

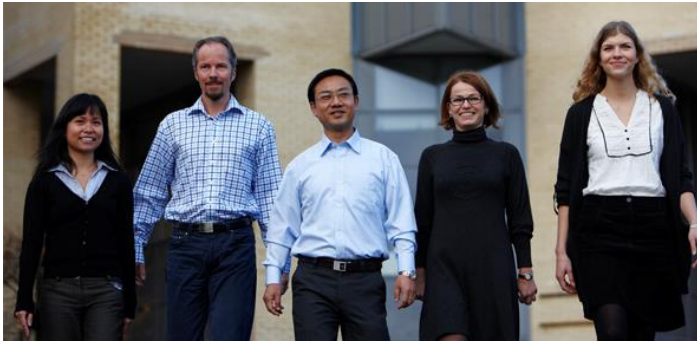


# Norconsult

Emission reduction technologies/renewable energy/sustainable buildings  
- *for National Climate Policy - EEA Grants Latvia (LV02)*

Partner search forum : Latvia 27 May 2014

# About Norconsult



**Norconsult is a multidisciplinary engineering and design consultancy, providing advice to clients in the public and private sectors worldwide.**

Norconsult contributes to build a sustainable society through targeted advice - from the earliest pre-investment and feasibility studies, through planning, design, construction supervision, to project implementation and operations. Norconsult is an advisor both for the present and the future. We understand and see the consequences and relations how our advice impacts the environment.



**Norconsult has its headquarters in Norway, and has developed a sound reputation as a leading player in Norway as well as internationally. We have experience from 80 years of operations and from about 150 countries.**



# About Norconsult

- 2650 employees
- 79 offices in 11 countries
- 3.6 billion NOK in revenue in 2013  
( 440 million euros)




Norconsult 




100%











**Norconsult AS**

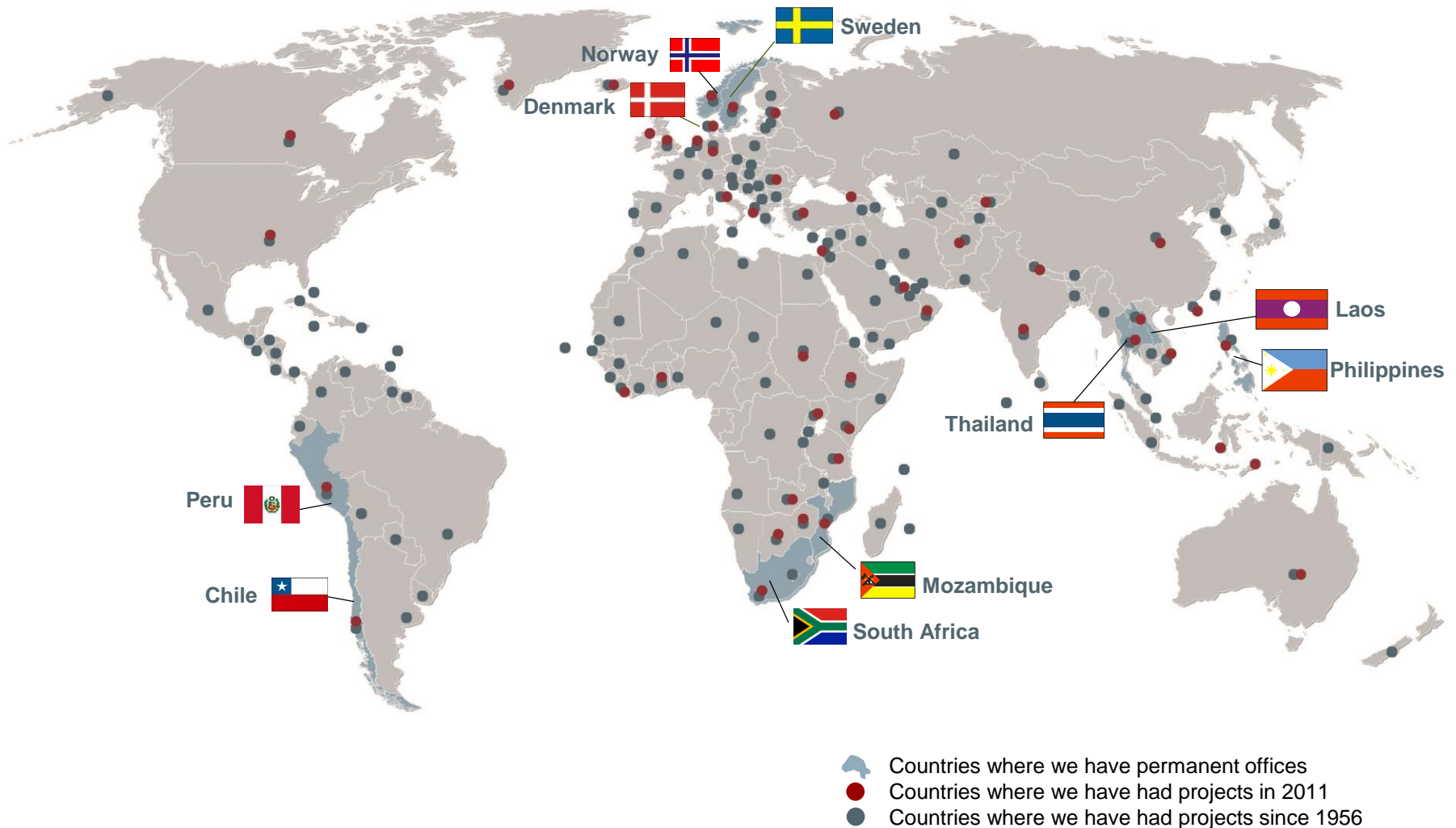
Norconsult is Norway's and one of the Nordic countries' leading multidisciplinary engineering and design consultancies

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Lysenor AS	Technogarden Engineering Resources (Norge, Sverige)	Norconsult Informasjonssystemer AS

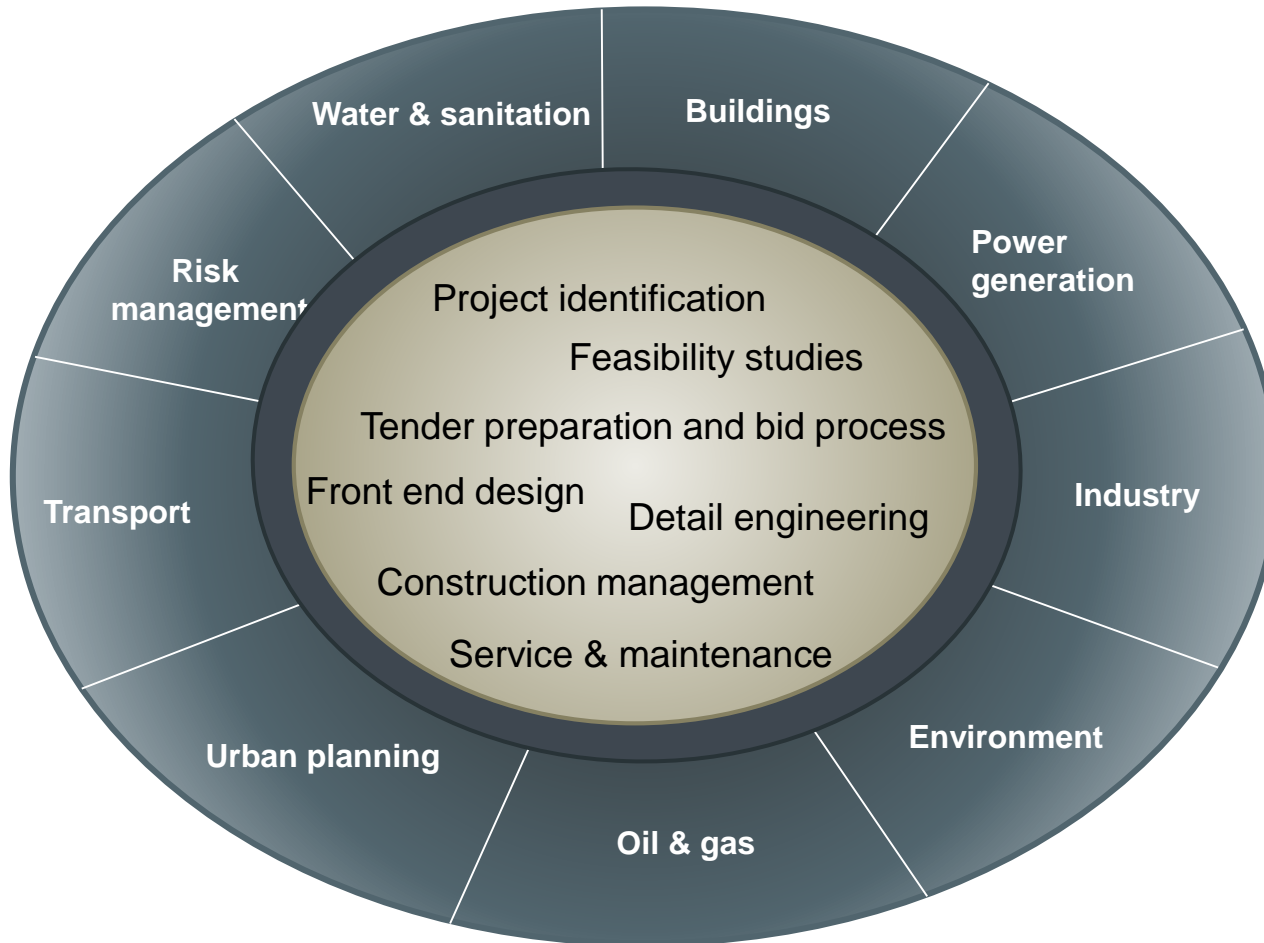
100%	100%	100%
		
Norconsult AB (Sverige)	Norconsult Danmark A/S	Wessberg A/S (Danmark)

100%	100%	100%	100%	24,5%	100%	100%	100%
							
Norconsult Africa (Pty) Ltd (Sør-Afrika)	Norconsult Mozambique Lda	Norconsult Management Services Phil. Inc (Filippinene)	Norconsult Laos Co. Ltd	NorCiv Engineering Co. Ltd (Thailand)	NorPower Sdn Bhd (Malaysia)	Norconsult Andina SA (Chile)	Norconsult Peru SAC

# More than 50 years of international experience



# Norconsult assists in all project phases





# Business area - Buildings



Sustainable buildings of the future require the development of total, resource-efficient and high-quality building concepts. Smart solutions that safeguard both the indoor and outdoor environments are essential.

Norconsult has been involved for a long time in designing and developing the buildings of the future, in which interaction between the building's design and the indoor and outdoor climatic stresses is a central factor.



## Engineering consulting for:

- Cultural buildings
- Educational buildings
- Hospitals and institutional buildings
- Hotels
- Office buildings
- Residential buildings
- Shopping centres
- Sports facilities

# Business area - Energy



Climate challenges are global and shared, which means that access to clean energy concerns us all. A more energy efficient world, with goals for sustainable growth and long-term benefits, is a global challenge that must be solved.

Norconsult has been involved for a long time in creating the basis for environmentally friendly power development and a secure energy supply throughout the whole world.



## Engineering consulting for:

- District heating and -cooling systems
- Energy conservation
- Energy Planning
- Hydropower
- Renewable energy
- Thermal energy
- Transmission and distribution
- Wind power



# Discipline - thermal energy production

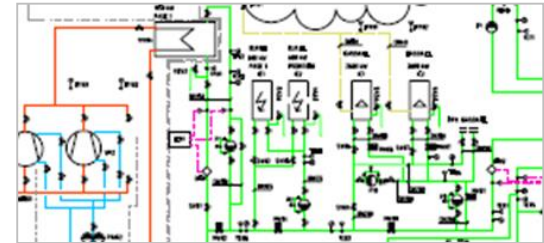


**Pipe distribution  
for hydronic heating,  
cooling, steam, gas or  
compressed air systems**

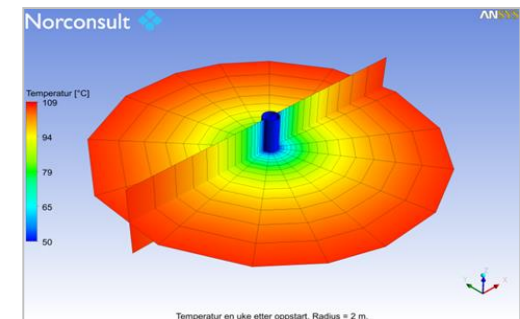


**Chillers, heatpumps  
Boilers for pellets and other biomass,  
Gas and oil-fired boilers  
Gas and steam turbines**

**concept development, pre-studies  
engineering, contracting,  
onsite construction followup**

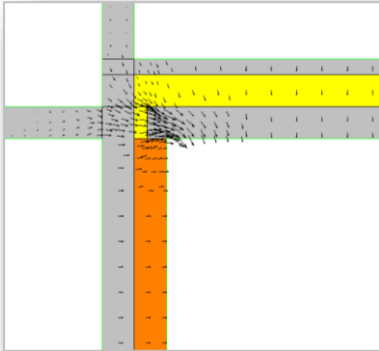


**Borehole field design  
Wastewater heat exchangers  
Seawater thermal collectors  
LPG/LNG and oil tank systems**





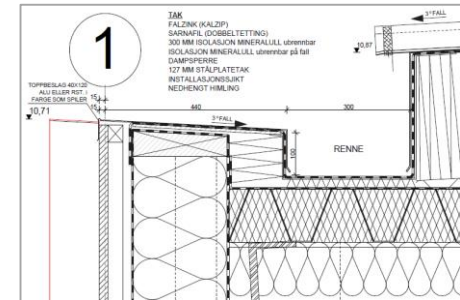
# Discipline - building energy efficiency



Design and simulation to reduce thermal bridging



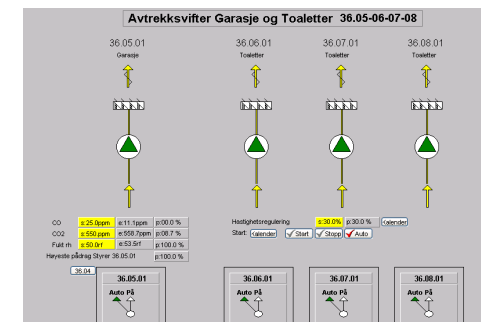
Best practice solutions for building details for improved airtightness and insulation



Building automation and energy management systems



Energy and indoor climate simulation for building with complex geometry



# Case - thermal energy production

## Energy for new business park

Kongsberg: 120 000 m<sup>2</sup> in new building floor area.

Sizing, detailed engineering and followup for a new thermal energy plant, including all energy infrastructure and distribution in the buildings, where waste heat is sent for recycling at the heat pump: 3MW heat, 5MW cooling



# Case - thermal energy production

## Energy for new office and retail area

In Oslo: 50 000 m<sup>2</sup>

1MW heat pump and chiller with seasonal storage in 64 boreholes. Solar thermal panels for supplementary energy.

Ill.: Aspelin Ramm Eiendom

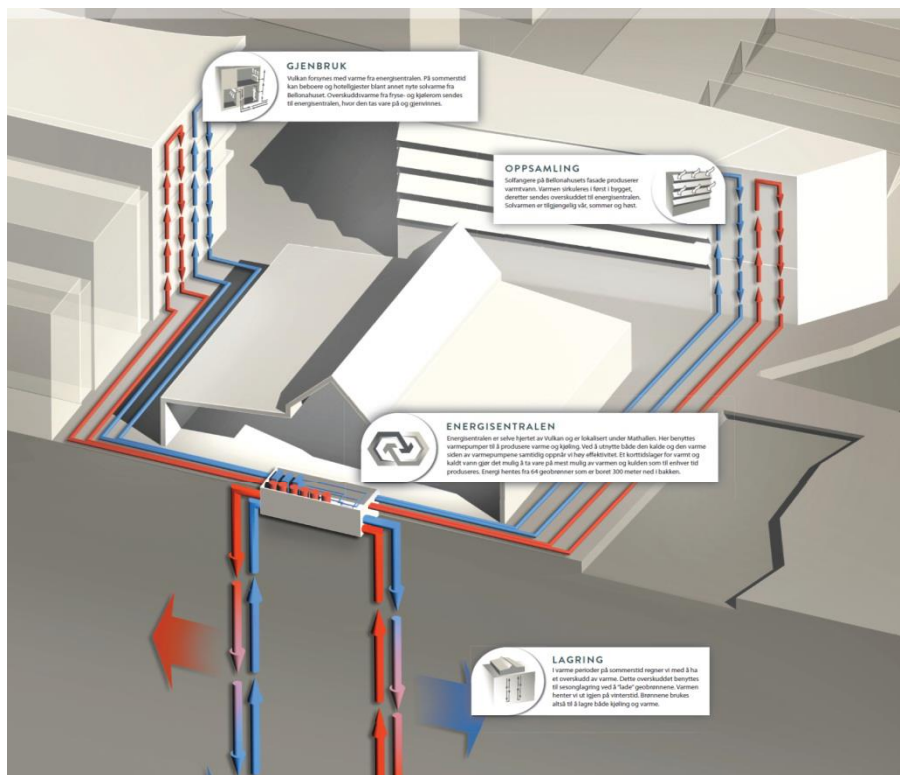


Foto: Aspelin Ramm Eiendom



Foto: Vidar Havellen





## Primary program areas for partnership with Norconsult:

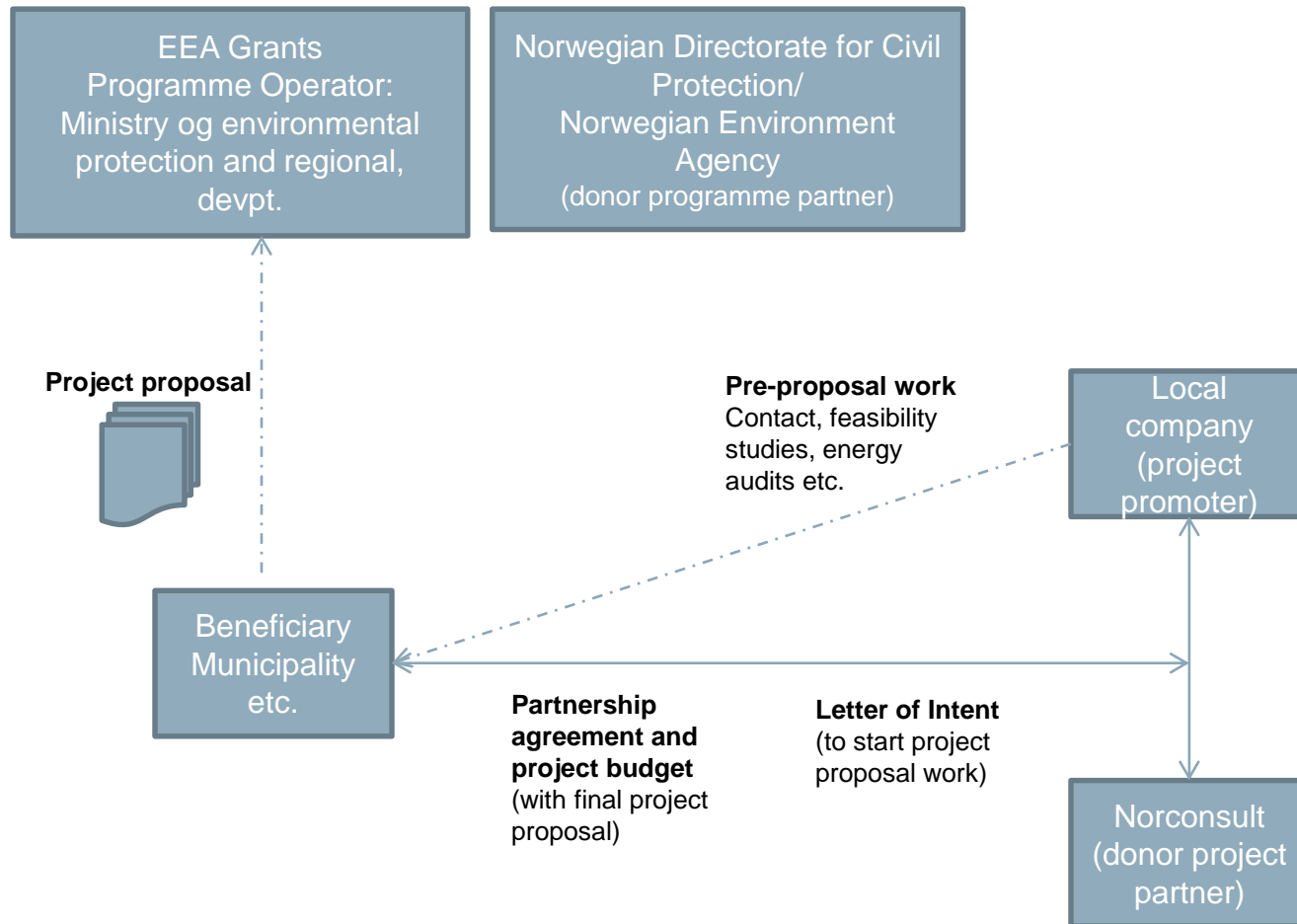
- ✓ Increased use of renewable energy sources for building energy production; heat pumps, biomass, solar and geothermal energy
- ✓ Reduced energy use in public building

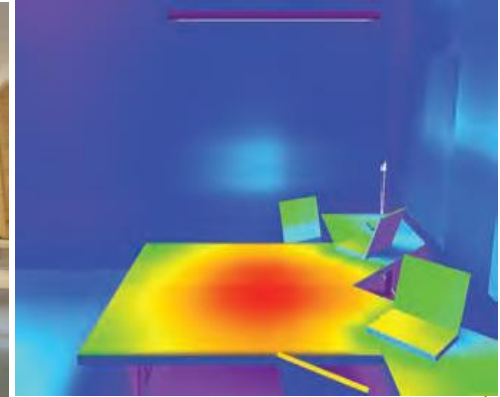
## Norconsult experience:

- Planning and engineering many heat pump projects from 100 kW to 20 MW
- Cost-effective sizing of geothermal sources using advanced tools and methods
- Many HP projects with heat sources from wastewater, ventilation exhaust etc.
- Whole-systems design for combined heating and cooling, with seasonal storage
- Experience from woodchip and pellet-fired boiler systems
- Expertise in other critical disciplines for a successful project: electrical supply analyses, acoustics, particle distribution, transport logistics.
- Detailed designs for critical building elements, energy modelling and simulation



# EEA Grants - collaboration





# Thank you for your attention!

*For more info, please contact:*

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