Made by:
Sterian Gabriela, Project manager

Report on good practices exchange visit in Oslo, Norway

23-30.09.2023

I. General information

No.	Details	OBS
1.	Delegation	Gabriela STERIAN Ramona VELEANU Gheorghe BĂLĂCEANU Mihaela HRISTACHE Alexandra PETRE Aurelian GOGULESCU
2.	Flight	LOT AIRLINES
3.	Local transportation Oslo	According to approved budget
4.	Accommodation	Hotel Clarion Collection Bastion, Skippergata 7, Oslo
5.	Daily allowance	According to approved budget

II. Objectives of the good practices exchange visit

- It is well known that the Scandinavian countries have a social model that combines concern for economic competitiveness, environmental protection and concern for human rights. During the visit, the Romanian partners will have the opportunity to understand the ways followed by the Norwegian stakeholders in the construction industry regarding the energy efficiency of buildings, less polluting technologies and work processes, the use of less polluting building materials, the development of the renewable energy sector, steps towards a digital and green transition, not least cross-cutting aspects. The Norwegian partner, Fellesforbundet, will know better the challenges in this field for Romania, as well as the available resources and the level of development achieved in the construction sector.
- The good practice exchange visit will focus on the integration of energy efficiency measures used in the Norwegian construction sector in the Romanian construction sector. During a 7-day visit to Norway, the 6 representatives of the Romanian partners will learn about the "Norwegian way" of approaching building energy efficiency and environmental protection from the perspective of the construction sector. After the exchange visit in Norway, a report will be developed with examples of good practices that can be promoted and implemented in the Romanian language in the construction sector, with an emphasis on ecological and energy efficiency.

III. Results

- **Increased collaboration between beneficiary and donor entities involved in the program**
- 1 meeting at the Romanian Embassy in Oslo
- 1 working lunch with the Romanian Ambassador in Oslo, His Excellency Cristian Bădescu
- 4 meetings with Fellesforbundet, P2

- 1 meeting with Nelfo, employer's organization
- 1 meeting with Skanska
- 1 meeting with Building Authority in Norway
- 1 working dinner with Fellesforbundet management
- 1 working lunch with Fellesforbundet management
- 1 visit on a construction site
- 1 meeting with Carbon Crusher
- 1 management meeting

IV. Agenda

Day	Time	Details
Sunday 24.09.2023	10.00-12.00	**Meeting with Maika Godal Dam**. Welcome to Oslo. Hotel pickup and short walk in central Oslo. Presentation of the program, the changes that have occurred, but also the objectives and estimated results of the meetings
	12.00-...	Free day

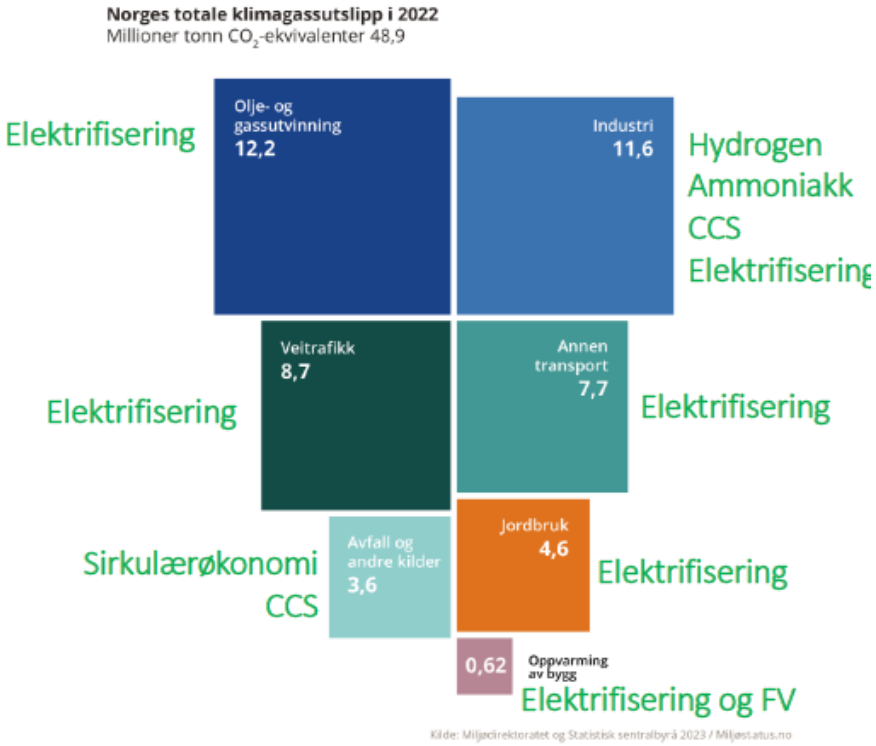
Day	Time	Details
Monday 25.09.2023	10.00-12.00	**Official meeting at the Romanian Embassy in Oslo** Bilateral discussions regarding the presentation of the project, the organizations involved, the objectives of the visit to Oslo, but also the start of future projects with the support of the Romanian ambassador to Oslo, His Excellency Cristian Bădescu. He will facilitate the opening of discussions with the Norwegian Chamber of Commerce, but also with Innovation Norway, the University of Stavanger for research projects.
	12.00-...	Free day

Day	Time	Details
Tuesday 26.09.2023	09.30-10.00	**Welcome to Fellesforbundet** Short walk in Sundtkvartalet with Maika Godal Dam and Kristian Ilner Tour of the building and offices, short talks with Kine Asper Vlstnes (Vice President), Dag-Elnar Slvertsen (Federal Secretary) and Bettlna Thorvik (Head of communications)

Day	Time	Details
Tuesday 26.09.2023	10.00-11.00	**Tripartite seminar on Energy Efficiency and environmental protection in the construction sector** Oddvin Breiteig, Senior Advisor, Nelfo (employer's organization in the electricity, ekom and lift sector, as well as system integrators)

- Nelfo is a national association in NHO and organizes the electrical, ecom and lift companies in addition to the system integrators. Nelfo was established in 1913. Nelfo is a clear and aggressive employer and industrial policy organisation. in Norway. Nelfo has more than 1.820 companies, with 30.500 employees and an annual turnover of approximately 5,7 billion Euros. Nelfo is associated with The Confederation of Norwegian Enterprise (NHO).
- Nelfo is a network of organizations with an interest in climate and energy policy framework conditions for the consumer market
- Main themes in 2023:
    - Energy efficiency improvement
    - Local energy production, solar and heat pumps
    - Charging infrastructure
    - Energy storage and consumer flexibility
    - Online rental, Elhub, Taxonomy (TEK and EMS), EU policy
- Sharing of knowledge – In some cases joint initiatives are taken towards politicians, authorities or the media; Not everyone is on board with everything - agreed on a case-by-case basis
- We discuss the measures taken in Norway on energy efficiency, how we work within employers in relation to the government and policies in the field of energy efficiency

- We are very organized in Norway and we use to say that every problem has a general secretary
- Unions are included in LO and employers in NHO
- All negotiations are carried out together and no major decision or intervention to the government is made one side without the other and we try to be as proactive as possible with the subjects that unite us and not reactive on the subjects that divide us
- In the last 10 years we have had an informal network of various organizations (owners' associations, patronages, unions, NGOs, municipalities, etc.) to negotiate on issues related to renewable energy and energy efficiency. Practically, we have friends in all political camps and practically, depending on the need for negotiation, we have all interested parties with us. In a network like this, trust is needed at the basis of all discussions and partnerships
- As early as 2025, we will have a deficit of electricity in the South Norway. With little access to new water and wind power many are now wondering if the green shift must be put on hold. But the solution to the electricity crisis lies with you and me? Analyzes from NVE show that residential and commercial buildings can save more than 20 TWh of electricity through profitable measures. Solar cells on the roof can contribute an additional 8 TWh. What is the status of the authorities' investment and what should a national action plan for energy efficiency look like?
- Every year we have a political workshop, and during one week we have 2000 debates. One of this year's themes was how to make energy consumption more efficient, digitization or the implementation of artificial intelligence.
- NATIONAL ACTION PLAN FOR ENERGY EFFICIENCY: DOES THE SOLUTION TO THE ELECTRICITY CRISIS LIE WITH YOU AND ME? (https://program.arendalsuka.no/event/user-view/20551) – latest seminar on energy, 15.08.2023, organized by Nelfo, Naturvernforbundet, EL and IT Forbundet. Participants from: Norwegian Water Resources and Energy Directorate, Labour Party, Liberal Party, Socialist Left Party, Conservative Party, Energy and Environment Committee, NBBL, Committee on Local Government and Public Administration, Sannum & Bergestuen, JM Hansen. Topics:
    - Is energy efficiency the solution to Norway's energy trilemma?
    - What is the status of energy efficiency in Norway?
    - Discussion on policy instruments: How can buildings contribute to the energy crisis?
    - Panel of politicians: Do we need adjustments to national goals and instruments?
- In Norway we have two main objectives:
    - Reduction of greenhouse gas emissions by 2023 by 55%
    - Finding solutions by creating new industries, building factories for the production of batteries and wind energy (recycling products, such as batteries, to benefit from increasing their life cycle and restore the energy stock).
- Electrification is the most important thing in climate action



- Large power requirements in the next years:

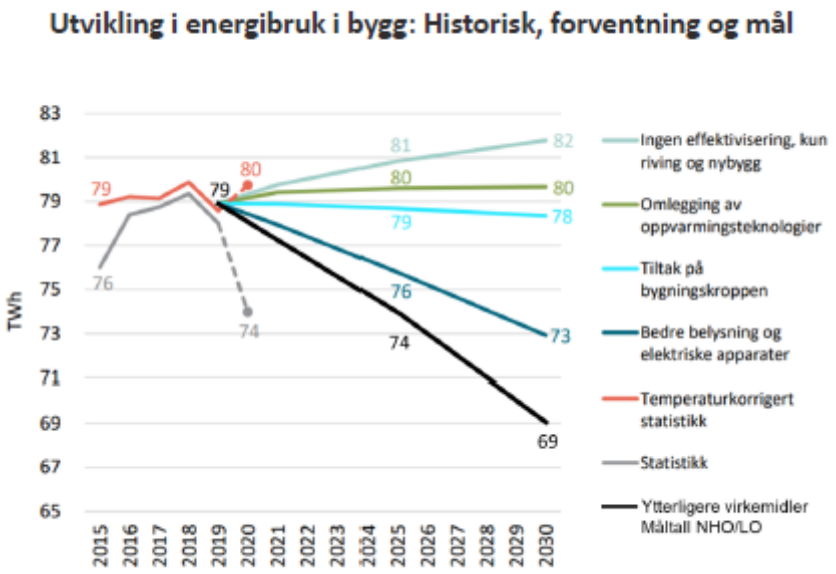
Kilde: Thema for NHO Årskonferanse 2023 - Energi- og industripolitisk plattform

- We need 55TWh to reach climate targets of 55%! Thus, the solution to sufficient power in 2030 lies within the end users, this meaning that we must help the end customers to realize their potential
- The Energy Commission – need for comprehensive energy and climate policy → aim by 2023:

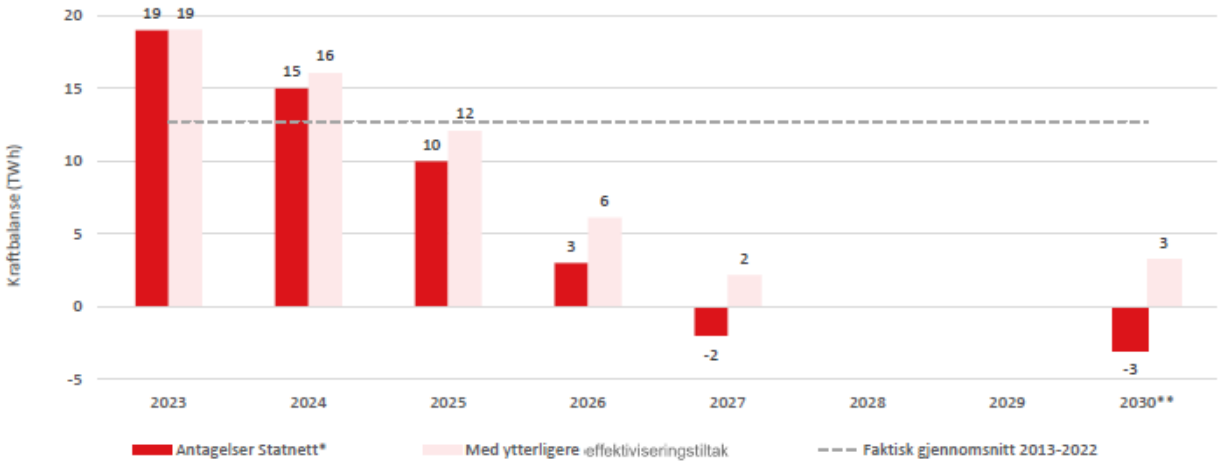
  - At least 40 TWh in increased renewable power production (of which 5-10 TWh solar power)
  - At least 20 TWh in energy savings
  - Create a national action plan for energy efficiency
  - Create a strategy for solar power on buildings
- STRATEGY FOR ENERGY EFFICIENCY AND LOCAL POWER PRODUCTION, appeared on 19.09.2023 and built on the Energy Commission's recommendations, a power lift in the end-user market provides societal benefits
  - Green value creation
  - Improved power balance
  - Social gains
  - Jobs
  - Reduced network investments
  - Fewer environmental interventions
- Norway has underestimated the importance of energy efficiency. In 2022, Norway Energy Policy Review stated that "The government of Norway should prioritise energy efficiency as a policy area, including through sectoral targets, action plans and supporting measures, especially in the buildings and industry sectors."
- Energy efficiency in industry
  - The industry, in general, is extremely energy efficient
  - When using new technology it is likely with further potential of 1-5 TWh
  - 20 TWh excess heat
  - The industry's consumption electricity will increase as a result of goals about electrification and industrial development
  - Need for an improved knowledge base

Recommendations to national investigations	Recommendation to immediate means
• Identify the potential for energy efficiency in industry • Investigate suitable indicators • Strategy for industrial parks	• Establishment of technology neutral and rights'-based support scheme • Strengthening the capacity for piloting new technology

- Energy efficiency improvement in buildings – in 2030, the energy use in buildings should be of maximum 69 TWh



- Achieving the target will make a significant contribution to the balance of power.



*Tallgrunnlaget er hentet fra Statnetts Kortsiktige Markedsanalye 2022-2027 og har blitt bearbeidet og fremstilt av THEMA Consulting Group (TCG)
**Tallgrunnlaget for 2030 er hentet fra rapporten Forbruksutvikling i Norge 2022-2050 - delrapport til LMA 2022-2050

- Recommendations for changed instruments for energy use in buildings

	2024-2025	2026-2030	2030-2050
Informative means of actions	End-user-oriented energy labeling of buildings Publication of Elhub data		
Regulatory means of action	Develop stricter energy requirements in TEK Requirements for energy management and energy auditing in larger commercial building Clearer energy requirements in public procurement Interaction between power and heat for heating of buildings	Introduction of new TEK requirements for new buildings and rehabilitations Develop minimum requirements for energy performance in all existing commercial building Requirements for individual measurement of heating in new buildings	Introduction of minimum requirements for energy performance in all existing commercial buildings Requirements for individual measurement of heat in existing building
Economic means of action	Increased rights-based support for existing buildings		Gradually phase-out financial support in line
	Investigate alternative financing solutions	Implement new financing solutions	
FoU/Piloting	Enova/Innovation Norway Norwegian Catapult (Siva) Craftsman support New financing solutions	Enova/Innovation Norway Norwegian Catapult (Siva)	

- Local solar power from buildings
  - Common recommendation for goals – a minimum must be developed 5.5 TWh annual solar power production from buildings within the prescribed limits the target of 8 TWh in 2030
- Recommendations for changed instruments for solar power on buildings

	Market development	Power grid
Regulatory means of action	Free sharing within the same network station	Adapted network regulation Assess partially construction contribution

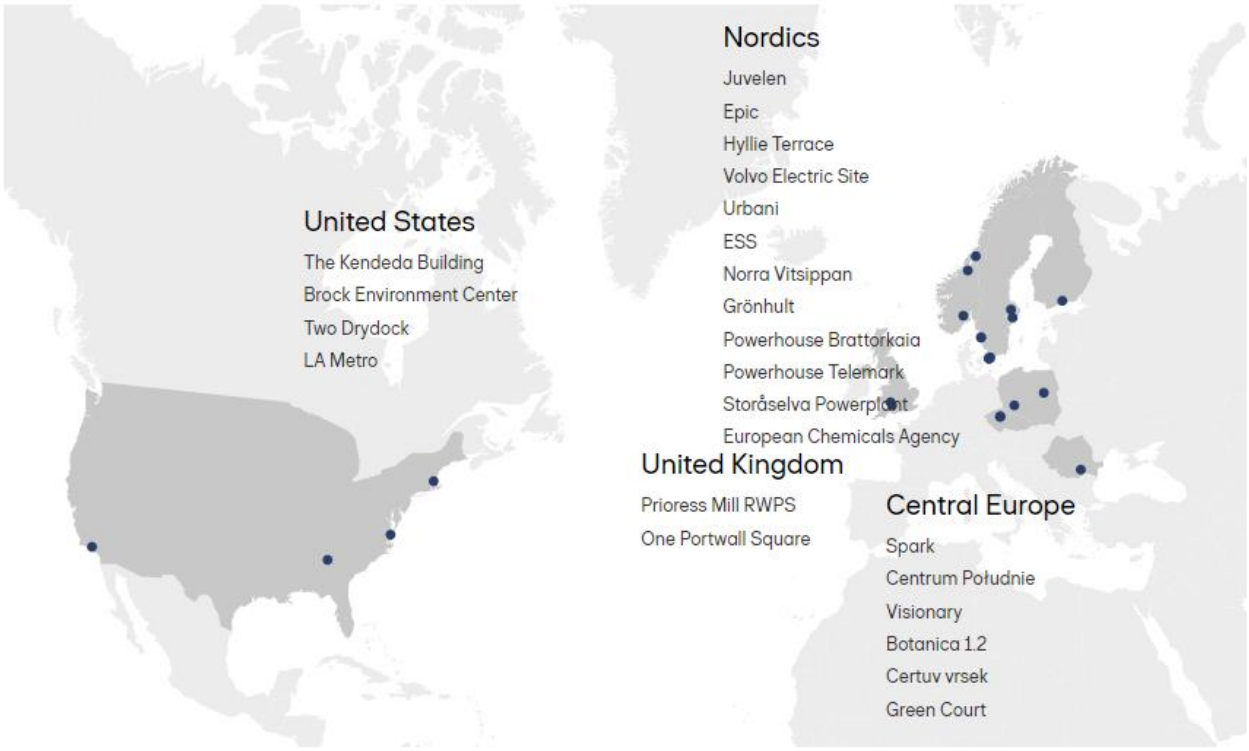
	Investigate the consequences of removing 1 MW limit for sharing Requirement for solar cells on all new ones public buildings (>250m², given available network capacity)	
Economic means of action	Enova support for all types of buildings Introduce Enova support for batteries	Compensation of additional costs such as is due to an increased share plus customers
Informative means of actions	Info about solar systems at the building's energy certificate	Visibility of potential for input

- In terms of BIM technology, the need for skilled labor is also high in Norway, while labor productivity has decreased in recent years, so we are trying to use IT to solve these problems
- Ex: installing a photovoltaic panel in 3 minutes using artificial intelligence
    - AG: From the point of view of the production of photovoltaic panels, is China's commercial aggressiveness being felt?
    - OB: It feels yes, especially from the perspective of ethics in labor exploitation. There is little production in Norway, but we still rely on imports from China. The crisis of raw materials affects us. We only produce certain sub-components in Norway, but we also buy the finished product from China. Customers do not want to buy products whose origin is uncertain and we need some common European solutions. We are trying to ban the purchase of products from the value chain where labor exploitation is used and to find solutions to counter the dependence on such imports.
- We have a lot of hydropower and only a small part represents the use of fossil resources
- Carbon emissions from the main sectors in Norway
- The construction sector is not the biggest polluter in Norway precisely because most of the energy comes from hydrotechnical constructions
- In Norway there are around 200 hydropower plants, using both the water fall of rivers and reservoirs, with a capacity of 160 TWh/h
- In 2021, 139 TWh were used and another 57 TWh will be needed by 2030 to cover both domestic and export energy needs
- The authorities created a commission by which they decided on an extra production of 47 TWh through large hydropower plants and another 20 TWh through solar energy

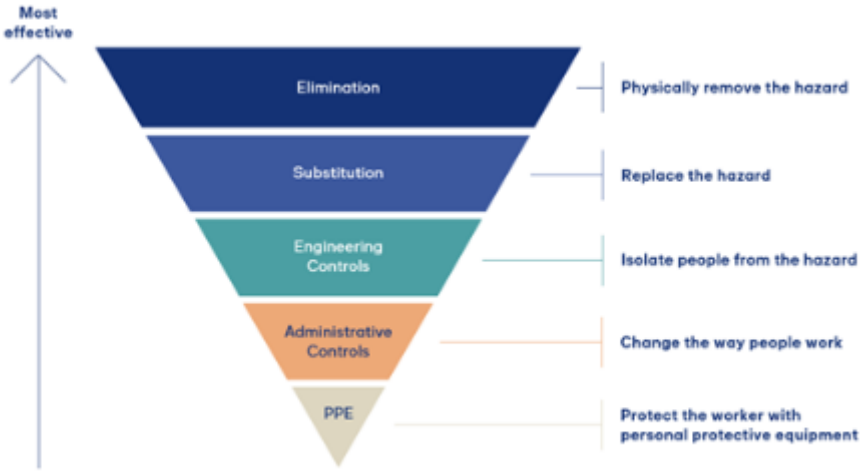
Day	Time	Details
Tuesday 26.09.2023	11.00-12.00	**Examples of businesses in green/Nzeb buildings** Pablo Gonzalez, Senior Climate Sustainability Advisor, Skanska

- Skanska is one of the largest, most financially sound construction and development companies in the world, based in Sweden and serving a broad range of clients including those in transportation, power, industrial, water/wastewater, healthcare, education, sports, data centers, government, aviation and commercial.
- The Financial Times described Skanska in 2014 as aiming to be the "greenest contractor in the world," while having 57,000 employees, 100,000 suppliers and 250,000 subcontractors, who deliver more than 10,000 projects annually. An official vision stated by Skanska is "the five zeros": zero loss-making projects, work site accidents, environmental incidents, ethical breaches and defects.
- Skanska is among the world's five largest construction companies, with construction-related activities and project development operations in some 60 countries. A strategic approach to environment was adopted in 1995. In 1998 a decision was made to introduce certified environmental management systems. The drivers behind these steps were pressures from the market, future legislation and public opinion.
- By the end of 2000, all business units of Skanska had environmental management systems certified according to ISO 14001. Newly acquired companies are required to have certified systems within two years after acquisition.
- Skanska has measured and reported carbon emissions since 2008 and its climate target has been scientifically validated by the Science Based Targets Initiative (SBTi) to be in line with the Paris Agreement on cutting carbon emissions and limiting global warming.
- Most of Skanska’s carbon emissions, 90%, stem from the value chain. The carbon emissions originate from the sourcing of materials, construction operations and the operational phase of the buildings and infrastructure.
- Skanska’s goal is to achieve net zero carbon emissions from its own operations and the value chain not later than 2045. This includes the recently updated interim target to reduce own emissions by 70% between 2015 and 2030. For emissions in the value chain the target is a 50% reduction in emissions by 2030, compared with 2020, with focus on Skanska’s own developed projects.

Sustainable projects around the world

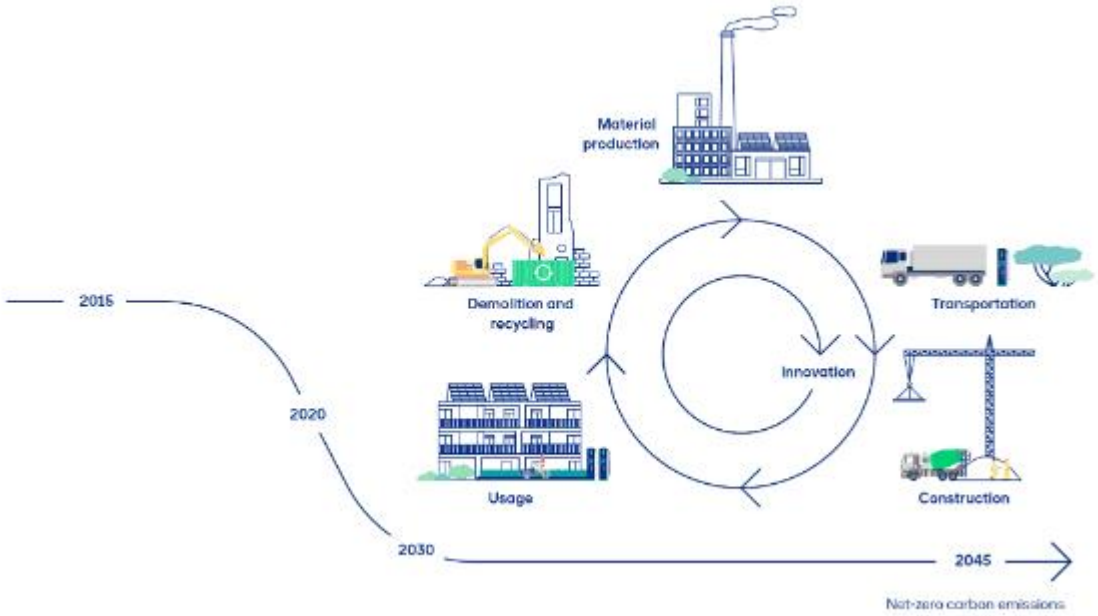


- Sustainability policy at Skanska
    - Responsibility – a responsible business for people and planet
        - Ensure health and safety for all employees and subcontractors
            - Group Health and Safety Standard is mandatory and includes sixteen principles. It covers aspects such as on-site risk assessment, training, incident management and personal protective equipment (PPE), as well as instructions for the most high-risk construction site work processes. All business units are certified by the ISO 45001 occupational health and safety management system.
            - Monitoring key indicators for monitoring safety performance are: lost time accident rate (LTAR); high potential incidents that could have resulted in fatal accidents (serious near misses); executive safety site visits (ESSV), total case accidents (TCA), severity rate of accidents, and business units' delivery on improvement plans.
            - Reducing risk through training and leadership awareness - Skills, training, leadership awareness and a proactive safety culture are key in ensuring greater engagement and safer worksites.



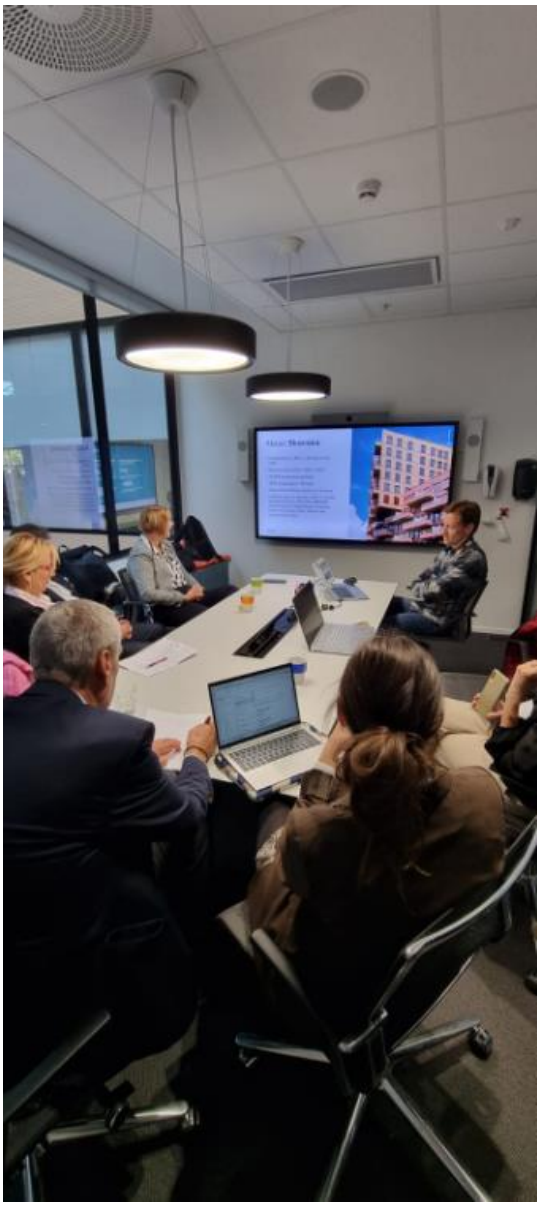
- Fair and ethical business, inside and out
  - strive for environmentally and socially sustainable supply chains that ensure safe and fair conditions for all, zero tolerance for corruption, bribery and any other kind of unethical behavior
  - comprehensive Code of Conduct - specifies how all employees should work and interact with each other, with customers and with partners. It covers topics ranging from anti-corruption, fair competition and financial crime to discrimination, fair working conditions, environmental and safety responsibility, and human rights.
- Safeguarding the environment
  - sound environmental management of all our sites, including avoiding the use of chemicals listed in our restricted substance standard
  - increasing resource efficiency by reusing and recycling materials and products where possible, reduce waste and improve efficiency with smarter design, planning, procurement and logistics
- Embrace diversity - embracing people from all walks of life, creating safe, inclusive environments for everyone to perform and be their best.

o Climate - transformative solutions for a climate-smart built environment that need to be low in carbon, circular, smart and sustainable
- Develop and use insights that drive climate action
  - take part in cross-industry collaborations to develop solutions for decreased climate impact in the built environment by encouraging sustainable public procurement, financial models, transparency on climate emissions, and digital tools
- Partner to innovate net zero solutions
  - rethinking traditional methods, using materials with lower embodied carbon, and by working with customers and the industry to ensure that demand for net-zero solutions becomes standard

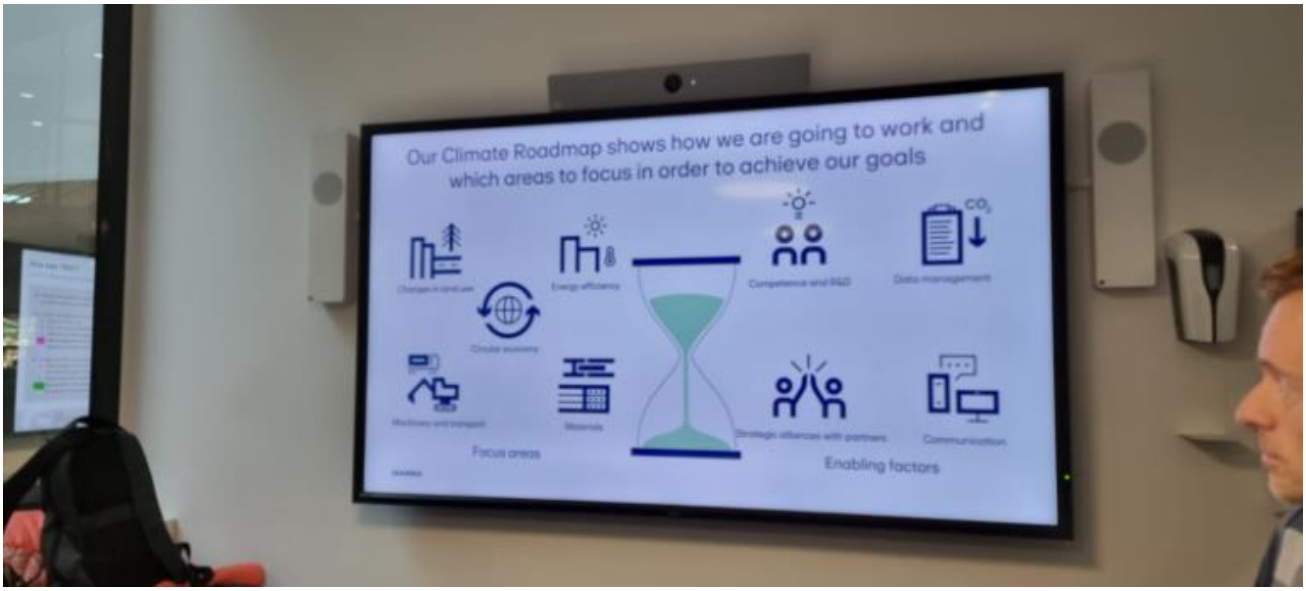


- Transform to low-carbon construction
  - cutting carbon in the construction industry can be accomplished by reexamining energy, processes and materials
  - improve the way we design and construct buildings and infrastructure projects, focusing on choice of materials, resource efficiency and opportunities to increase circularity and minimize environmental impact.
- Resilience - Healthy resilient places for all
  - Healthy & climate resilient urban spaces
    - climate resilience in development projects, including scalable solutions for problems such as flooding and sea-level rise.
  - Long-term community needs
    - collaborate with people and organizations in communities whose lives and livelihoods may be affected by the shaped places
  - Partner for social value
    - engage people from local communities through a range of training and employment schemes.
    - social equity pilot credits designed to reduce disparities by recognizing projects that extend the benefits of green building to communities

- It is extremely important that our strategy respects the principles of sustainability and innovation and that we play an active role as a contribution to the achievement of global environmental protection goals
- Skanska's leadership is extremely committed to complying with these principles, and in Norway if you don't work sustainably, then you don't even get construction projects anymore
- Objectives assumed in 2015 by global Skanska: to reduce carbon emissions by 70% by 2030, practically more than 50% of what the Norwegian government assumed (decision made in 2021)
- Efficiency is both in fuel consumption and energy saving by reducing air travel, waste management
- In Oslo and Bergen, public construction projects will no longer take place from 1 January 2025 without the requirement of zero carbon emissions, no fuel, not even bio, appearing in the specifications




About Skanska


Our Climate Roadmap shows how we are going to work and which areas to focus in order to achieve our goals
Focus areas
Enabling factors

Day	Time	Details
Wednesday 27.09.2023	10.00-11.15	**Workshop on How greenhouse gases are regulated in Norwegian building legislation and in the Nordic countries** • Legislative regulations in Norway • Collaboration with the Nordic countries • Legislative regulations in the Nordic countries Ingunn Marton, Norwegian Building Authority

- Responsibilities and organizational structures of the Norwegian building authorities
  - Ministry of Local Government and Regional Development
    - The planning and building act
    - Regulations relating to building applications («Byggesaksforskriften» – SAK10)
    - Regulations on technical requirements for construction works («Byggteknisk forskrift» – TEK17)
  - The Building Authority
    - Regulations on technical requirements for construction works → All case preparation,
    - guidance documents, interpretation of the regulations etc.
    - Construction product regulation («Forskrift om dokumentasjon av byggevarer» – DOK) → Full responsibilty
  - Municipalities
    - Planning authority and building applications
- 4 focus areas for an active housing/building policy
  - Expanding the opportunity for home ownership
  - Good living environment
  - Facilitate the construction of more homes
  - Climate friendly construction
- Regulations in Norway – use of fossil energy
  - Prohibited to use
    - fossil fuel to heat new buildings from 2016
    - fossil oil to heat existing buildings from 2020
    - fossil oil for heating and drying on construction sites from 2022
- Energy efficiency requirements (extract) – TEK17 chap. 14
  - Minimum levels for energy efficiency

U-value outer walls [W/(m² K)]	U-value roof [W/(m² K)]	U-value floors on ground and facing open air [W/(m² K)]	U-value windows and doors, including frames [W/(m² K)]	Leakage figures at 50 Pa pressure differential [air change per hour]:
≤ 0.22	≤ 0.18	≤ 0.18	≤ 1.2	≤ 1.5

  - The building's total net energy requirement shall not exceed:

Building category	Total net energy requirement [kWh/m² heated gross internal area per year]
Small houses and leisure homes with more than 150 m² of heated gross internal area	100 + 1,600/m² heated gross internal area
Block of flats	95
Kindergarten	135
Office building	115
School building	110
University/university college	125
Hospital	225 (265)
Nursing home	195 (230)
Hotel building	170
Sports building	145
Commercial building	180
Cultural building	130
Light industry/workshop	140 (160)

- Greenhouse gas emissions calculation for buildings (TEK17 § 17-1)
  - Greenhouse gas calculation for apartment and commercial buildings must be compiled based on the method in NS 3720:2018 Method for greenhouse gas calculations for buildings.
  - The greenhouse gas calculation must as a minimum include modules A1-A4, B2 and B4 for building elements stated in the building parts table.
  - In addition, the waste from the construction site must be included in the greenhouse gas calculations.

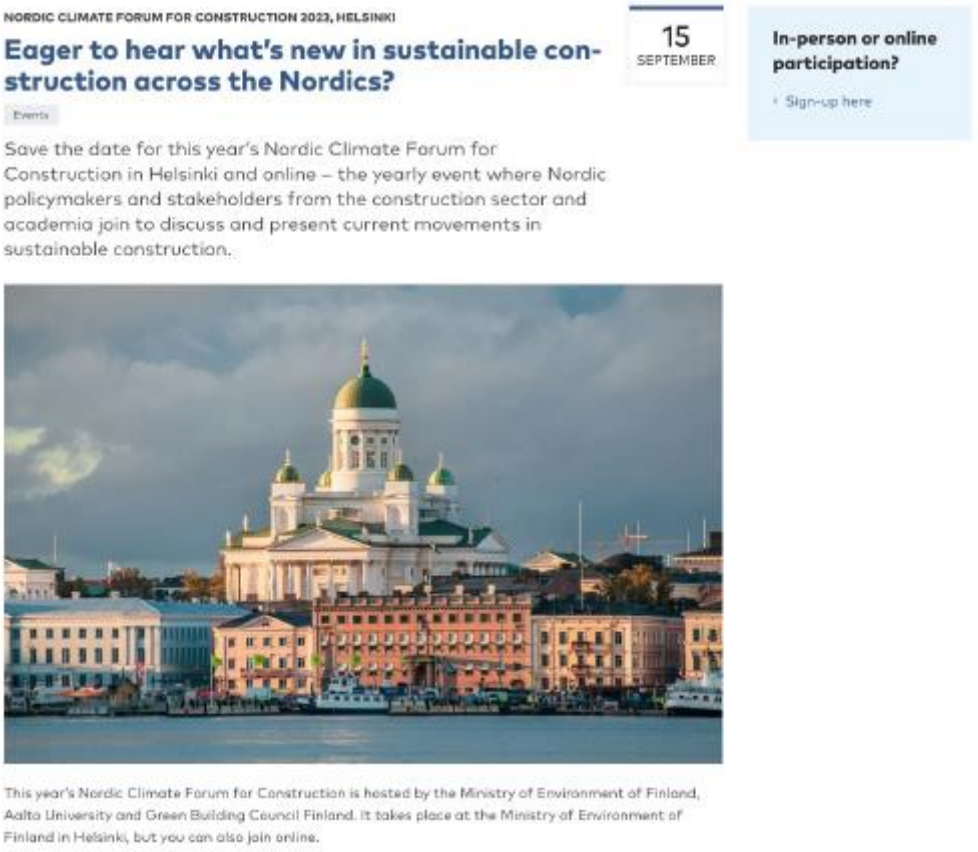
Module	Building Life Cycle Information
A1-A3	Product Stage
A4	Transport to site
B2	Maintenance
B4	Replacement

Building part	Building element
215 216	Pile foundation Direct foundation
22	Load-bearing systems
23	External walls
24	Internal walls
25	Slabs
26	Roof

- Other «new» regulations regarding circular economy (TEK17 chap 9)
  - Products suitable for reuse and material recovery shall be chosen. Buildings must be designed and built with subsequent dismantling in mind as far as possible.
  - For existing apartment and commercial buildings, a survey must be carried to whether any of the building fractions to be removed are suitable for reuse. A separate reuse report must be prepared.
- The Nordic countries and cooperation
  - Nordic LCA - building authorities meeting
  - Nordic working group

- Nordic co-operation on harmonizing building regulation and climate impact.
  - Working group has regular meetings. Usual one physical meeting and several digital meetings each year
  - Arrange Nordic Climate Forum for Contruction

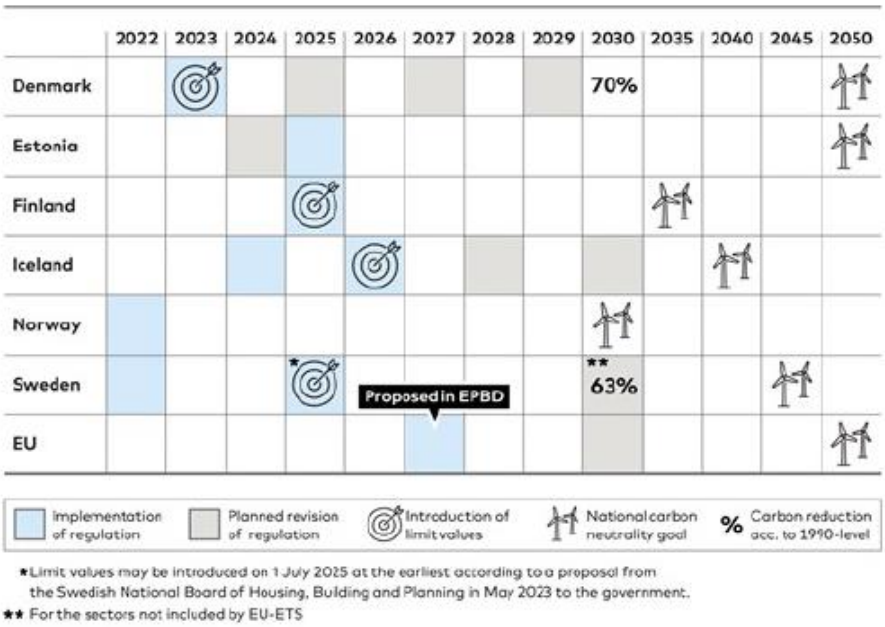
https://nordicsustainableconstruction.com/events/2023/september/nordic-climate-forum-for-construction-2023



- Nordic Networks for Construction https://nordiccircularconstruction.com/
  - The project aims to accelerate circular construction in the Nordic countries through collaboration, peer-to-peer learning and common metrics with work packages:
    - Coordination and Communication
    - Analysis on Circularity in the Nordic Construction Markets including Barriers and Possibilities
    - Metrics for Evaluating the Level of Circularity
    - Nordic Construction Culture
    - National Fora for Circular Construction
  - Will finish in 2024
- Nordic Sustainable Construction https://nordicsustainableconstruction.com/
  - Programme under the Nordic Council of Ministers, which contributes to the Nordic Vision 2030 of becoming a sustainable and integrated region by 2030 in respect to sustainable construction and housing.
    - Programme with the following work packages:
    - Nordic Harmonisation of Life Cycle Assessment
    - Circular Business Models and Procurement
    - Sustainable Construction Materials and Architecture
    - Emission-free Construction Sites

- Programme Secretariat and Competences for Reuse in Construction

- Implementation into policies



*Limit values may be introduced on 1 July 2025 at the earliest according to a proposal from the Swedish National Board of Housing, Building and Planning in May 2023 to the government.
** For the sectors not included by EU-ETS

- Comparison of Methods av Scopes (today and coming)

	Included life cycle stages	Denmark	Estonia	Finland	Iceland	Norway	Sweden	Level(s)
A	A1-A3	√	√	√	√	√	√	√
	A4 Transport to site	√	√	√	√	√	√	√
	A5 Construction	√	√	√	√	√*	√	√
B	B1 Use in building							√
	B2 Maintenance					√	√	√
	B3 Repair							√
	B4 Replacements	√	√	√	√	√	√	√
	B5 Refurbishment							√
	B6 Energy	√	√	√	√		√	√
	B7 Water							√
C	C1 Demolition works		√	√	√		√	√
	C2 Transport		√	√	√		√	√
	C3 Waste management	√	√	√	√		√	√
	C4 Final disposal	√	√	√	√		√	√
D	Additional	√	√	√	√			√

*Only waste included

- How the Nordic countries calculate CO2-emissions from reused products in the LCA in new buildings

	Denmark*	Finland	Iceland	Norway	Sweden	EU
A1-A3 Raw materials, transport, manufacturing	Zero ✔	Zero ✔	TBD	Zero, but if there is Global Warming Potential from processing of the reused products it must be counted (not if negligible i.e GWP from washing the reused products)	Zero ✔	Not defined
A4/A5 Transport to site, installation	Not declared	Either generic values from national database *** or calculate exact emissions ✔	TBD	Either 300 km, generic values** ✔	Either generic values from national database or calculate exact emissions ***** ✔	Not defined
B2 Maintenance	Not declared	Not declared	TBD	Maintenance is included	Not declared	Not defined
B4 Replacement	Zero	Replacement to a new product	TBD	Replacement to a new product	Not declared	Not defined
C1/C2 Demolition works, transport	Not declared	Included according to the scenarios in the national database	TBD	Not declared	Not declared	Not defined
C3/C4 Waste management, final disposal	Zero	Included according to the scenarios in the national database	TBD	Not declared	Not declared	Not defined

*The Danish method is currently in national hearing and is expected to enter into force by January 2024

**https://ka.no/transportkalkulator/

*****Replacements are included, an assumption has to be made that if a reused product will be replaced, it will be replaced to a new functionally similar product (not another reused product)

***Finish national database: CO2data.fi

****Swedish national database: Climate database from Byggvaror - Byggvaror

Day	Time	Details
Wednesday 27.09.2023	11.30-13.15	**Visit to a construction site in Oslo**

Day	Time	Details
Wednesday 27.09.2023	13.30-14.30	Working lunch with Kine Asper Vines, Vice President Fellesforbundet

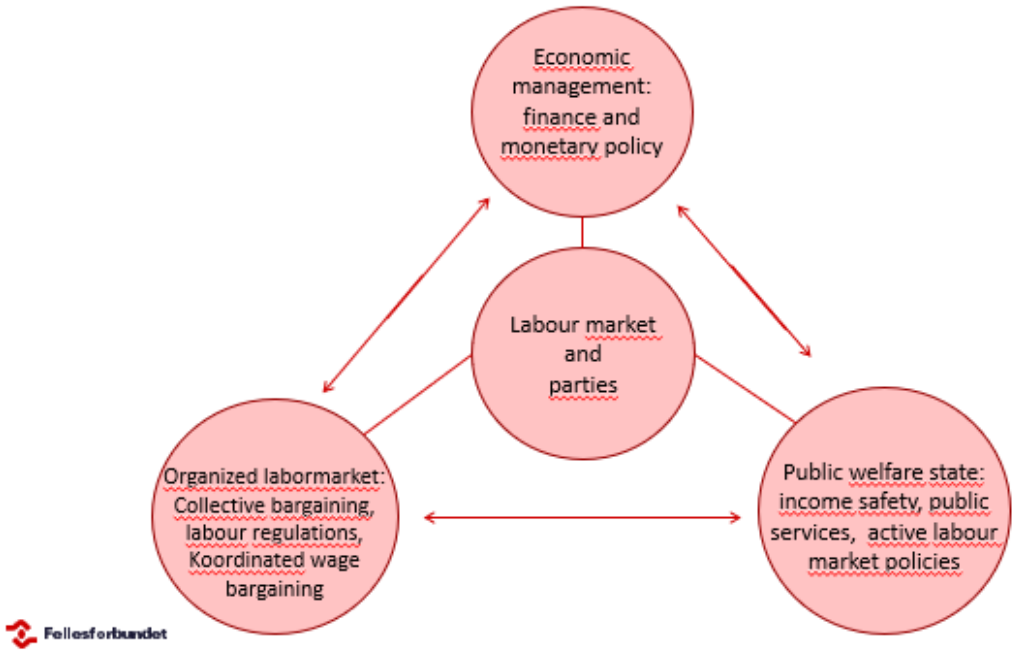
Day	Time	Details
Thursday 28.09.2023	08.30-9.30	**The Climate Policy of Fellesforbundet and the Norwegian way of adressing energy efficiency and environmental protection** Maika Godal Dam

- Fellesforbundet is Norway's largest trade union in the private sector. It has more than 160,000 members and organize within industry, the construction industry, hotels and restaurants, transport and within the car industry, in addition to many other industries in the private sector. Fellesforbundet is the second largest union in LO. The head office is in Oslo, and the seven regional offices are spread across the country.
- Fellesforbundet was founded on 8 May 1988 and has gradually grown since then, both in the diversity of industries and the number of members.
- The joint union was founded on 8 May 1988 by the five unions Norwegian Iron and Metalworkers' Union, Norwegian Building Industry Workers' Union, Norwegian Paper Industry Workers' Union, Norwegian Forestry and Agricultural Workers' Union and the Clothing Workers' Union. Later, the Norwegian Graphics Association (2006) and the Hotel and Restaurant Workers' Association (2007) were added. In 2019, the Norwegian Transport Workers' Union also became part of the Joint Confederation.
- Fellesforbundet organizes workers within a wide range of occupational groups in the private sector. Students, pupils and apprentices are also welcome as members with us. Today, we organize members within, among other things:
    - the construction industry
    - supplier, workshop and technology industry
    - carpenters, joiners, masons and others who work in the building trades
    - the paper and wood processing industry
    - accommodation, serving and catering businesses on land
    - graphic personnel in newspapers, printers, packaging companies, bookbinders, those who work with graphic and digital design, print/decor and in the packaging industry
    - the aquaculture industry
    - the transport sector, including bus, taxi and freight drivers, environment and recycling (renovation drivers), warehouse/terminal and port workers and newspaper delivery workers
    - car technicians, car mechanics, car painters, warehouse workers and more
    - aircraft mechanics and aircraft workers
    - textile and clothing
    - agricultural/replacement work, horticultural work, nurseries and forestry, nature management and the forest plant industry
    - employees in the labor market companies
    - employees who have permanently arranged work
- Fellesforbundet is involved in several international networks. In addition, it collaborates with Norwegian People's Aid.
    - Industry: Clothing
        - Industrial employees in the Nordics
        - IndustriAll European Trade Union
        - IndustriAll Global Union
    - Industry: Building
        - Nordic Construction and Workers' Federation (NBTF)
        - The European Construction Workers' Federation (EBTF)
        - The International Construction Workers' Federation (BWI)
    - Industry: Graphic
        - Nordic Graphic Union (NGU)

        - The European Federation for Trade, Graphic etc. (UNI-Europe)
        - The International Federation for the Service Sector (UNI)
    - Industry: Metal
        - Industrial employees in the Nordics
        - IndustriAll European Trade Union
        - IndustriAll Global Union
    - Industry: Paper
        - Industrial employees in the Nordics
        - IndustriAll European Trade Union
        - IndustriAll Global Union
    - Industry: Forests and Land
        - The European Business and Leisure Work. the federation (EFFAT)
        - International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations (IUF)
    - Industry: Transport
        - Nordiska Transportarbetafederationen (NTF)
        - European Transportworker's Federation (ETF)
        - International Transport Workers' Federation (ITF)
    - Industry: Hotel Restaurant and Tourism
        - Nordic Union of Hotel, Catering and Restaurant Employees
        - European Federation of Food, Agriculture and Tourism Trade Unions (EFFAT)
        - International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations (IUF)
    - International connections:
        - The International Trade Union Confederation (ITUC)
        - Global Unions
        - Labor Start
    - Nordic and European federations:
        - The Nordic Union of Trade Unions
        - The European Union of Trade Unions (DEFS)/
        - European union collective agreement website
        - European union industrial policy
    - Central Nordic and European federations:
        - IF Metall, Sweden
        - Unionen, Sweden
        - Dansk Metalarbejderforbund
        - CO-Industri in Denmark
        - Facken visit the industry in Sweden
        - IG Metall
        - Svensk Byggnads
        - BAT cartel in Denmark
        - IG BAU
        - 3F

- Norwegian model of working – acord principal între sindicate și patronate pe o durată de 2 ani
    - The Norwegian model Broad welfare schemes, low unemployment, strong collective actors, high degree of organisation, cooperation-oriented negotiations, local representation, small wage differences, Coordinated central and local negotiations (two-way track)

Welfare state - universal welfare arrangements, large public sector	High employment rates	Strong collective actors	Relatively high trade union density
Two-tiered system of wage formation - both centrally coordinated wage bargaining and local bargaining	Compressed wage structure	Cooperation between government, employers' organisations and trade unions	Cooperation and representation at company level



  - Then you can also set it up like this consisting of wooden pillars that are tied together
- Fellesforbundet is very influenced by what is happening internationally in terms of work, so we are the most influential in negotiating collective labor agreements, with the aim of keeping unemployment as low as possible
- Trade union federations are, most of the time, in conflict because of the attraction of members
  - 75-80 union federations - organised along industry, occupation & profession
  - 53-54 % of all employees are union members – stable over time
  - Some unions compete on members and influence
  - Over time: unions outside LO have gained in relative importance
- Four trade union confederations - 'umbrella associations'
  - LO - mainly blue collar workers
  - YS - mainly white collar workers
  - Unio - professionals/semi-professionals, mainly public sector
  - Akademikerne - professionals
- Almost 70% of employers in Norway are members of an employer and 54% of employees in the Norwegian labor market are members of a trade union (70-80 different federations)
- Most larger companies are affiliated to an employer association, less common among small companies
- Appr. 55% of private sector employees are covered by collective agreements (70 % in total)

- Three main employer confederations – 'umbrellas':
  - NHO - Norwegian Confederation of Norwegian Enterprise
    - 21 affiliated national sector federations, regional branches
  - Virke - Commercial and service enterprises
  - Spekter - semi-public/deregulated enterprises KS- kummune
- EU targets regarding climate policy
  - The EU aims to cut greenhouse gas emissions by 55 per cent by 2030 (compared to 1990).
  - By 2050, the EU must become climate neutral.
  - The second goal is an increase in the share of renewable energy of at least 32 percent, while the third is to increase energy efficiency by at least 32.5 percent.
  - The EU's Green Deal is a central part of the effort to reach climate goals and fulfill the sustainability goals.
  - This includes all areas of society in the Union, both regarding the extent of emissions and how these are to be cut.
  - Norway has entered into binding cooperation with the EU to achieve the climate goals.
  - This means that the EU's climate policy also applies to Norway. Particularly important are:
    - The quota system
    - Requirements for energy efficiency
    - Production of renewable energy
    - Cuts in emissions from the transport sector
    - Reduce emissions from interventions in agriculture (LULUCF)
    - In July 2021, the European Commission presented the comprehensive regulatory package "Fit for 55" which will ensure that the EU reaches its enhanced climate target for 2030 to reduce net emissions by at least 55 per cent compared to 1990.
- The Paris Agreement is an international agreement to ensure that the world's countries are able to limit climate change.
  - With the agreement, the world has committed itself to not getting more than 2 degrees warmer, and preferably not more than 1.5.
  - The countries agree that the temperature of the globe must not rise more than 2 degrees before the end of the century.
  - In addition, they must do everything they can to ensure that it does not rise by more than 1.5 degrees.
  - The countries must reach the peak of greenhouse gas emissions as soon as possible. Afterwards, the amount of emissions to the atmosphere must decrease regularly. In the second part of the century, sometime between 2050 and 2100, we shall be climate neutral.
  - Norway has joined the Paris Agreement and the global ambitions to achieve the climate goals.
- The UN climate panel (Intergovernmental Panel on Climate Change, abbreviated IPCC) is an international institution created by the UN bodies. The purpose is to compile existing knowledge about any changes in the Earth's climate. The reports from the IPCC form the academic basis for the UN's climate policy.
- Fellesforbundet believes that further work must be done towards the goal of emission-free construction sites, both out of consideration for the climate and air quality. Construction sites powered by renewable energy will improve the working environment for employees. The construction industry has great potential for energy saving, and new building regulations set high requirements for energy efficiency. Equally important is the existing building stock, where many buildings with high energy requirements are ripe for renovation. Emissions from the production of building materials and the construction of buildings must also be reduced. This is important for the climate, but also for an improved working environment where noise and air quality are a challenge today.
- Measures within the construction industry to achieve climate targets, which create jobs and values for the future:

- The building regulations must be used to reduce greenhouse gas emissions by setting climate requirements for materials and solutions. Life cycle analyzes for buildings and materials must be included in the requirements specifications.
- The work on emission-free construction sites must be continued for lower emissions and a better working environment.
- Carbon capture and storage (CCS) must be used in the production of building materials that emit a lot of CO2, such as cement. Norcem's CCS project must be implemented.
- Circular economy with recycling, reuse and low emissions: The lifespan of current buildings must be extended to save resources. New buildings must be built for longevity, flexibility and circularity.
- Enova's subsidy schemes and the environmental technology scheme must contribute to making the construction sector more climate-friendly and at the same time promote seriousness in the construction industry.
- The Storting's decision to save 10 TWh through energy efficiency in the existing building stock must be followed up. This will also be able to free up power for use in other sectors.
- Strengthening the seriousness of the industry is a prerequisite for reaching climate targets and making the industry more sustainable, both in terms of climate and working conditions.
- The building regulations and regulations must make it easier to rehabilitate and avoid demolition, among other things by facilitating the transformation of buildings and areas for new use through regulation and construction case processing. ● Norway must participate actively in the EU's regulatory framework for the circular economy and the building regulations.
- Strengthen Husbanken to help ensure that the housing market meets society's needs for housing.

- Fellesforbundet's plan for green transition and climate change
  - Taking on EU climate targets: reducing greenhouse gases by 55% by 2050
  - The Paris Agreement – Norway has reported to the United Nations that it is committed to meeting sustainability targets
  - In 2017 and 2018 we received many requests to address climate change, as many of the areas we represent were polluting, and members felt wronged that through the lens of activity, they were accused of polluting
  - In 2019, we ratified the most important document that explains the way Fellesforbundet works on climate change – Plan for green transition and climate change
  - We have thus raised the level of awareness among our members so that they feel part of the whole process, and from a construction point of view, the workers are extremely proud to be able to work on sites where the environmental impact is increasingly reduced
  - Another plan is under LO umbrella – Joint force towards more energy
    - Extract new power/we need more power and electricity that can replace oil and gas we must use electricity smarter/energy efficiency

https://www.nho.no/tema/energi-miljo-og-klima/artikler/2023/slik-skal-trepartssambarbeidet-sikre-okt-kraftatlyglen-raskere/

- Climate partnership in the construction sector
  - Initiatives come from the environment and business ministers because they want to gain political prestige by getting involved in specific climate change issues
  - The target is tripartite negotiation and commitment to objectives
  - 23 January 2023: Climate and Environment Minister Espen Barth Eide (Ap) and Industry Minister Jan Christian Vestre (Ap) have signed an agreement of intent to enter into a climate partnership with business. The other parties to the agreement are the employer organizations NHO, Virke, Spekter, KS, the Coastal Companies and the Norwegian Shipping Association, and the employee organizations LO, YS, Akademikerne and Unio.

- 10 March 2023: The government is now taking a new and important step in the work to establish climate partnerships with business. The aim is to speed up the green transition in companies all over the country, so that we reach the climate targets we have set ourselves while the business world can maintain its competitiveness. The government is now inviting the first three industries to dialogue, with the aim of entering into climate partnership agreements. The three industries are the process industry, the maritime industry, and the construction, construction and property industry.
- The climate partnership for BAE is working to collect a knowledge base that will be the starting point for the negotiations between the parties just before Christmas. Also works with proposals for negotiation points.

https://www.regjeringen.no/no/aktuelt/vil-invitere-til-klimapartnerskap-med-tre-naringer/id2966212/?expand=factbox2966214

https://www.regjeringen.no/no/aktuelt/na-kommer-klimapartnerskapene-med-naringslivet/id2960096/?expand=factbox2960098

https://www.eba.no/artikler/2023/byggenaringen-hos-statsraden-om-klimapartnerskap/

Day	Time	Details
Thursday 28.09.2023	9.30-11.00	**Management meeting** Project team, Maika Godal Dam and Jorgen Kaurin, International Secretary of Fellesforbundet

Day	Time	Details
Thursday 28.09.2023	11.00-12.00	**The conclusions of the good practices exchange visit** Christian Jutnes, Member of the executive committee and construction expert of Fellesforbundet and Line Eldring, Head of Political Department of Fellesforbundet

Day	Time	Details
Friday 29.09.2023	10.00-12.00	**Meeting with Carbon Crusher on circular economy and carbon sequestration in construction works** Adrian Savu, Head of Bio-Engineering department

- A typical road is filled with oil: A thick, sticky form of crude oil called bitumen holds together rocks and sand in asphalt. But in Norway, a startup called Carbon Crusher is recycling old roads with a plant-based binder instead. The approach shrinks the carbon footprint of road repair projects so much that the roads actually become carbon negative.
- Crusher was established in 2005 in Telemark, Norway. In 2017 it won a Norwegian Gazelle award for fast-growing, profitable businesses.
- The process starts with recycling. Instead of trucking in new materials when a damaged stretch of asphalt needs repair, the company uses a machine that grinds up the top layer of the existing road. The equipment can also be used with concrete, another high-carbon material, as long as the concrete isn't reinforced with steel. Then, the company uses lignin—a material in plants that's a major byproduct of the paper industry—to glue the crushed material together. Because trees capture carbon from the atmosphere as they grow, embedding this material in the road actually sequesters that carbon. (Right now, the paper industry in Norway often burns lignin for energy, releasing CO2 emissions.)
- Through use of its eponymous 'Crusher' machine, the top layer of both asphalt and concrete roads are ground up into mulch. Then, all residue is re-bonded by an agent called lignin, which is an abundant plant-based polymer left behind by the paper industry.
- The natural cell structure of lignin actively absorbs carbon, meaning that when roads are re-laid in this way, any harmful emissions contained within the organic matter will be safely concealed within the road.
- The company's proprietary equipment crushes asphalt and rocks finely, so it's possible to work without needing new materials; others also use equipment to "mill" existing roads, but typically need to haul in more aggregate. Because trucks don't have to bring in more material or haul out pieces of the former road, the process is faster. And the lignin can help roads last longer.
- The key enhancement with lignin is that it is more flexible, meaning that cracks are far less likely to appear over time with seasonal changes.

Day	Time	Details
Friday 29.09.2023	12.30-14.00	**Working lunch with the ambassador of Romania in Oslo, his excellency Cristian Bădescu.**