



VTTI Bio-Energy Limburg

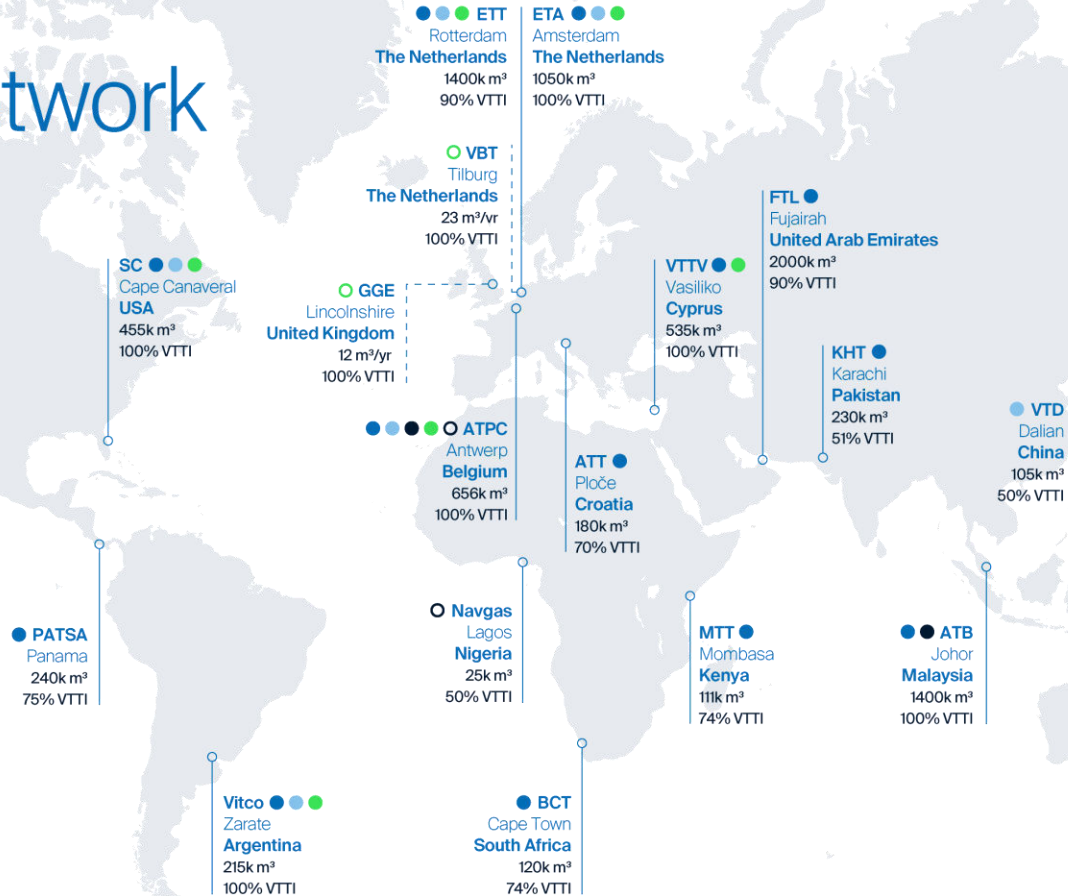
Welkom!

Energy to Move Tomorrow.

VTTI is een van 's werelds grootste onafhankelijke infrastructuurbedrijven voor de opslag van energieproducten. De missie van VTTI is om essentiële energie op een veilige manier bij mensen te krijgen en de transitie naar nieuwe energiebronnen te versnellen. Ons doel is dat in 2028 meer dan 50% van onze activiteiten bestaat uit nieuwe en transitie-energiebronnen

VTTI Network

- Oil products
- Chemicals
- Bitumen
- Biofuels
- Biogas
- LPG



Our projects are focused on supply & demand and infrastructure trends that offer the greatest potential for the future of the energy market and that best fit with our capabilities



Biofuels

Biofuels play a particularly important role in decarbonizing transport by providing a low-carbon solutions for and heavy-duty trucks, ships and aircraft.

- SAF (sustainable aviation fuel)
- Methanol
- Ethanol
- Biodiesel
- HVO

⚡ Projects underway

Netherlands
Belgium
Malaysia



Hydrogen

Hydrogen does not produce greenhouse gas when burned.

Extremely versatile; can be produced from the greenest renewable resources, including solar and wind power.

Offers the potential to decarbonize even hard-to-abate sectors.

⚡ Projects underway

Netherlands
Belgium



LNG (Liquified Natural Gas)

Transitional energy. Lowest carbon hydrocarbon in high abundance.

Complements renewable resources being integrated into the grid.

Infrastructure can be used for new sources such as synthetic natural gas.

⚡ Projects underway

Netherlands
UK
Germany



Waste to Value

We are exploring the transformation of large municipal and industrial side streams and residues such as end-of-life tires and plastic waste into reusable chemicals and pyrolysis oil.

Waste-to-value will make a significant contribution to the circular economy, delivering low or no-carbon fuels or recovered materials that can substitute virgin materials.

⚡ Projects underway

Belgium
UK
Malaysia



RNG (Renewable Natural Gas)

RNG (or Biogas) is made from organic materials such as side streams from agriculture and food industries

Produces other derivatives eg.bio-LNG, bio-CNG (compressed natural gas), and organic fertilizers.

RNG can be used to fuel transportation, generate heat and produce electricity.

⚡ Projects underway

Netherlands
UK
Poland



VTTI Bio-Energy Limburg

EU doelstelling

“Fit for 55”

45% hernieuwbaar in 2023

35 miljard m³ minder aardgas in 2030

Klimaatakkoord NL

2 miljard m³ groen gas in 2030

Bijmengverplichting bebouwde omgeving

20% groen gas in 2030

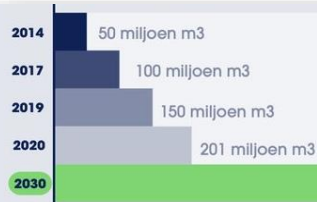
2050 klimaatneutraal

RES Noord- en Midden Limburg

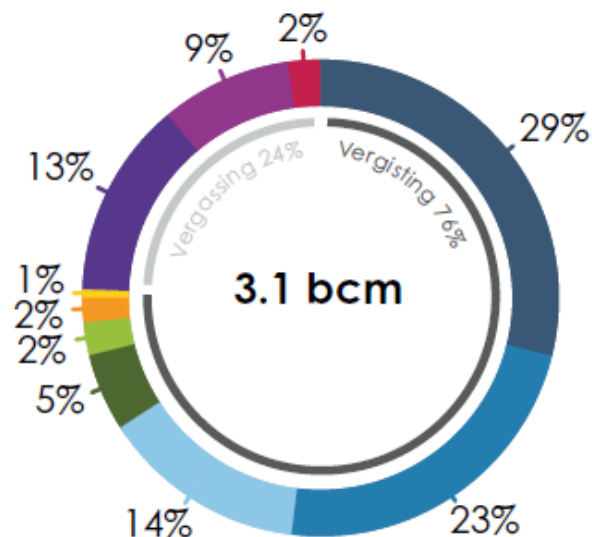
25% minder CO₂ in 2030

Inzet op productie van groen gas

Energie krijgen van energie maken

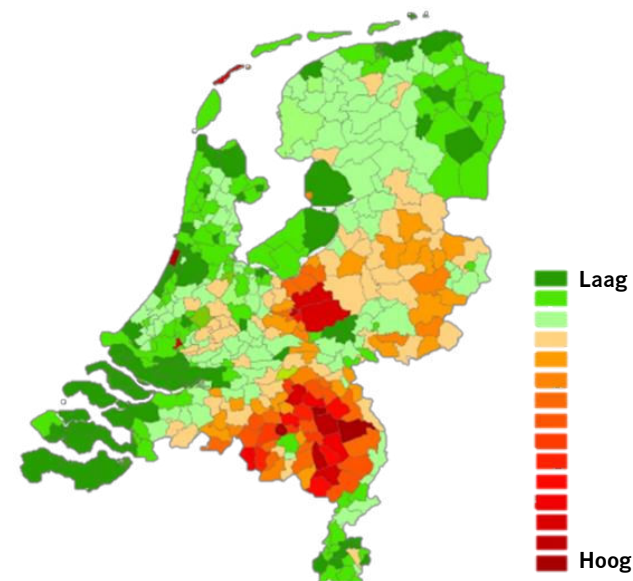


2 bcm in 2030
(2 miljard m³)



- Mest
- Resten voedings- en genotmiddelen industrie
- Gewasresten
- Riool- en afvalwaterslib
- GFT
- ONF
- Natuur- en bermgras
- Afvalhout
- Natuur- en landschapsbeheer
- Restanten productiebossen

Bron: EBN



Fosfaatoverschot per gemeente

Ketenreductie stikstof en methaan (VTTI Bio-Energy Tilburg)

Reductie, zowel in de keten als lokaal

stikstof: 352 ton NH₃/jaar

CO₂-eq: 62.948 ton/jaar

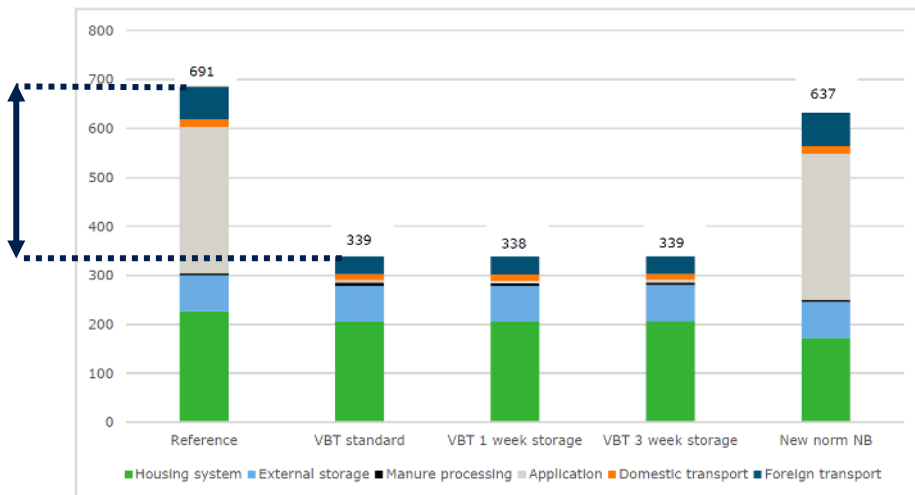


Figure S.1 Ammonia emissions (tonnes NH₃/year) for all (sub)scenarios.

Table 3.1 Ammonia emissions for all (sub)scenarios (tonnes NH₃/year).

Scenario	Housing system	External storage	Manure processing	Application	Domestic transport	Foreign transport	Total
Reference	227	74	4	305	16	67	691
VBT standard	206	74	6	5	12	36	339
VBT 1 week storage	205	74	6	5	12	36	338
VBT 3 week storage	206	74	6	5	12	36	339
new norm NB	173	74	4	305	16	67	637

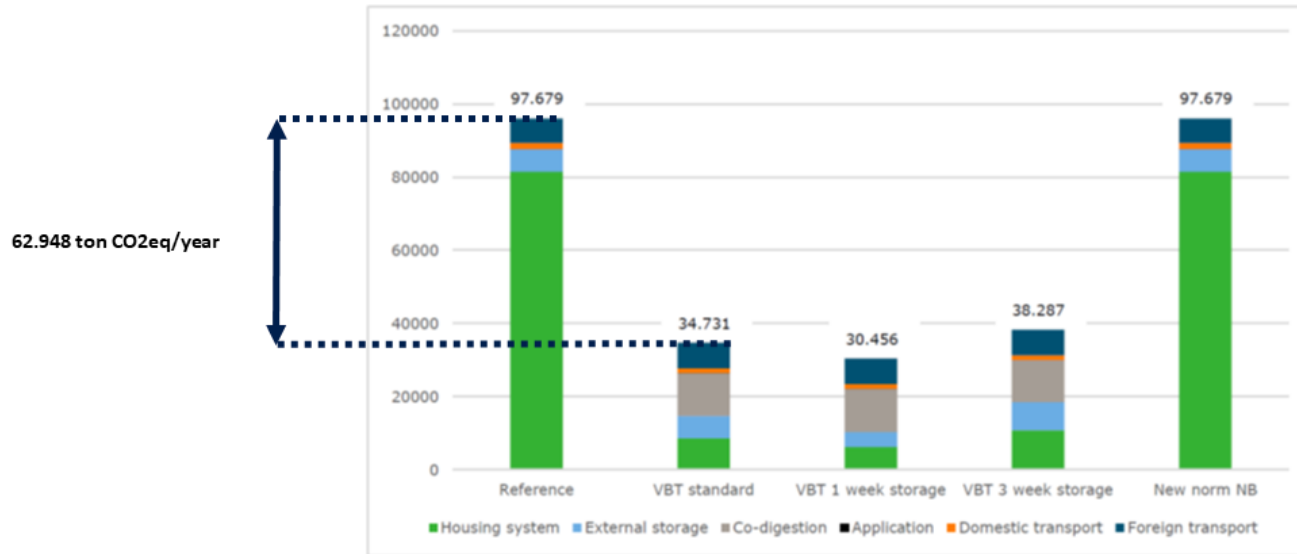


Figure S.2 Greenhouse gas emissions (tonnes CO₂ equivalents/year) for all (sub)scenarios.

Mestmarkt komende periode:

- Minder dieren (~30%?)
- Minder plaatsingsruimte
- Lagere bemestingsnormen (bv derogatie)
- Voorkomen emissies uit mest

LLTB: “Met een reductie van 30% van de veestapel, blijft het mestoverschot gelijk naar 2030. Voor Noord en Midden Limburg is dat ca 3,6 mln ton per jaar”

Aflopen derogatie voelbaar op mestmarkt

Zonder derogatie gaan afzetkosten varkenshouders omhoog

Stilte voor de storm op de mestmarkt?

Published: 04 February 2023

Mestmarkt loopt stroef, maar echte pijn komt nog

ALTEGELIJK MELKVEE BOERIE KLEIN SWOORANK 26 APR 2023 09:08:56



NCM en POV: Na 2025 komt er minder gebruiksruimte voor mest

11 april 2023 Mest 1 reactie



Feedstock voorbeelden



Olive Cake



Waste Fries



Potato Peels



Hot Trub



Potato Slivers



Reject vegetables



Olive



Orange pulp



Sludge



Reject fries



Olive residue



Reject Onions



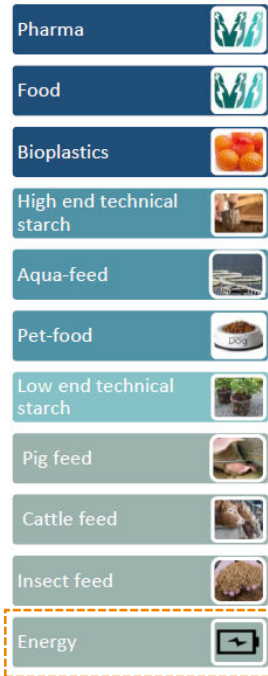
Beet pulp



Grain Residue

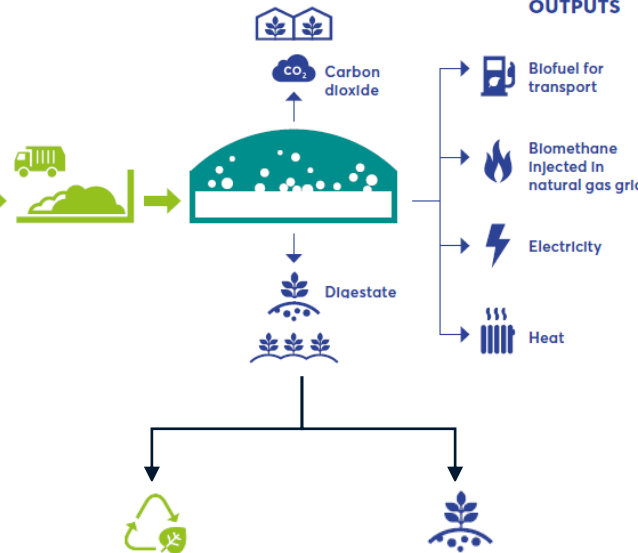


“Afval” piramide



Prices Paid for Products Derived from Side-Stream

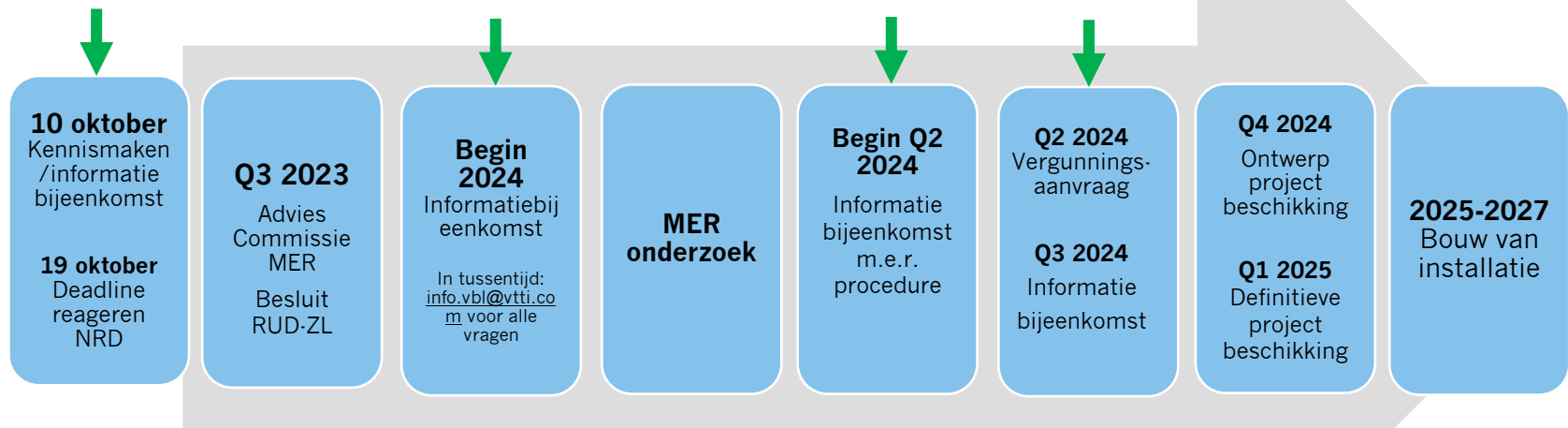
Bio-Energie faciliteit: Flexibiliteit!



- Renewable heat and power
- Clean transport
- Closing the carbon loop
- Regenerative farming
- Recycled carbon contained in digestate back to the soil using organic fertilizer

Bio-energie faciliteit op Zevenellen (impressie)





 = Contactmoment met omgeving



Dank voor uw aandacht!

Nog vragen?

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