyond the testing of low-emission materials in smaller contracts for specific purposes, e.g., in sprayed concrete for rock or frost protection.

3.5 Status on indirect emissions reductions

The Norwegian Public Roads Administration, Nye Veier, and Bane NOR are all keenly aware of the issue of indirect emissions – and that these emissions, in most projects, dwarf the direct emissions from their operations. Development projects are ongoing internally in all three transport entities, either to develop targets, policies, or cost-effective solutions relating to indirect emissions.

The transport entities do, however, have few measures in place to effectively address indirect emissions. Actions on reducing indirect emissions in current projects, and the existence of internal targets and policies to support such actions, are generally much less mature than on direct emissions, or missing.

Political direction means direct emissions take priority. The entities receive steering signals from the government, the range of which varies with their organizational structure. 2 out of 3 entities are also subject to overall Norwegian ownership policy in addition to direct steer from the Ministry of Transport. The different governing policies are not always aligned: while one government policy signals focus, another asks for a broad view on emissions. Such conflicting signals show a lack of coherence, create uncertainty, and reduce effectiveness.

The annual letters from the Ministry provide the strongest signals. They are fundamental for the entities’ operations and the key drivers for internal policy. As such, any fundamental change in the priority of direct versus indirect emissions must be reflected in the letter. As the government currently maintains that indirect emissions reductions “do not contribute to realizing Norwegian obligations towards the EU and the UN” and that action on indirect emissions may “increase costs without reducing total emissions”, such a change seems a way off.

Box 2: Governance of the transport entities

Although similarities exist, there are major differences between the entities in structure, operations, and steering signals from the government. This impacts how the entities approach indirect emissions and which climate action measures they prioritize.

To give one key example, these three entities are very different in terms of ownership and organization. They are, respectively, a government agency (NRPA), a state-owned limited liability company (Nye Veier), and a state enterprise (Bane NOR). This difference in organization impacts many aspects of their operations.

- NRPA as a government agency receives very detailed steering from the Ministry of Transport. It receives an official annual grant letter after the approval of the State Budget for the following year, which includes among other operational targets, budgetary authorizations, and reporting requirements. The grant letter can be supplemented by additional letters throughout the year. NRPA received 26 such supplementary letters in 2025 [Regjeringen, 2024,3].
- Nye Veier as a wholly-owned LLC does not receive an annual grant letter. Instead, the company has a four-year framework agreement with the government, and an annual grant of 10 billion NOK. Similar to a regular LLC, Nye Veier has a Board, and the Minister of Transport makes up the company's AGM.
- Bane NOR is a state enterprise, and may be seen as a hybrid between a government agency and a company operating on market terms. It is subject to detailed steering, similar to NRPA, in an annual mission letter, setting targets and providing budgets. Bane NOR received no supplementary letters in 2025. Also, similar to an LLC such as Nye Veier, Bane NOR has its own Board.

Furthermore, in addition to the Board, its operations are tracked closely by its owner the Ministry of Transport, and the Railway Directorate. Former Bane NOR CEO Thor Gjermund Eriksen pointed to corporate governance as the main issue for leaving his job as recently as October 2025. He pointed out that he was having "ten times as many meetings with the Ministry and the Directorate" than his own Board, and the difficulty in three separate reporting lines on the same projects. Eriksen characterized the governance as "disastrous", and "complex, unclear, and random" [VG, 2025].

How governance by the state should be carried out is a heavily debated topic. It suffices here to point out that these entities are organized and governed differently, which in turn affects their degrees of freedom and opportunities to prioritize, also on climate action. The following sections will provide more detail on the entities and their targets and policies.

4 Options for strengthened policies on indirect emissions

A range of options exist for policy on reducing embodied carbon in construction projects. Neighbouring countries, such as Denmark, or its largest trading partner, the European Union, have introduced comprehensive policies to reduce emissions from construction, including indirect emissions from materials.

The following options are highly relevant in the Norwegian context and could contribute to a change of pace in emissions reductions:

1. Make whole-life carbon assessment a standard requirement in public procurement

Public construction and infrastructure projects should require a whole-life greenhouse-gas assessment as a basic condition for participation in tenders. Using established methodologies such as NS 3720, and aligned with EN 15978, this requirement should apply across major road, rail, and building projects, covering at least the main material and construction phases. Extending this approach beyond the building sector would bring greater consistency across public construction and reflect existing Norwegian regulatory practice.

Beyond its direct climate benefits, mandatory reporting would improve transparency and comparability between bids. Over time, it would also provide a solid evidence base for policymakers and contracting authorities, making it easier to identify best performers and to introduce more ambitious requirements in a predictable and well-informed way.

2. Introduce declining embodied-carbon benchmarks across project portfolios

Public authorities should set embodied-carbon reduction targets across their overall project portfolios. These benchmarks could be designed to tighten gradually over successive planning periods, such as each National Transport Plan cycle, while allowing flexibility at individual project level.

This approach is particularly well suited to large infrastructure programmes, where project conditions vary significantly. Portfolio-level benchmarks maintain overall ambition while avoiding overly rigid requirements for complex projects. At the same time, they send a clearer long-term signal to suppliers and material producers, supporting investment in low-carbon solutions.

3. Set CO₂ thresholds for key materials

Bellona recommends introducing maximum Global Warming Potential (GWP) values for materials such as cement, concrete, asphalt, and steel. This may be documented by Environmental Product Declarations (EPDs) and implemented on two different levels:

1. Sector specific regulations: CO₂ thresholds may be introduced for all infrastructure projects through relevant regulations, such as the NRPA handbooks for roads and the Bane NOR technical regulations for rail (TRV).

2. Project specific tenders: CO₂ thresholds for individual projects may be introduced through project specific public tenders, e.g. as specified requirements (NO: Kravspesifikasjon).

Introducing thresholds on specific materials creates standardized requirements and strong markets signals, in line with the proposals by the National Audit Office. This may be possible for many highly CO₂-intensive materials. The challenge of general requirements is to develop thresholds that are realistic for all projects, which may water down ambition and reduce the potential for major improvements. Project specific requirements can also directly influence suppliers, but does not give as strong a market signal and will be more work intensive. They can, however, adapt more effectively to projects and local conditions.

4. Adopt wider use of award criteria based on CO₂ performance

Embodied carbon should be used more generally as a scoring criterion in bid evaluation, beyond specific projects. Example approaches are:

1. Awarding project CO₂ performance: Attributing an additional cost per ton of CO₂ that exceeds the lowest bid on embodied carbon.
2. Awarding bonuses for specific measures: CO₂ performance may be incentivized by awarding bonuses for bids that use specified solutions, e.g., low-carbon concrete or steel.

Award criteria are part of the general approach to procurement. Specifying criteria on embodied carbon more generally can encourage innovation and competition on materials, and single out the top performers without setting too high of a bar for the entire market. It does however require robust methodology, and close monitoring and follow-up.

5. Establish circularity requirements

Increased reuse of masses and recycled content can provide large benefits for climate and environment in infrastructure projects. Increased circularity can reduce emissions and impact on nature, and support secondary material markets. For this to happen, more flexibility would need to be introduced in the current handbooks and guidelines.

Bellona would support a mandate for reuse of materials in road and rail projects to reduce demand for virgin resources and embodied carbon, based on an overview of the large materials streams in Norway and how they could be reused. A minimum requirement for recycled content in asphalt mixes and concrete aggregates should also be considered.

5 Reducing emissions from infrastructure projects

5.1 Public procurement as a driving force

Section 2 showed that Norwegian public procurement increases rapidly in size, and associated emissions compare to about a quarter of Norwegian total emissions. The vast majority of these emissions are

produced early in the value chain, not directly linked to the procurement itself. In terms of emissions, the construction sector is the single largest sector, with materials use as a main driver.

Public procurement is a uniquely suited tool to drive change in the major industrial processes that make up materials production, and with this, drive vast emissions reductions. The public sector has an unparalleled purchasing power that can single-handedly make investments in decarbonisation viable for an industry. Through the use of standard minimum requirements to lift the floor, award criteria to single out top performers, and other guidelines in public policy, public procurement can create markets, basically overnight, for decarbonized products.

The Norwegian government maintains that these emissions are to a large degree covered by ETS, which is true. However, ETS has never, and will never, be a strong enough tool alone to drive large-scale industrial transformation with investments of billions of NOK. Pointing to ETS only in reality means waiving responsibility for the emissions associated with the materials we as a society use. But Norway, with its investment in the Longship CCS project, has clearly acknowledged that ETS is not enough; transforming production will need direct support.

In the same vein, transforming demand will also need support. First movers and lead markets are vital in creating demand for new low-emission products. Establishing such products and practices that serve the ambitions of society should be integral to public procurement processes. Instead, the ETS is used as a reason not to actively seek new solutions. In some instances, the Norwegian government's stance comes close to signalling an unwillingness to engage with emissions in the ETS, as if these emissions were purely a European responsibility, and not a shared one.

Section 3.1 referenced an underlying argument against measures on indirect emissions perceived in conversations with decision makers: "The government should not necessarily prioritise to pay more for low-carbon materials, when it has, in some cases, already invested large funds in the decarbonisation of the production of the same material." A relevant example today would be public procurement of higher priced, low-carbon cement from Heidelberg Materials in Brevik, Norway. The same might hold for other future industrial decarbonisation projects on steel, asphalt or other materials supported by government.

It does however beg the question: When the government acknowledges the need for support in industrial decarbonisation, and develops and invests in the supply side, does it not make sense to contribute to creating a market for the decarbonized product through policies and/or direct procurements?

Norwegian policy makers maintain that funding for climate action must be used to maximum effect, getting as many tons as possible of emissions reductions per NOK spent. The absolute worst outcome for Norway, and industrial decarbonisation globally, is Longship failing due to lack of market demand.

To address an obvious straw man argument, this does not mean that state-owned entities should be procuring every ton of every zero-emission product it has ever supported. Rather, Bellona argues that it makes complete sense for state-owned entities to lead in developing a new market, bearing the initial cost to support decarbonised products becoming available at a price that makes them an alternative for everyone – and then tightening regulation to limit the market for high-emission products.

Bellona is a strong advocate of lead markets as a tool for industrial transformation. Such markets support investments in the value chain, create predictable conditions for further industrial investment, and wield the transformative powers of the state to produce outcomes in the national and European interest.

5.2 Recommendations

This report shows how the political approach to emissions reductions limits the effect Norwegian transport entities can have on indirect emissions. By strongly prioritizing direct emissions from vehicles and machinery, and maintaining that measures on materials risks increasing cost without tangible effects on emissions, the government creates a barrier for the innovative capacity in these organisations.

Bellona would welcome a broader policy approach on emissions from the Ministry of Transport that mirrors the White paper on ownership policy. The White paper mandates reporting on Scope 3 targets, in line with the Science-based targets initiative, including both direct and indirect emissions. A wider approach would also ensure more harmonised signals from the government towards the transport entities, reducing uncertainty and likely increasing policy effectiveness.

A range of tools are available for green public procurement, as described in section 4. To be able to address indirect emissions effectively, change needs to happen at many levels: in governing of public procurement, in Ministry steering of transport entities, and in the entities themselves.

Recommendations for action at government level:

- Make whole-life carbon assessment a standard requirement in public procurement, based on standardised methodology.
- Set CO₂ thresholds for key materials to be used across ministries.
- Support wider use of award criteria based on CO₂ performance.
- Align with EU and Nordic best practices on embodied carbon.

Recommendations for action at ministry level:

- Revise steering signals towards transport entities, including indirect emissions in scope.
- Require reporting in accordance with science-based targets, bringing Ministry policy in line with wider ownership policy.
- Mandate LCA and EPDs for all major road and rail projects.
- Develop standardized CO₂ thresholds for infrastructure materials.
- Introduce declining embodied-carbon benchmarks across project portfolios.
- Establish circularity requirements to facilitate reuse of materials and increased recycled content.

Recommendations for action at entity level:

- Develop targets, action plans, and proposals for measures on indirect emissions.
- Develop further innovation projects across entities to identify solutions and reduction potential, building on the success of “Sustainable value chain and materials use in road construction”.
- Rather than small-scale testing, launch flagship low-carbon infrastructure projects to demonstrate feasibility, generate knowledge and know-how, and create engagement on the issue.

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