



Bioethanol in den Niëderlanden

Nationale Ziele und Bioethanol für Mobilität

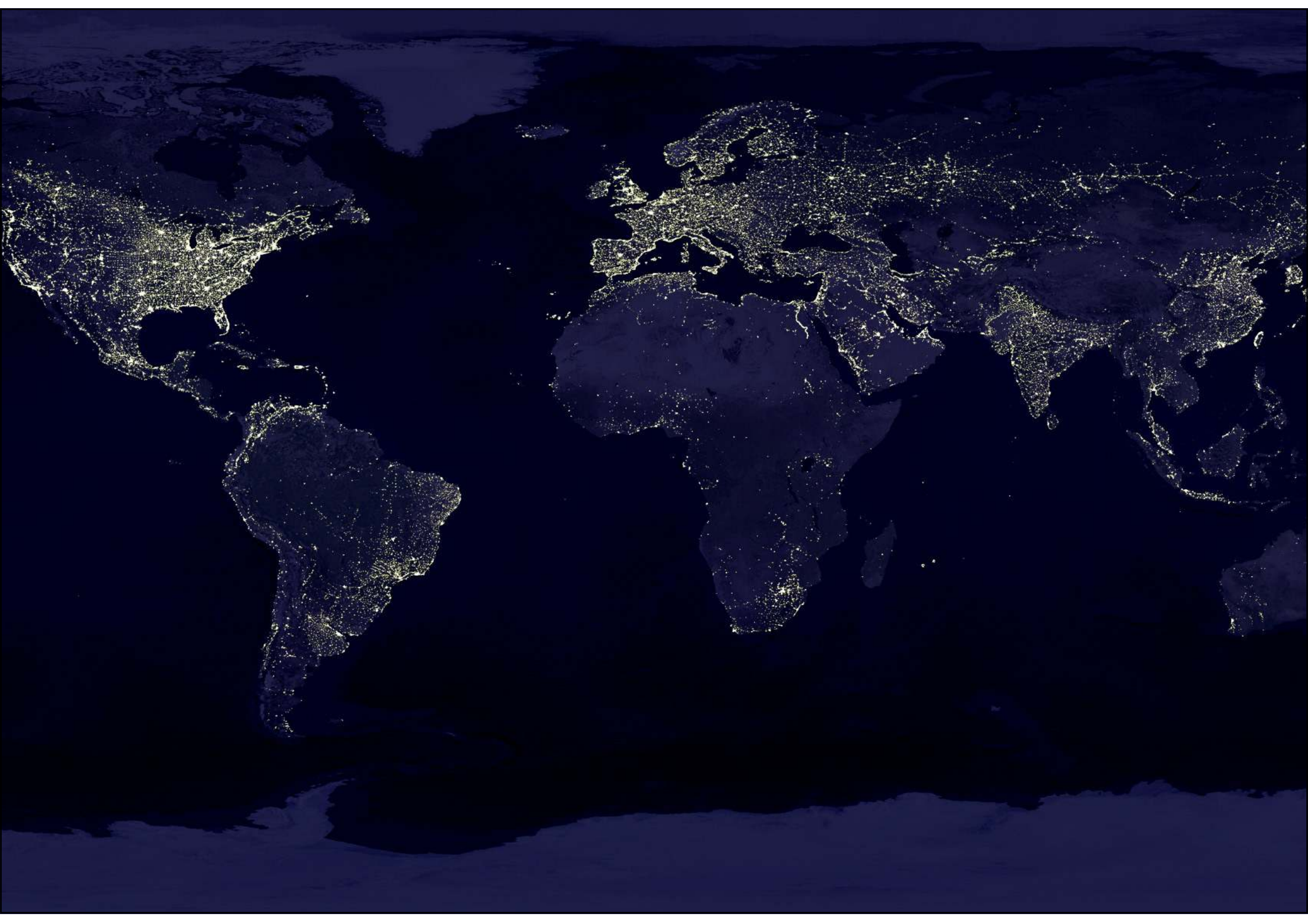
Age van der Mei

13 december 2007

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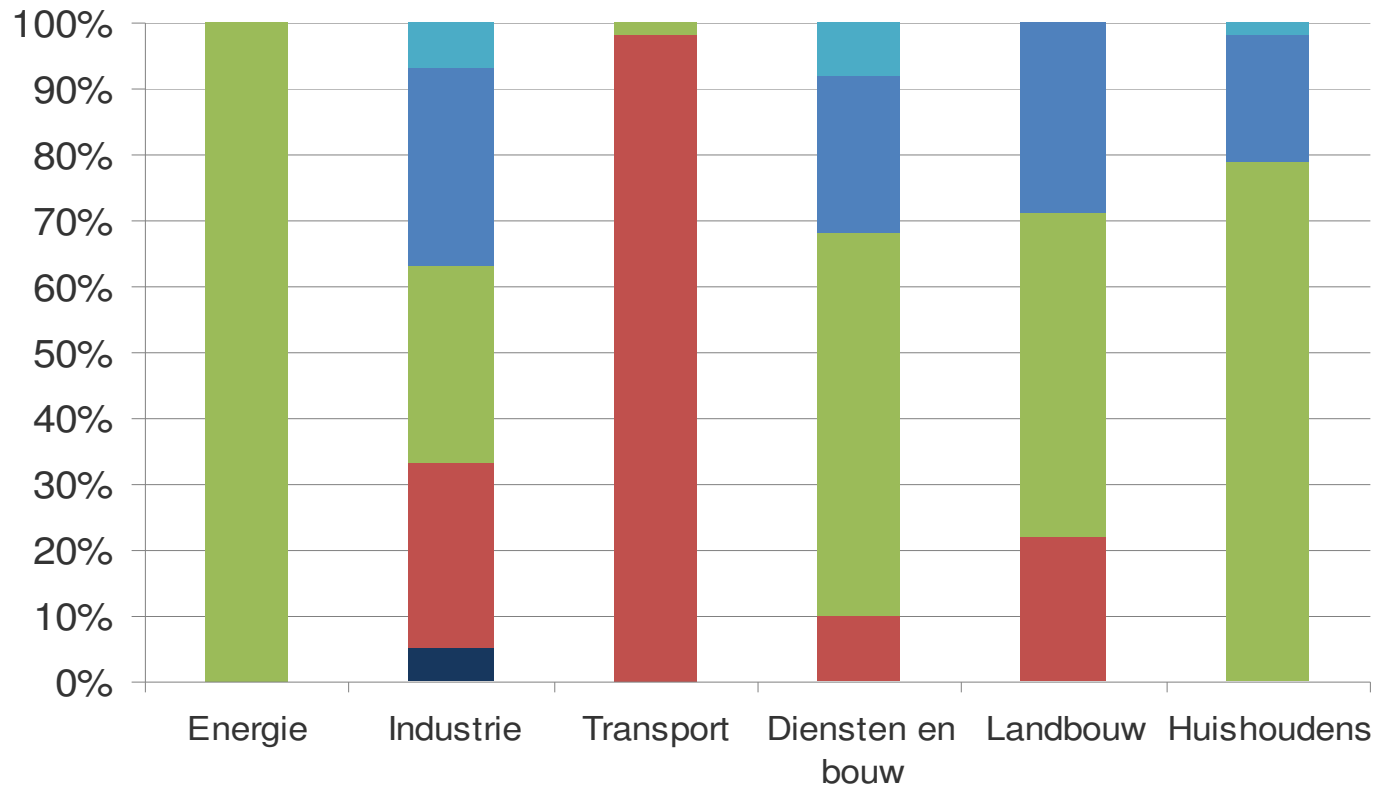
I. Nationale Ziele → Bioethanol in die Niederlande

II. Bioethanol für Mobilität



Nationale Ziele

Energiemix Noord Nederland 2006



■ Warm water
■ Electriciteit
■ Gas
■ Olie
■ Kolen

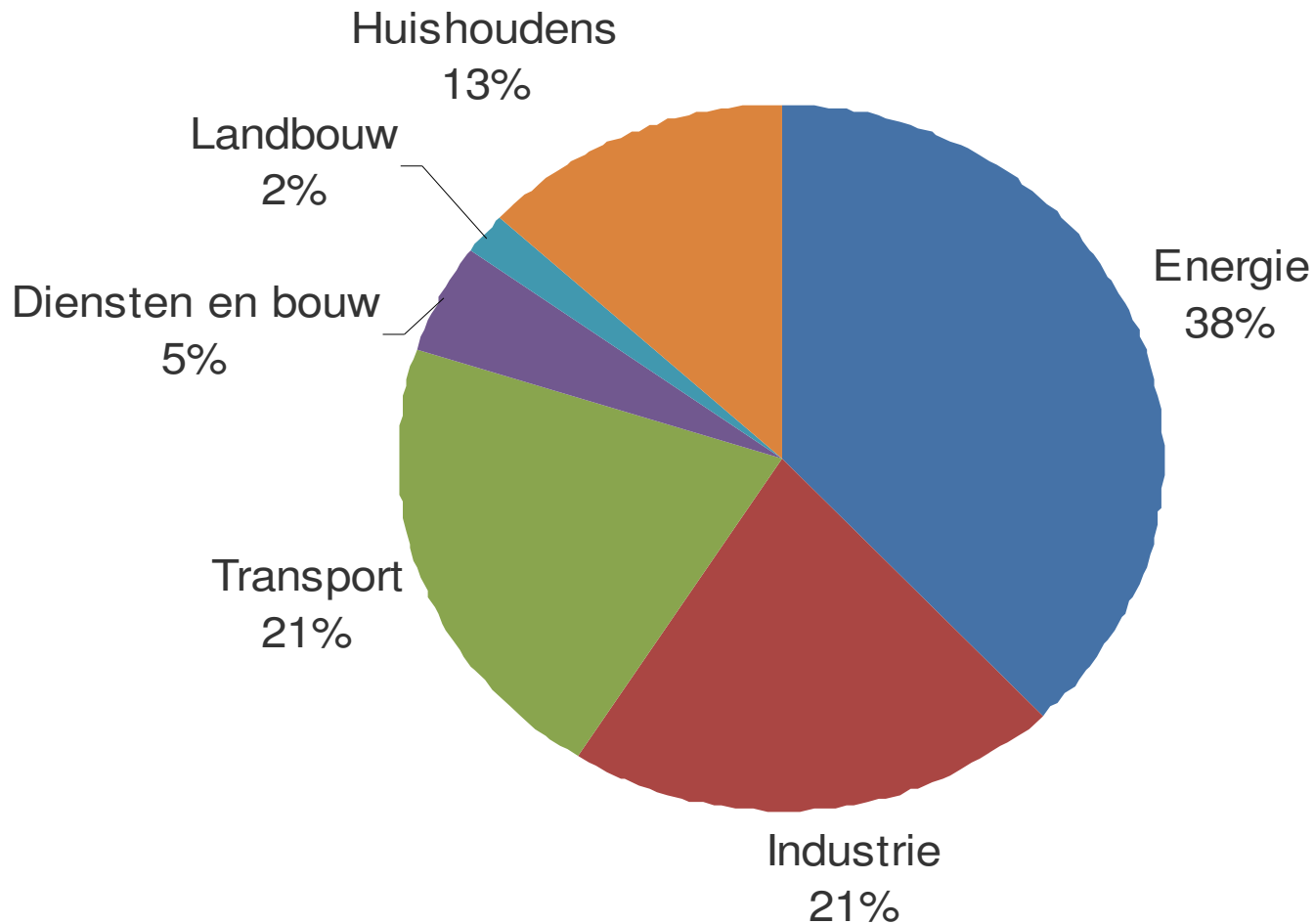
Meer dan 80% van onze olie komt uit:

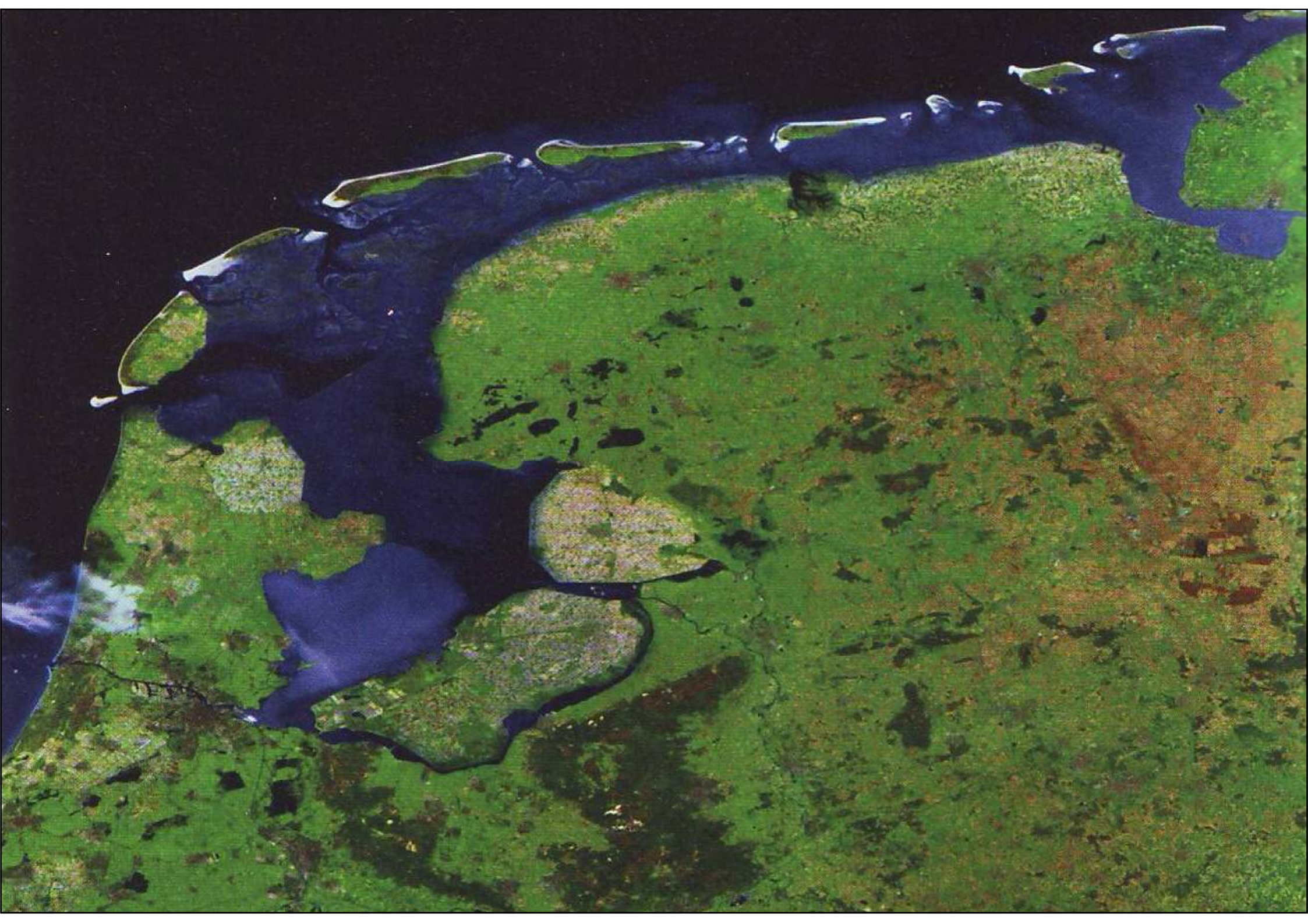
- **Voormalig USSR**
- **Noorwegen**
- **Saudie-Arabie**
- **Libie**
- **Iran**

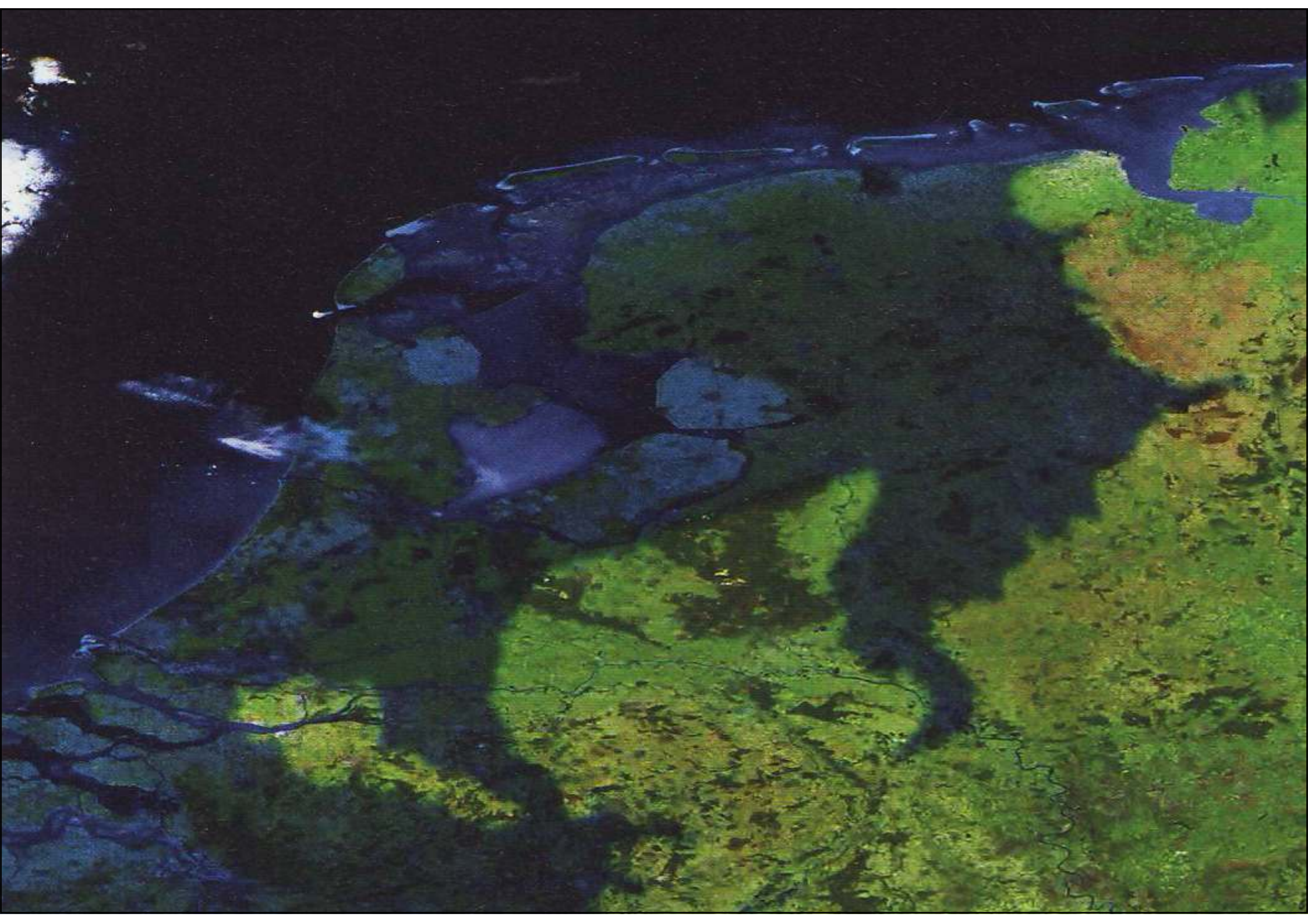
Bron: Klaas-Jan Noorman, Grounds for Change, 2006

Nationale Ziele

Co2 emissies Noord Nederland 2006







Derde Energienota: 5% duurzame energie → 2010

Actieplan Biomassa: 10% duurzame energie → 2010

Nederland: 30% Co2 reductie → 2020

20% Biobrandstoffen → 2020

**Platform Groene
Grondstoffen:** 30% groene grondstoffen → 2030

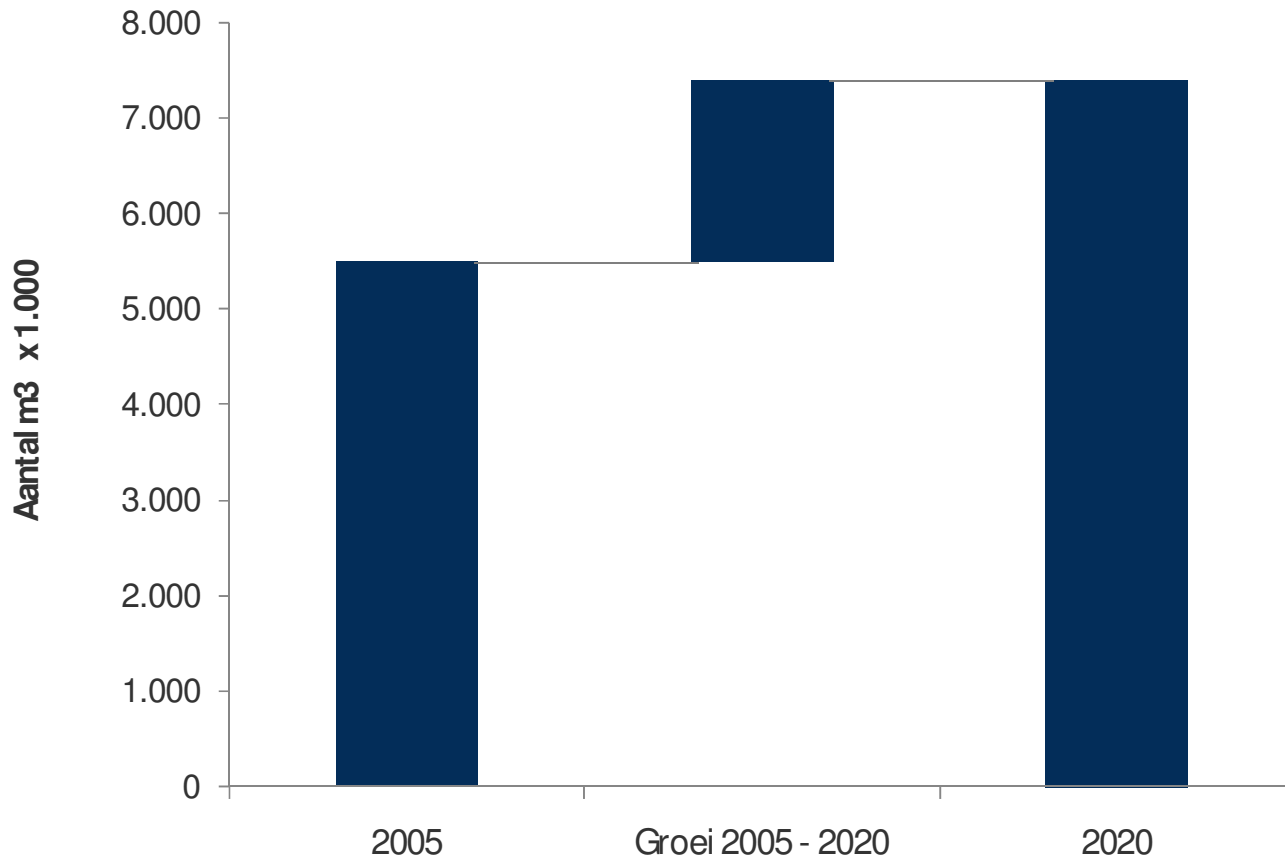
EU: 20% duurzame energie → 2020

20% Co2 reductie → 2020

10% duurzame brandstoffen → 2020

Nationale Ziele

Benzinevolume Nederland 2005 - 2020
(aanname 2% groeivoet)



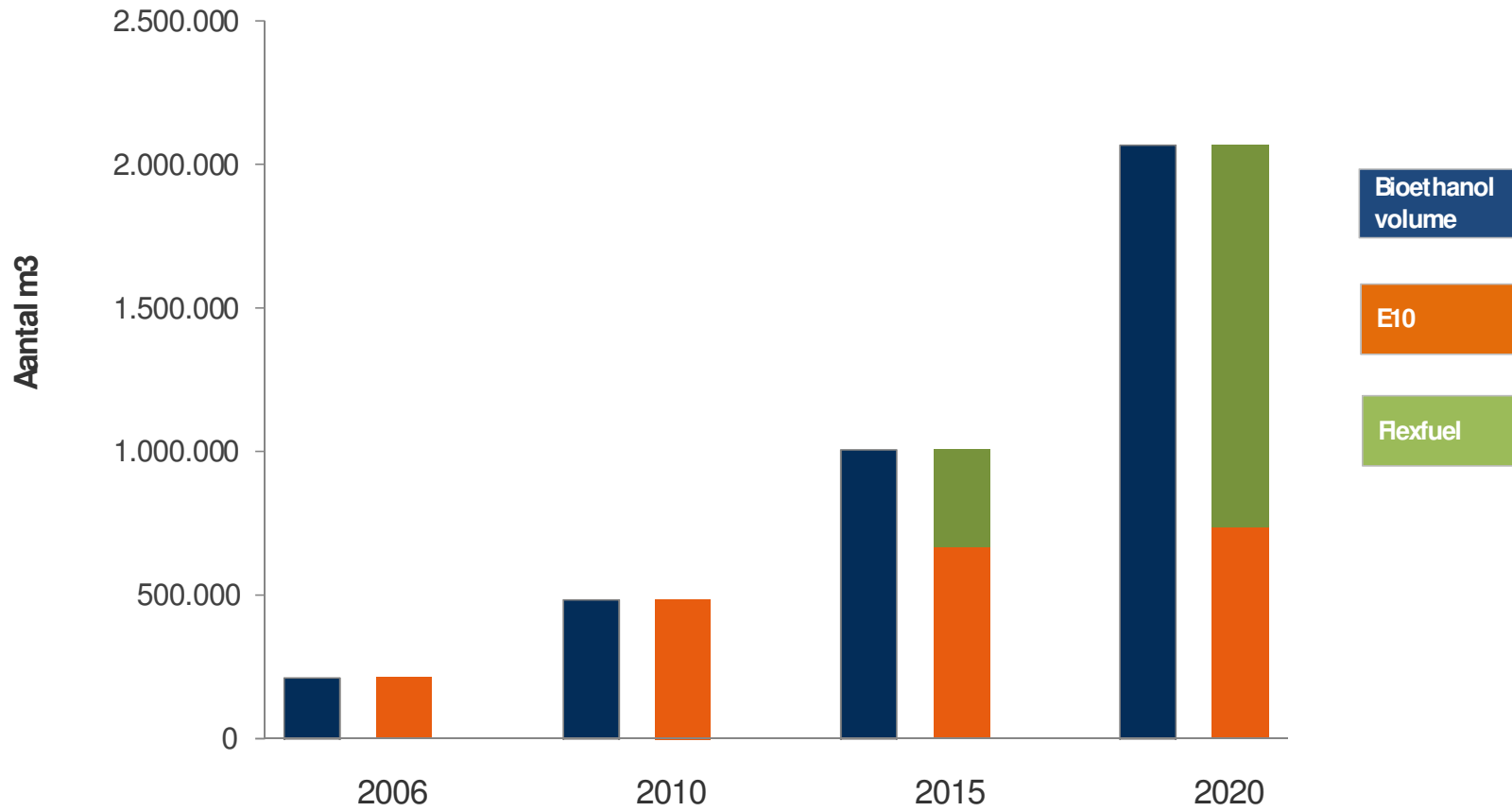
De verbrandingsmotor blijft tot na 2030 de dominante transport technologie



in: Van Geel, Brandstofrapportage EU, 2006

Nationale Ziele

Bioethanol in voertuigen 2006 - 2020
(aanname, groeivoet = 2%)



'an Geel, Brandstofrapportage EU, 2006

Nationale Ziele

Aspect	Recommended criterion for 2007	Recommended criterion for 2010
CO ₂ balance:	Minimum reduction 30%	Minimum reduction 45%
Food supply	Locally no scarcity of food, energy, medicines and building materials due to biomass production	Locally no scarcity and disruption of the food, energy, medicines and building materials supply
Nature and Biodiversity	Businesses must report on the biodiversity effects of biomass plus no deteriora-tion valuable nature reserves	The 2007 requirement plus active protection of the local ecosystem where biomass production is taking place.
Economic prosperity and well-being	Businesses must report on the economic prosperity and social well-being effects of the biomass they produce + rights local population are respected	The 2007 requirement + that biomass production will in principle not be at the expense of economic prosperity and social well-being of the local population. Decline will be compensated
Working conditions	Working conditions meet local legal requirements / workers can organise themselves in a trade union	The preceding requirement plus that working conditions meet ILO (International Labor Organization) requirements
Environ-mental protection	Compliance with local legislation in the field of waste materials, pesticides and herbicides, fertilizer, noise, stench, emissions and safety. Compliance with the American GMO legislation	Compliance with local and EU legislation in the field of waste materials, pesticides and herbicides, fertilizer, noise, stench, emissions, GMOs and safety and the obligation of ISO 14001
Soil quality nutrient balance	Meet local legal requirements	The preceding requirement plus the use of an erosion management plan / no decline of soil thickness, carbon storage and fertility
Water quality	Meet local legal requirements	The preceding requirement plus re-taining the quality and availability of surface area and ground water



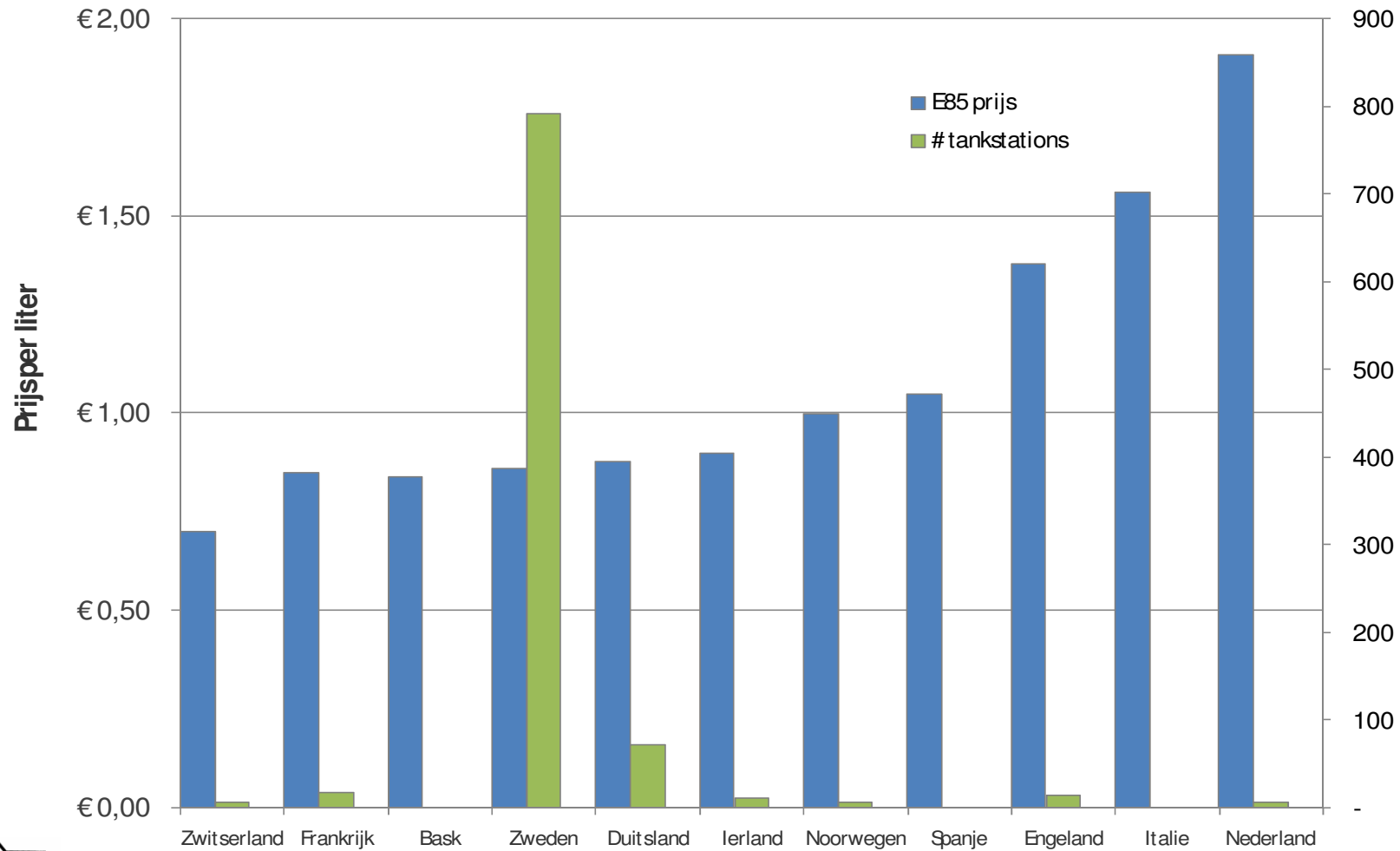
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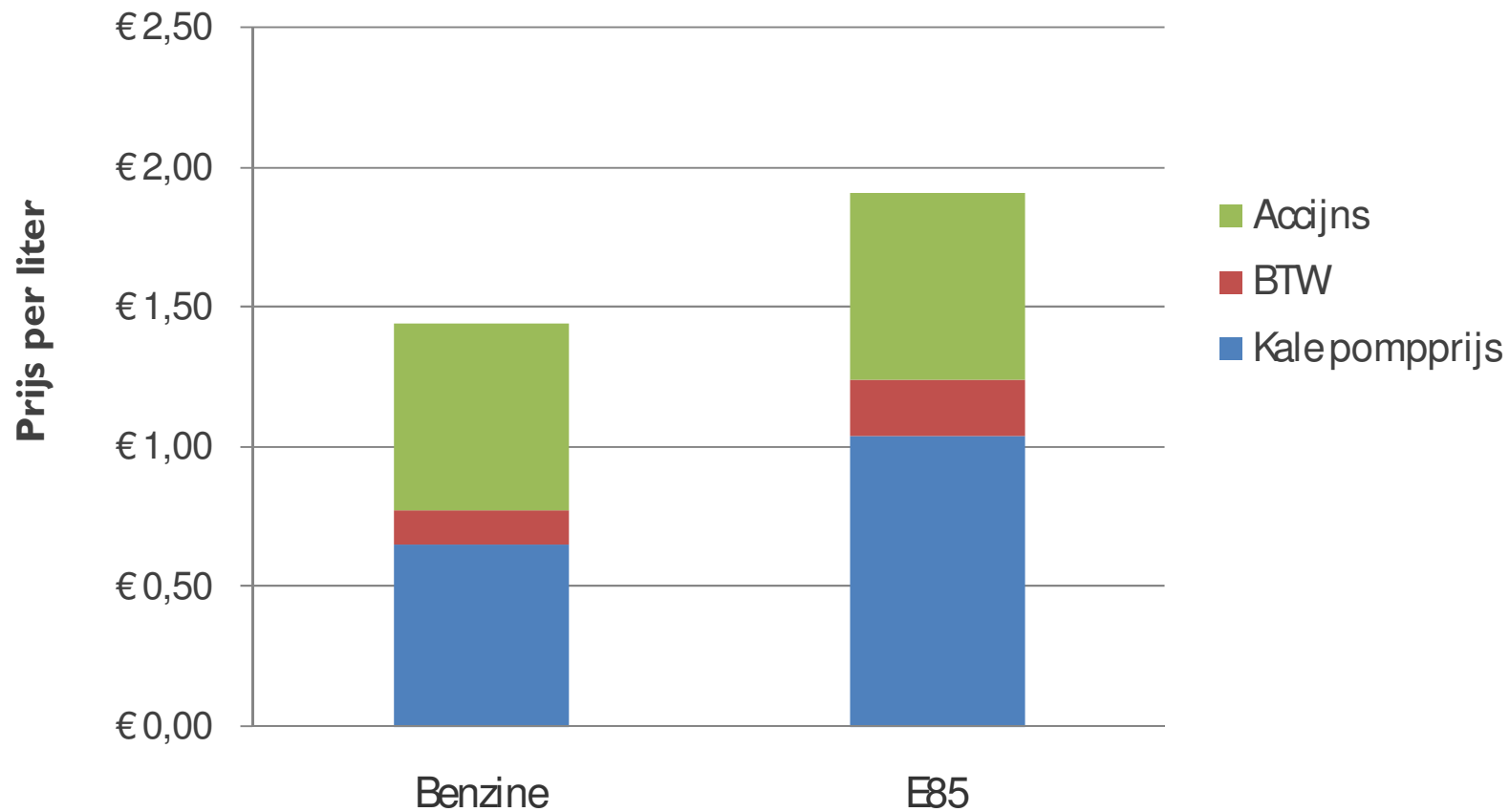
Bioethanol für Mobilität

Ethanol pomprijzen en vulpunten in Europa (mei 2006)



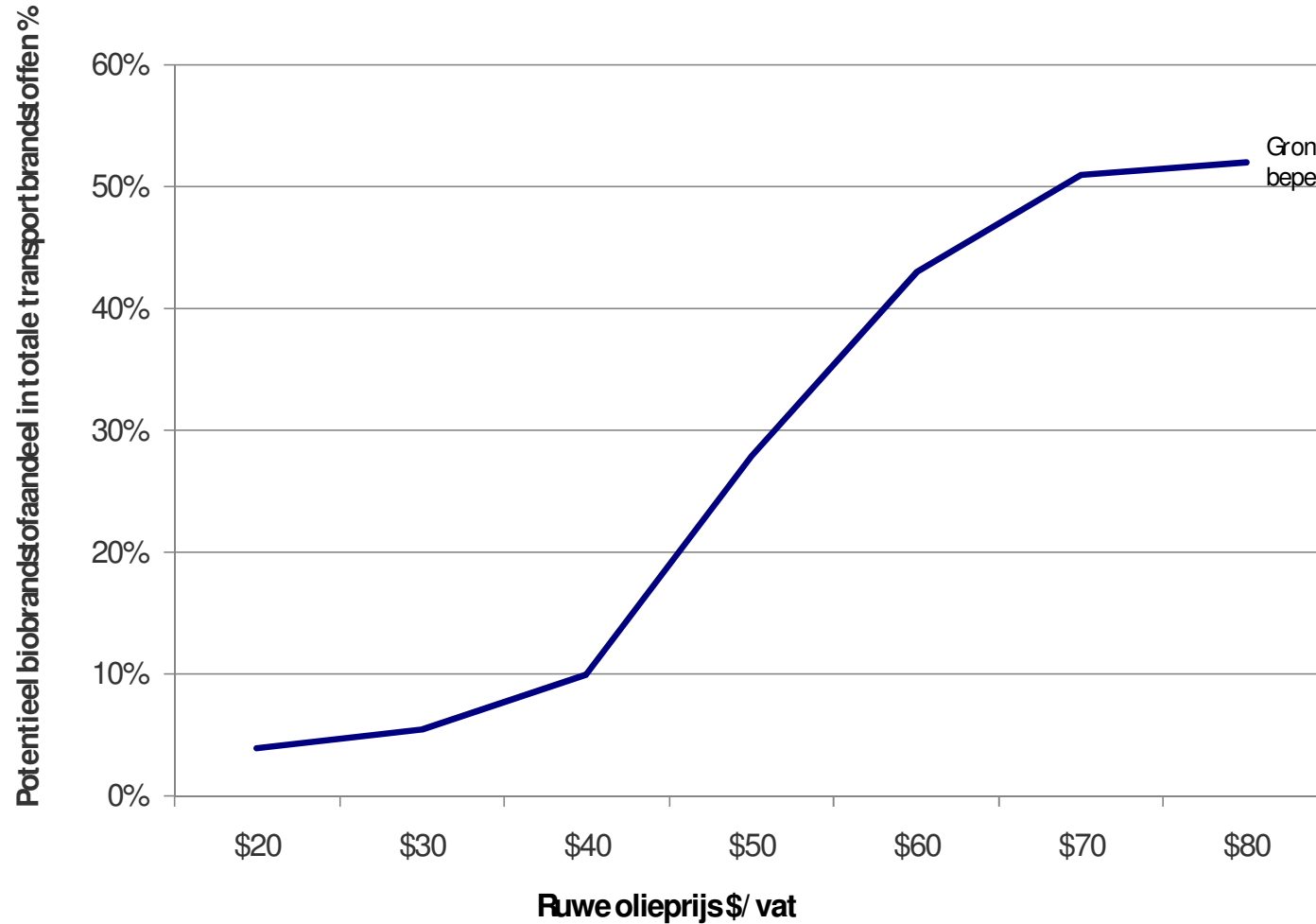
Bioethanol für Mobilität

Benzine en E85 pompprijs (prijzen 2006)



Bioethanol für Mobilität

Impact van ruwe olieprijsen op economisch potentieel van biobrandstoffen



Grondstof beschikbaarheid beperkt verdere groei

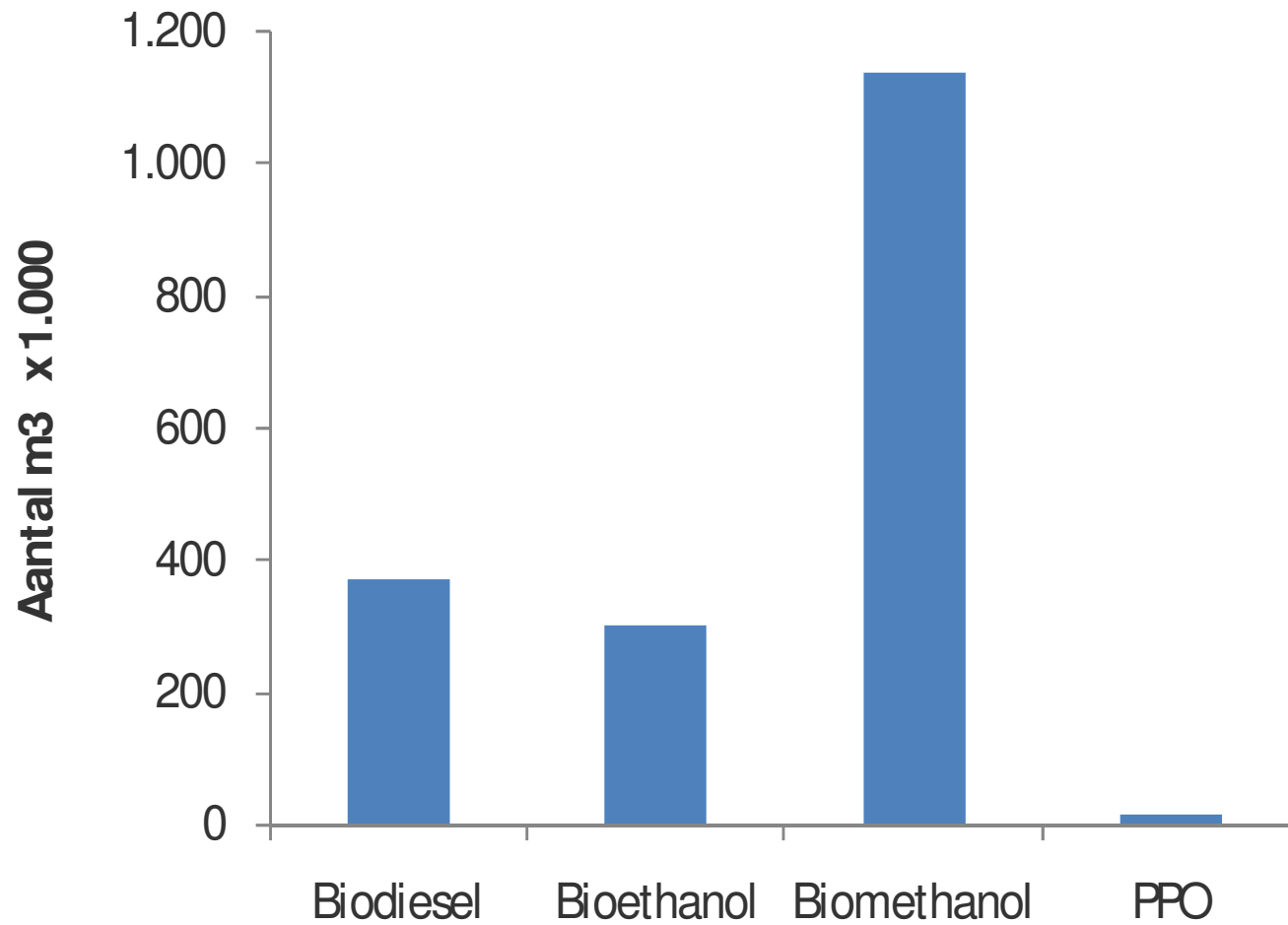
Graanprijs in EU
 met >100% gestegen
 in 3 jaar.
Van deze stijging
 komt ± 1% door
 ethanolproductie
 [Copa, Cogena, 2007].



FAPRI, 2006; UN FAO, 2006; McKinsey, 2007

Bioethanol für Mobilität

Productievolume Biobrandstoffen Noord-Nederland (in productie en verwacht)





Bioethanol in die Niëderlande

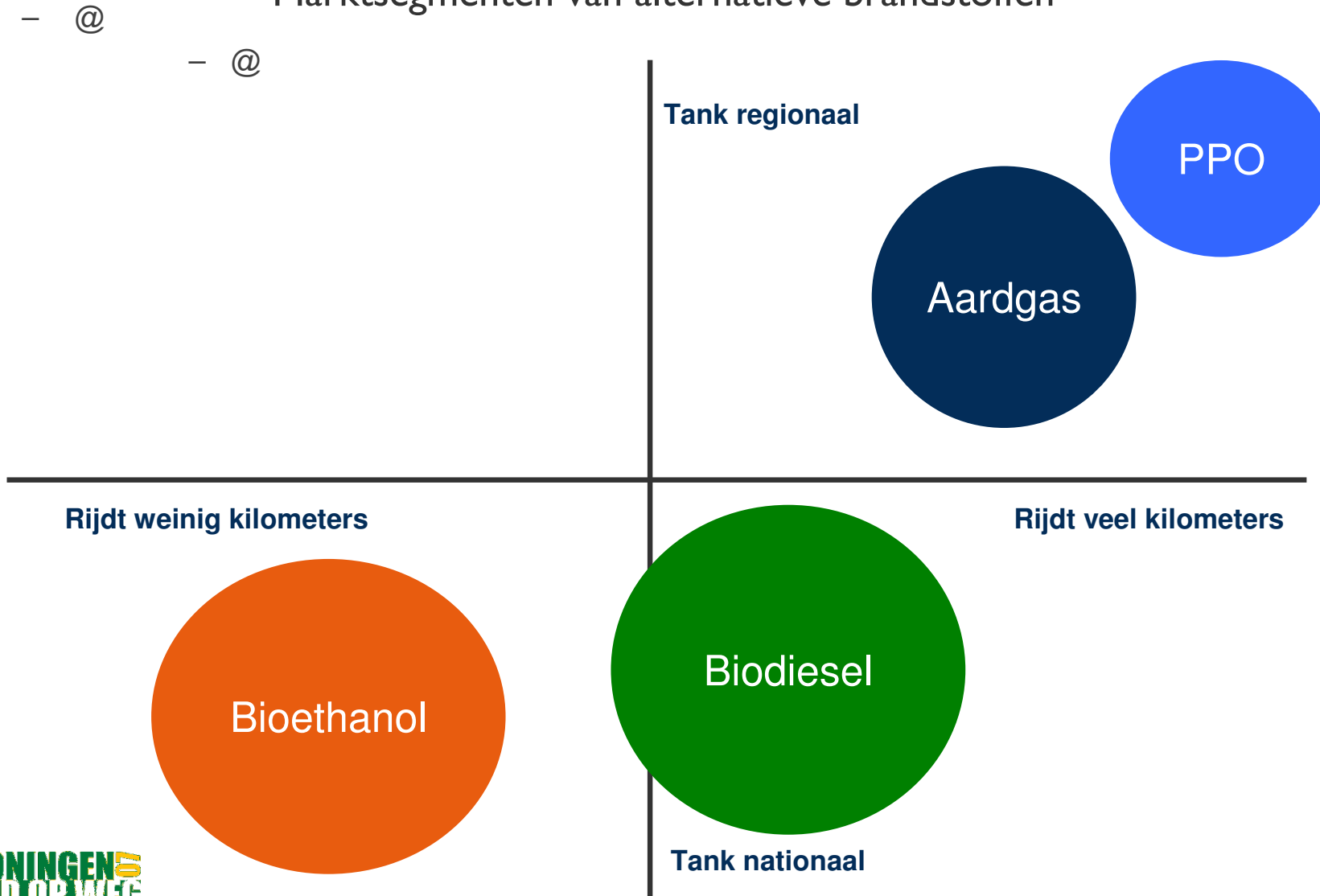
Nationale Ziele und Bioethanol fur Mobilität

Age van der Mei

E age.vandermei@duinn.nl

T +31653396118

Marktsegmenten van alternatieve brandstoffen



1896

Henry Ford's eerste auto

Brandstof: ethyl alcohol → bioethanol

