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CONFERENCE ON CLIMATE NEUTRAL TRANSPORT GOODBYE AIR POLLUTION!

Tallinn 19th of September 2019

“CNG and LNG Developments in Nordics”

Jussi Vainikka, Senior Business Development Manager, Traffic

Gasum



GASUM – NORDIC GAS SECTOR AND ENERGY MARKET EXPERT

Together with our partners, we promote development towards a carbon-neutral future on land and at sea.

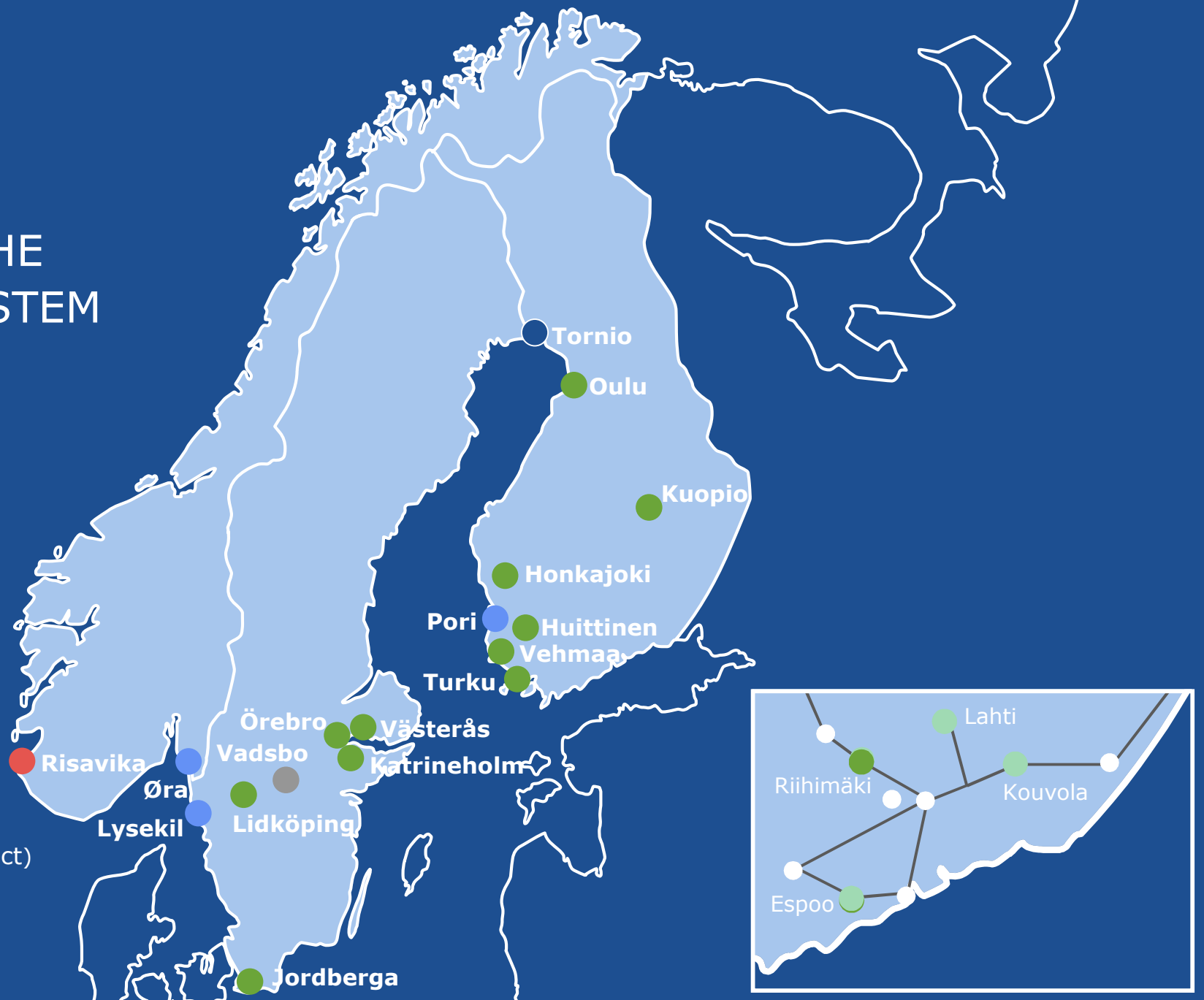
We offer industry and combined heat and power (CHP) production clean, cost-effective energy and raw materials in Finland, Sweden and Norway. We also help our customers to master the energy market.

We are the leading liquefied natural gas (LNG) player in the Nordic market and supply LNG to maritime transport, industry and heavy-duty vehicles in Finland, Sweden and Norway.

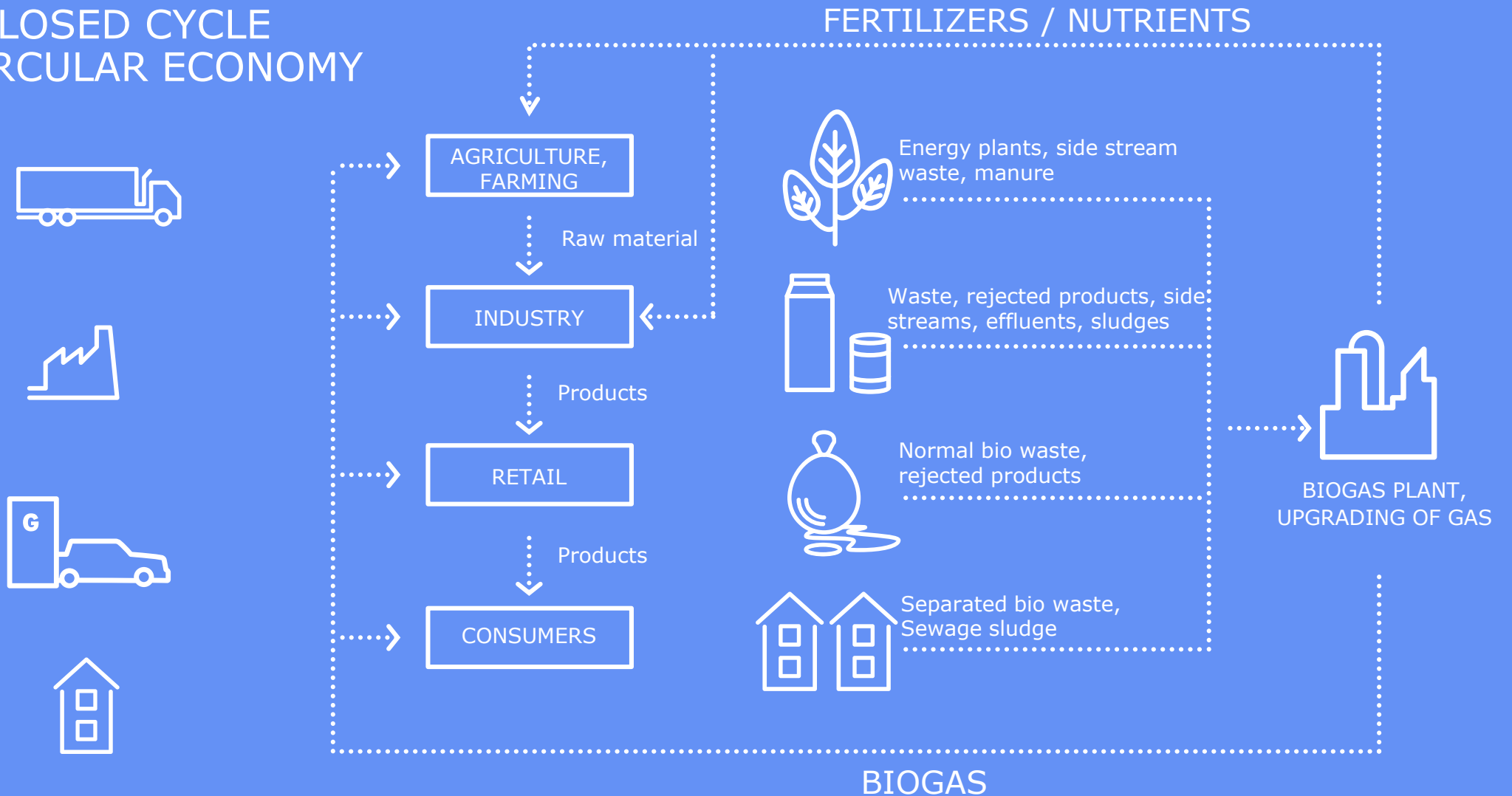
We are developing the Nordic gas ecosystem purposefully and responsibly as the leading supplier of biogas and processor of biodegradable waste in the Nordic countries.

WE ARE BUILDING THE NORDIC GAS ECOSYSTEM

- LNG production plant
- LNG terminal
- LNG terminal (joint project)
- Gasum, biogas
- Gasum, biowaste and biogas
- Biogas production plant (joint project)



BIOGAS – THE CLOSED CYCLE OF CIRCULAR ECONOMY



THE NORDIC OPERATING ENVIRONMENT

- Significant emission reductions and increased sustainability are required
- EU and national climate goals steer the transport sector towards a cleaner solutions in the Nordics
- Customer demand for environmentally friendly products and services is increasing rapidly across the Nordics
- Real demand for cost-efficient solutions, high security of supply and right business partnerships
- Major local and sustainable feedstock potential for biogas in the Nordics, biogas potential up to 40% of energy consumption in road transport segment in the Nordics

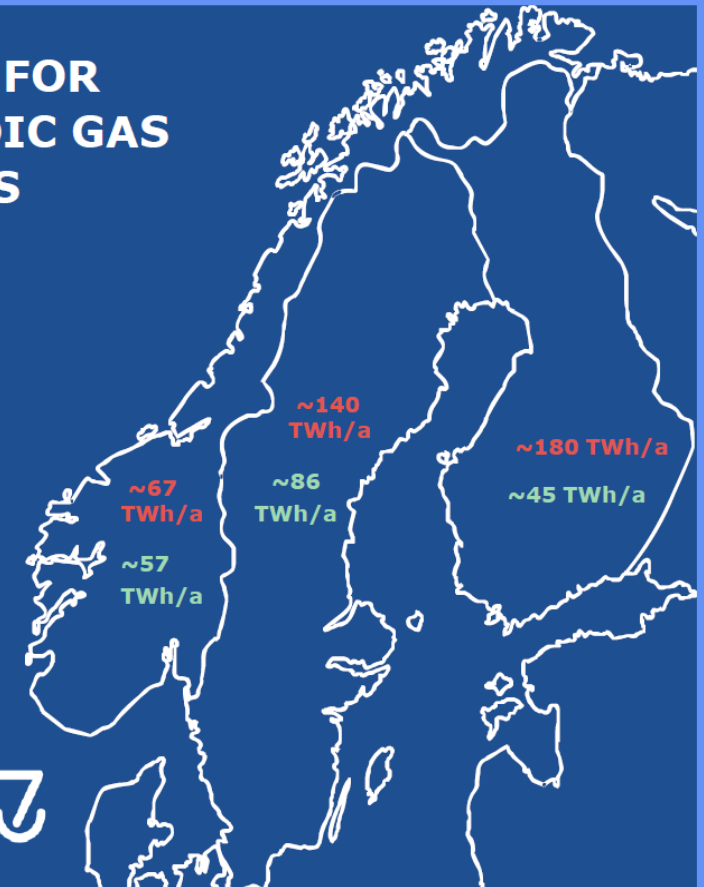
THE GROWTH POTENTIAL FOR THE EXPANSION OF NORDIC GAS ECOSYSTEM IS ENORMOUS

Total market size
in the Nordics:
~750 TWh

Road Transport
~190 TWh/a

Industry
~390 TWh/a

Marine ~160 TWh/a



OPERATING ENVIRONMENT

CLIMATE CHANGE

Limiting climate warming to 1.5C calls for fast action to cut emissions in all sectors.

EMISSIONS TARGETS

The Paris Agreement, EU and national Governments have set ambitious emission reductions targets for the transport sector.

CUSTOMERS

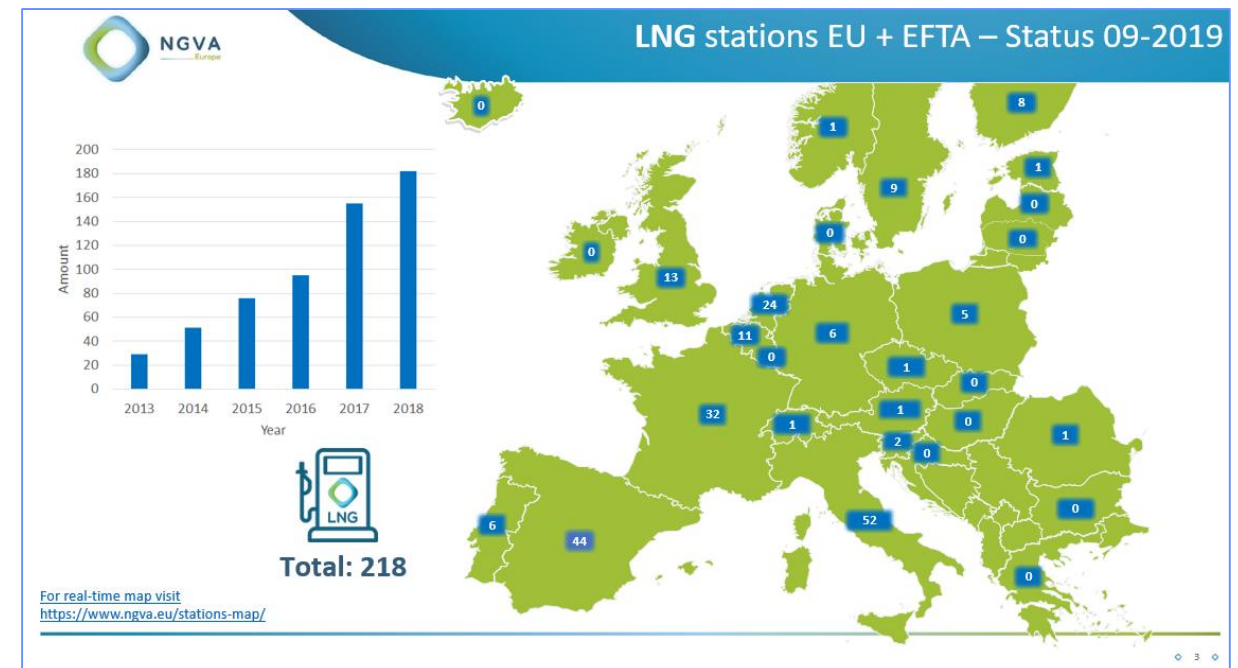
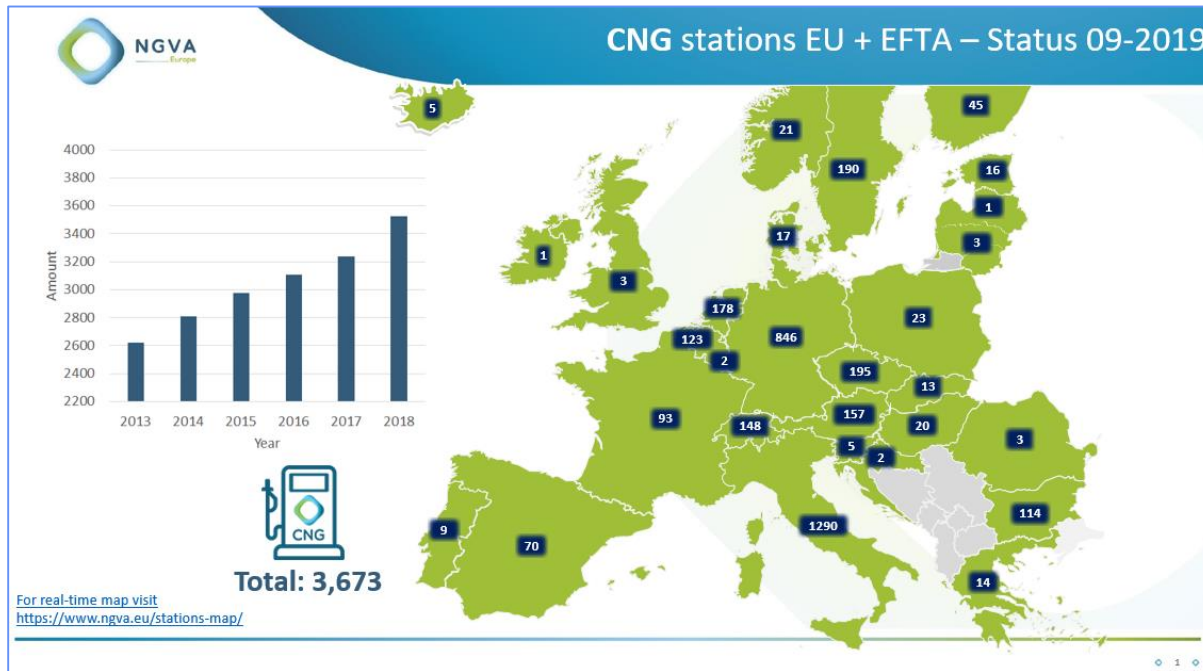
Enterprises, municipalities and consumers are increasingly demanding eco-friendly products and services.

RENEWABLE ENERGY

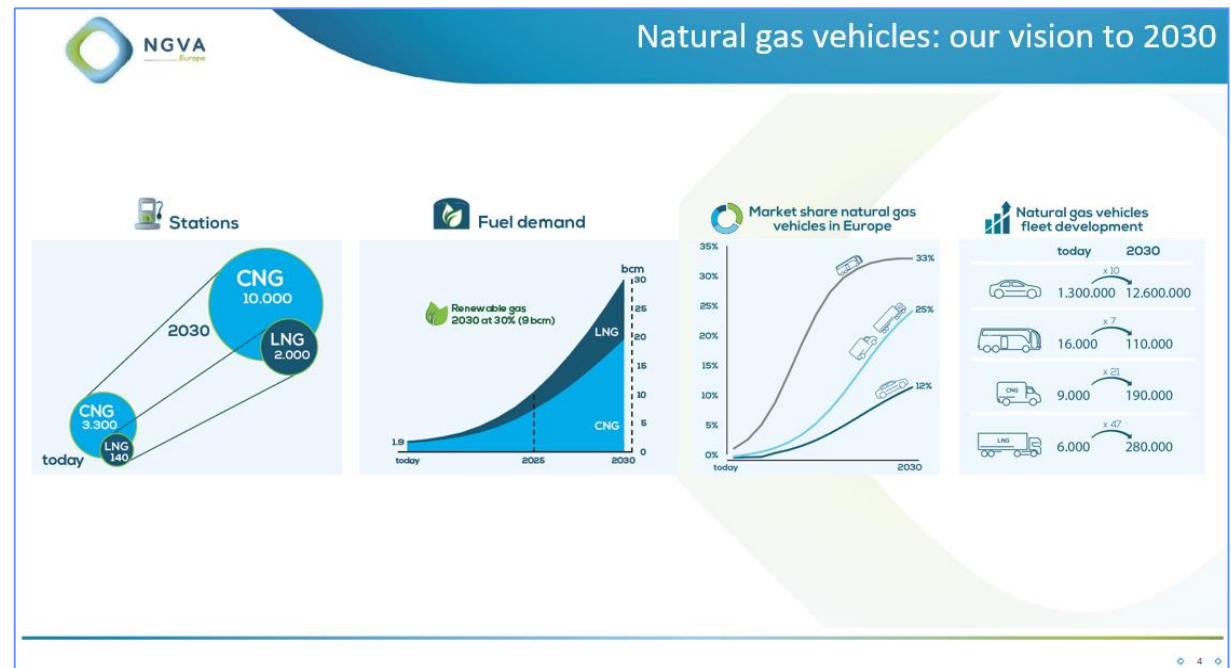
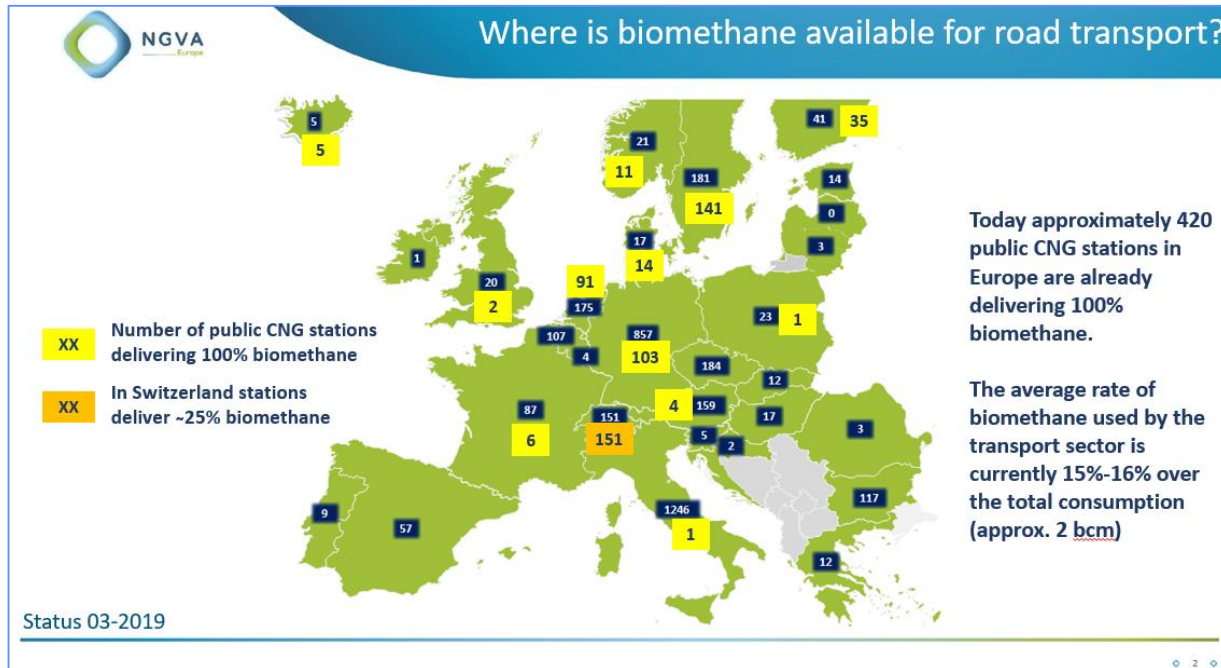
Environmentally-friendly gas offers logistics companies and customers low-emission fuel, which can cut emissions immediately by up to 85%.

Delivery and heavy transport account for more than a quarter of road traffic emissions within the EU.

EUROPEAN STATUS AND VISION TO 2030 (NGVA)

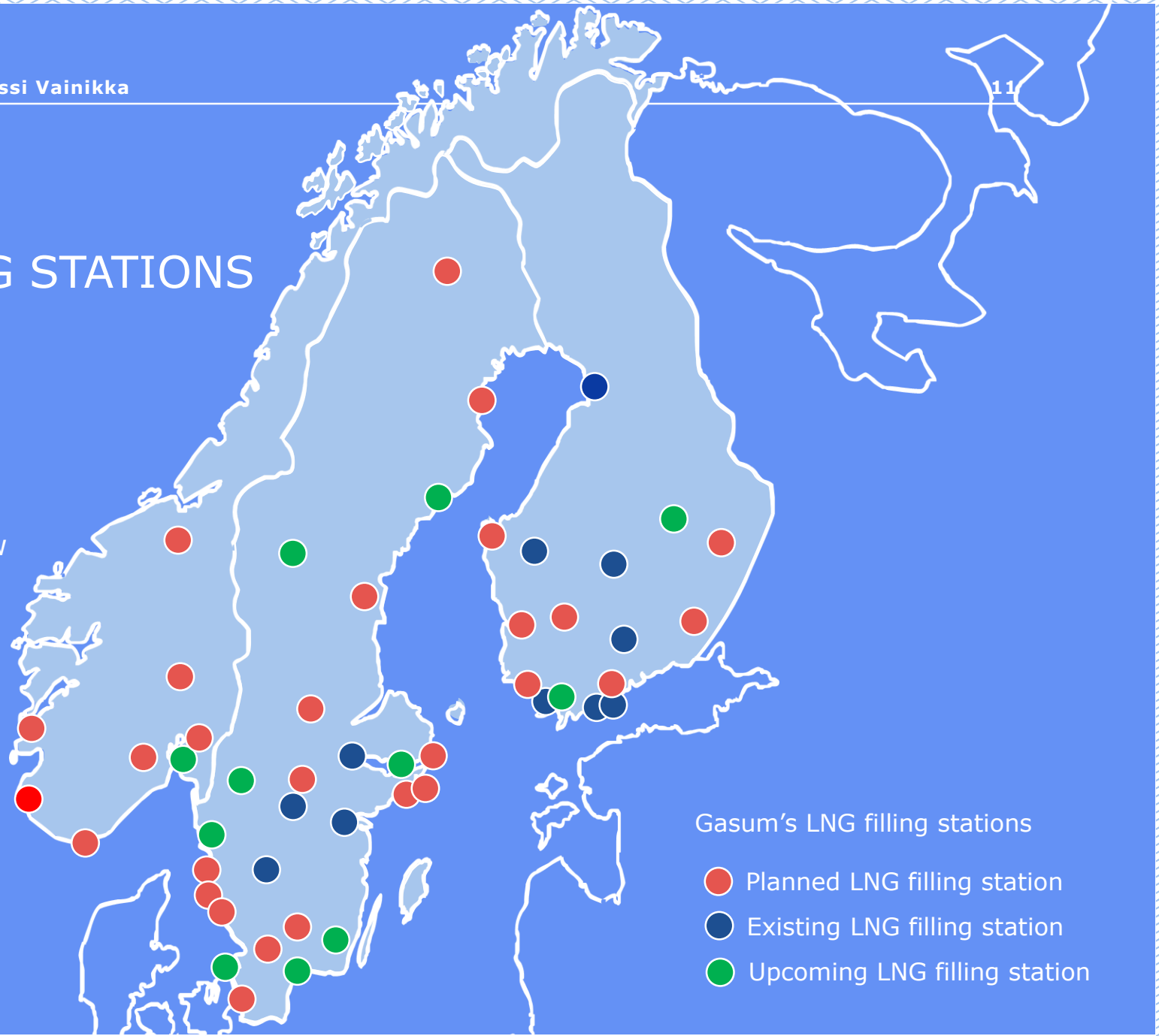


EUROPEAN STATUS AND VISION TO 2030 (NGVA)

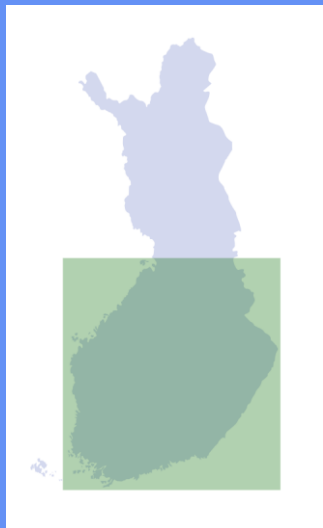


NETWORK OF LNG FILLING STATIONS EXPANDING IN NORDICS

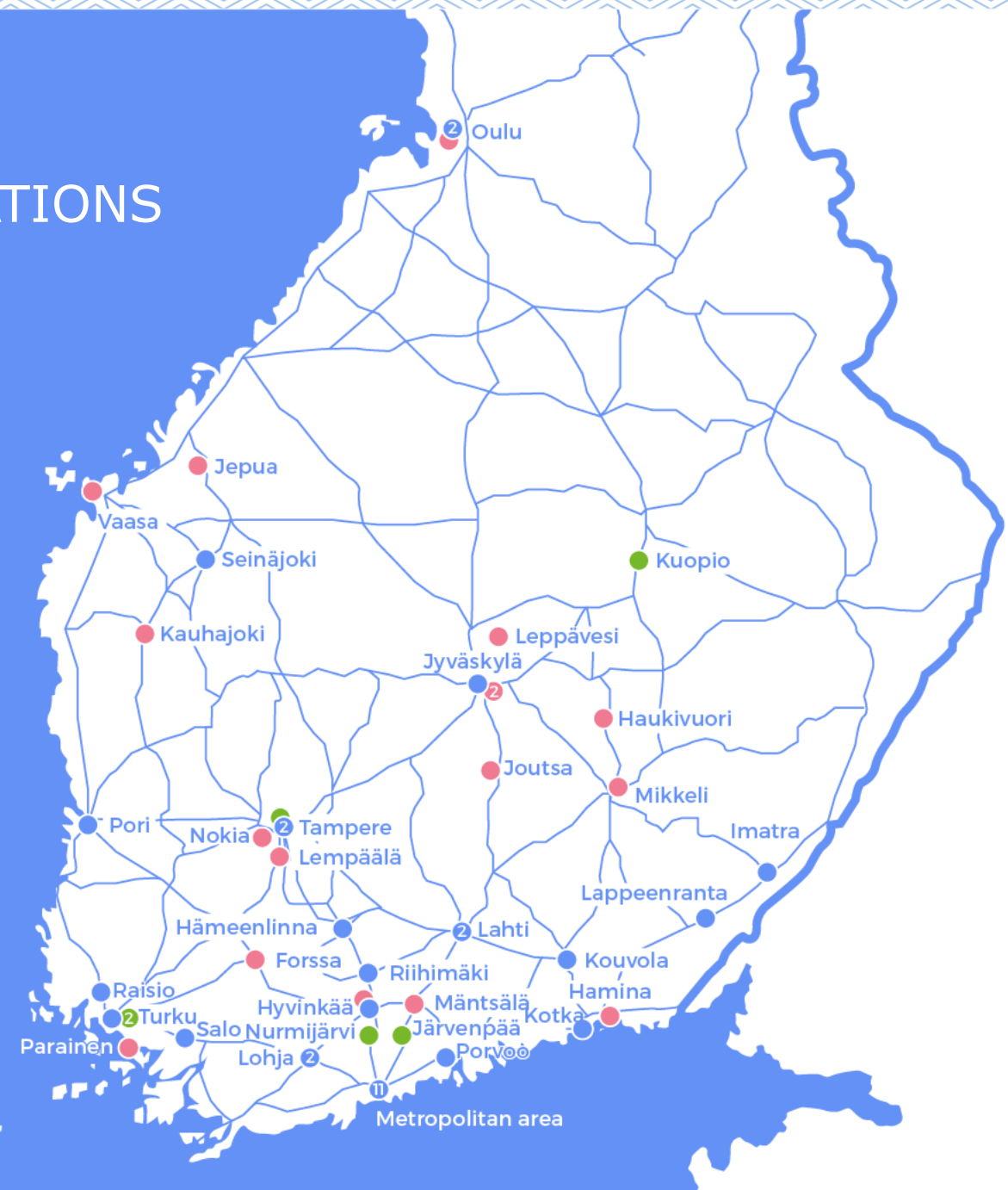
- Network of 50 filling stations in the Nordic countries by the early 2020s
- Role of gas in heavy transport will grow significantly in the coming years
 - Attractive technology
 - Affordable price
 - Improved availability
 - Effective emissions reduction
- Our road map reflects the ambition to sharply increase the role of LNG as a fuel in the Nordic HDV segment and accelerate this development



GROWING GAS VEHICLE FILLING STATIONS NETWORK IN FINLAND



- Gasum filling station
- Other operator's filling station
- Gasum filling station under planning / construction



MARKETING COMMUNICATIONS FASCINATION OF DIGITAL PLAYGROUND



+215%

INCREASE IN UNIQUE PAGEVIEWS

2016: 400,413

2018: 1,265,996



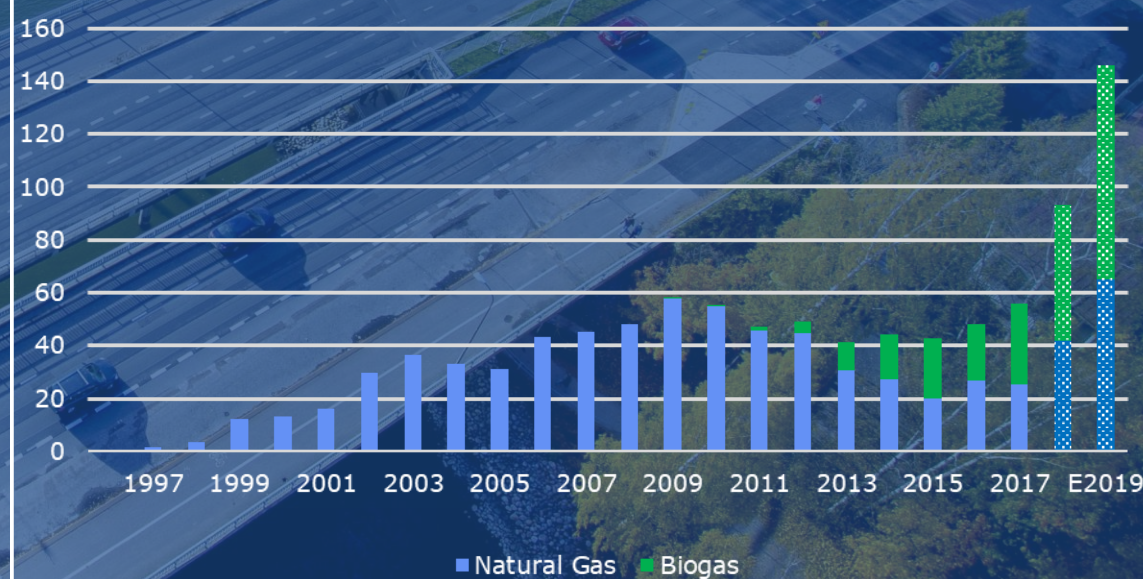
NGV DEVELOPMENTS IN FINLAND

Total CNG vehicles end of Year
FINLAND



Source: Traficom and Gasum

Road transport fuels
FINLAND



Source Y1996-2017: Statistics Finland's PxWeb databases
Y2018-2019: Gasum estimations

NGV DEVELOPMENTS AND NATIONAL TARGETS IN FINLAND

Total CNG vehicles end of Year
FINLAND



Source A2007-E2020: Traficom and Gasum
Y2030 TARGETS:

- E&C "Government report on the National Energy and Climate Strategy for 2030":

50 000 NGVs

January 2017

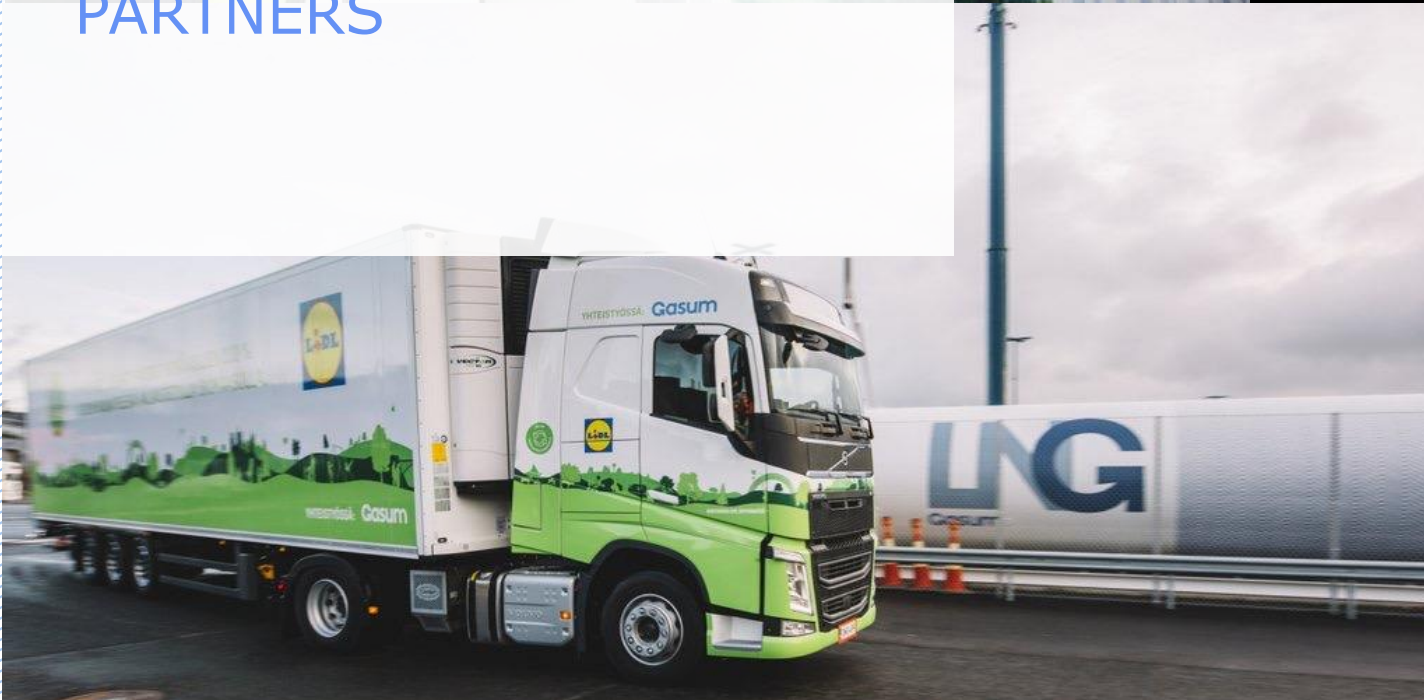
- ILMO45 "Action programme for carbon-free transport 2045, Final report by the Transport Climate Policy working group":

130 000 NGVs + 6 000 HDVs

December 2018



PARTNERS





VALIO

"Environmental criteria and green values weigh heavily in our choices. Besides which, driving and refueling a gas vehicle is the same as any other."

- Logistics Manager at Valio





LIDL

"We're happy to gain access to a new-generation low-emission transport fleet. This cooperation supports our investments in environmental friendliness and the efficient utilization of recycled fractions."

- Project Manager at Lidl

Heino
VIHREÄSTI
BIOKAASULLA
Vastuullisia Foodservice -toimituksia
valtakunnallisesti
www.heinontukku.fi

HEINON TUKKU

"Traffic generates a considerable share of overall emissions and we're working to reduce them through the choices we make. Compared with a diesel motor, for example, a biogas-fueled vehicle also significantly reduces noise nuisance."

- Transport Manager at Heino Tukku

POSTI

"To cut transport emissions we need several different ways and alternative fuels, such as LNG, which is one way."

- Head of Sustainability at Posti Group





WE ♥ GAS