

# Nationaal LNG Platform

## ‘Green Deal’: LNG in the Netherlands

Gerrit van Tongeren, chairman National LNG Platform  
CCR Round Table on LNG



13 November 2012

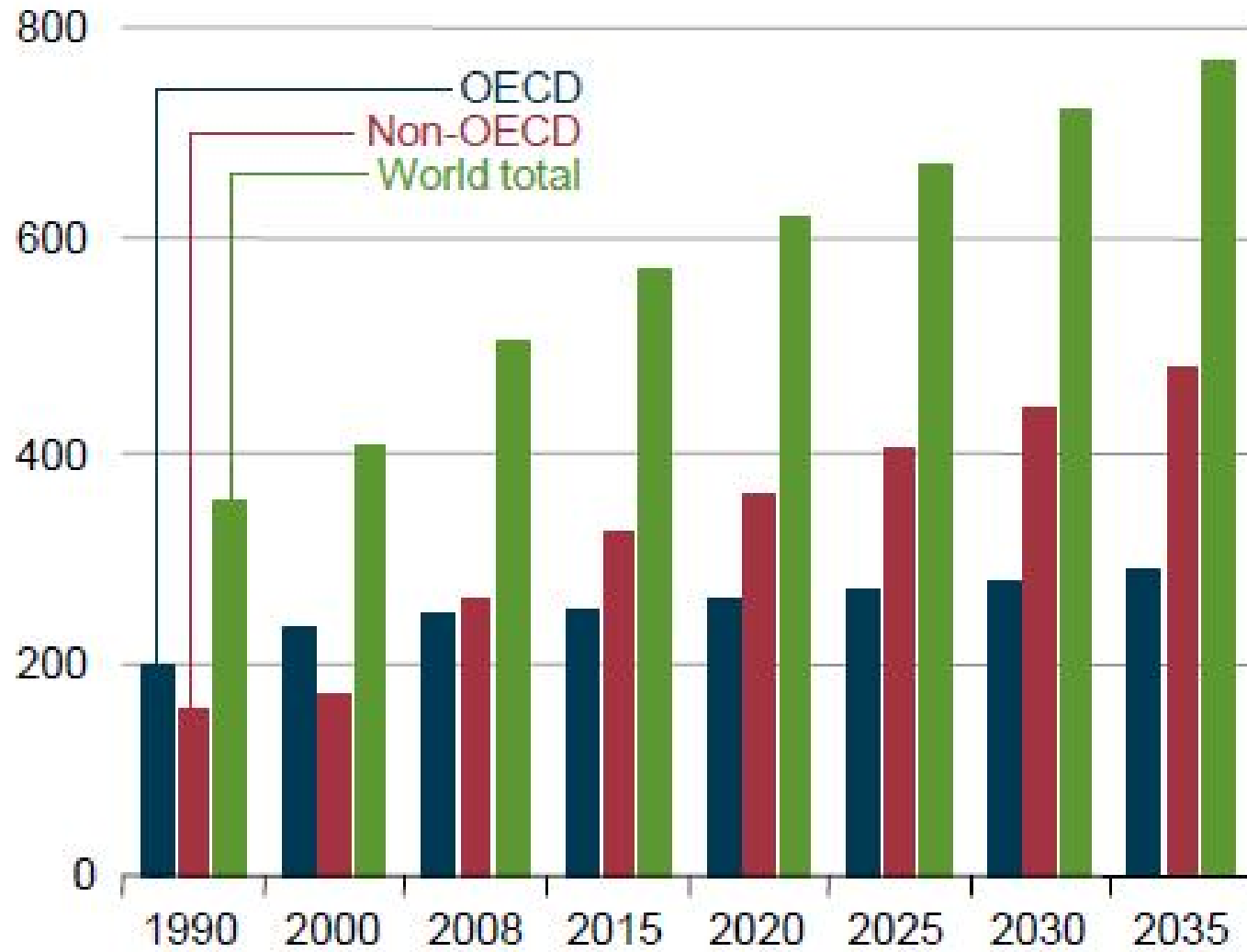
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# 1. Some facts and figures to start with

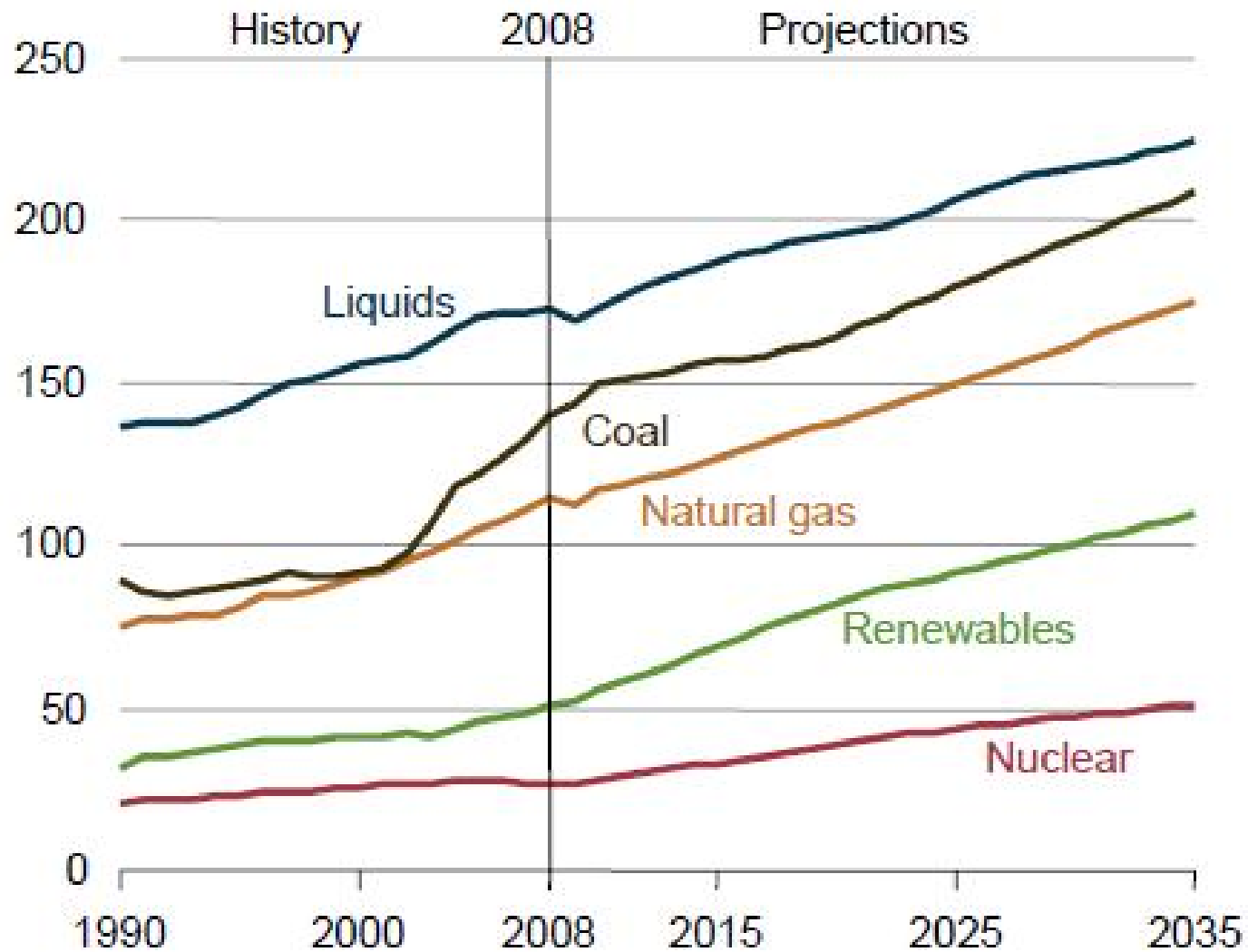
# World energy consumption 1990-2035

[source: IEA Energy Outlook]



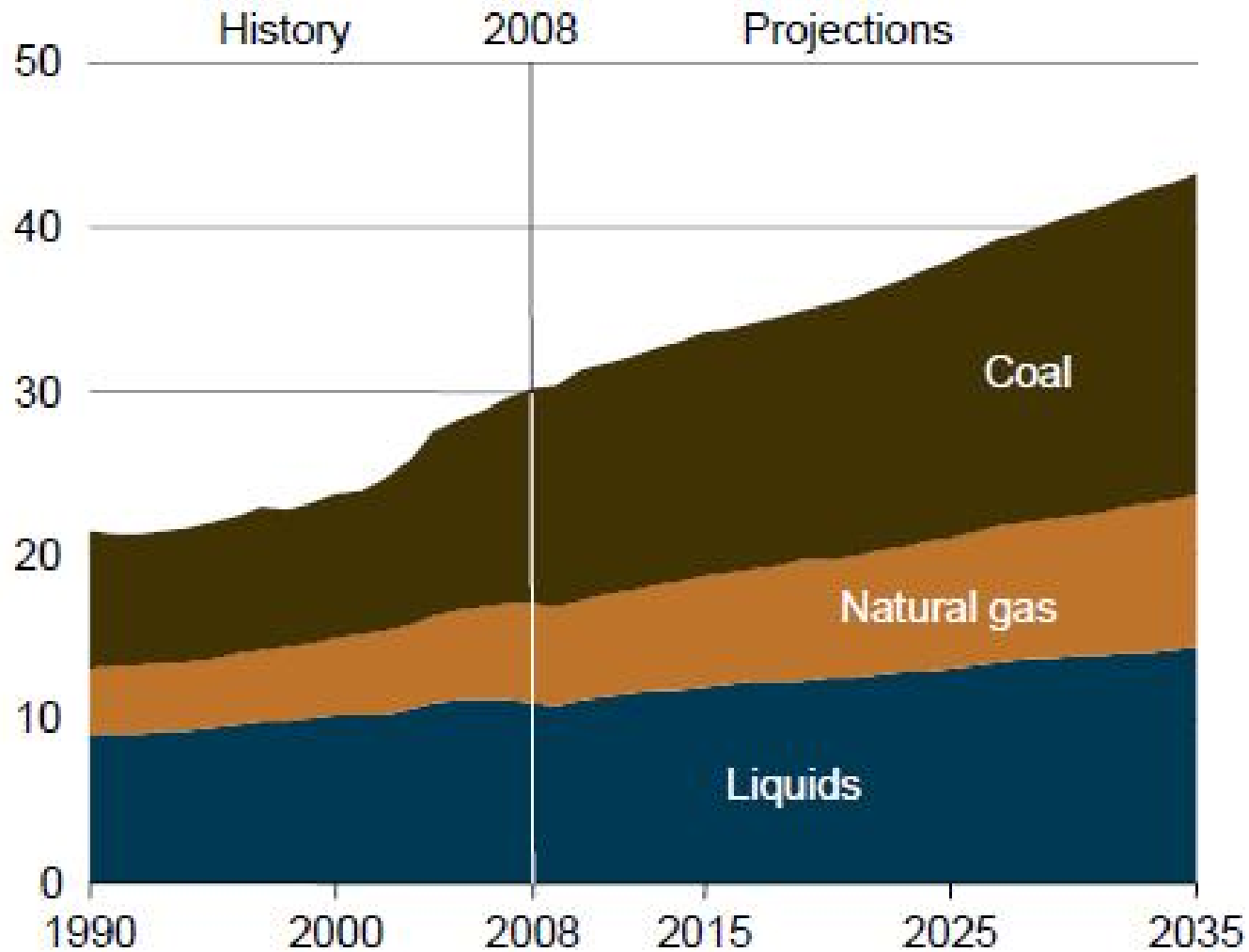
# World energy consumption by fuel 1990-2035

[source: IEA Energy Outlook]



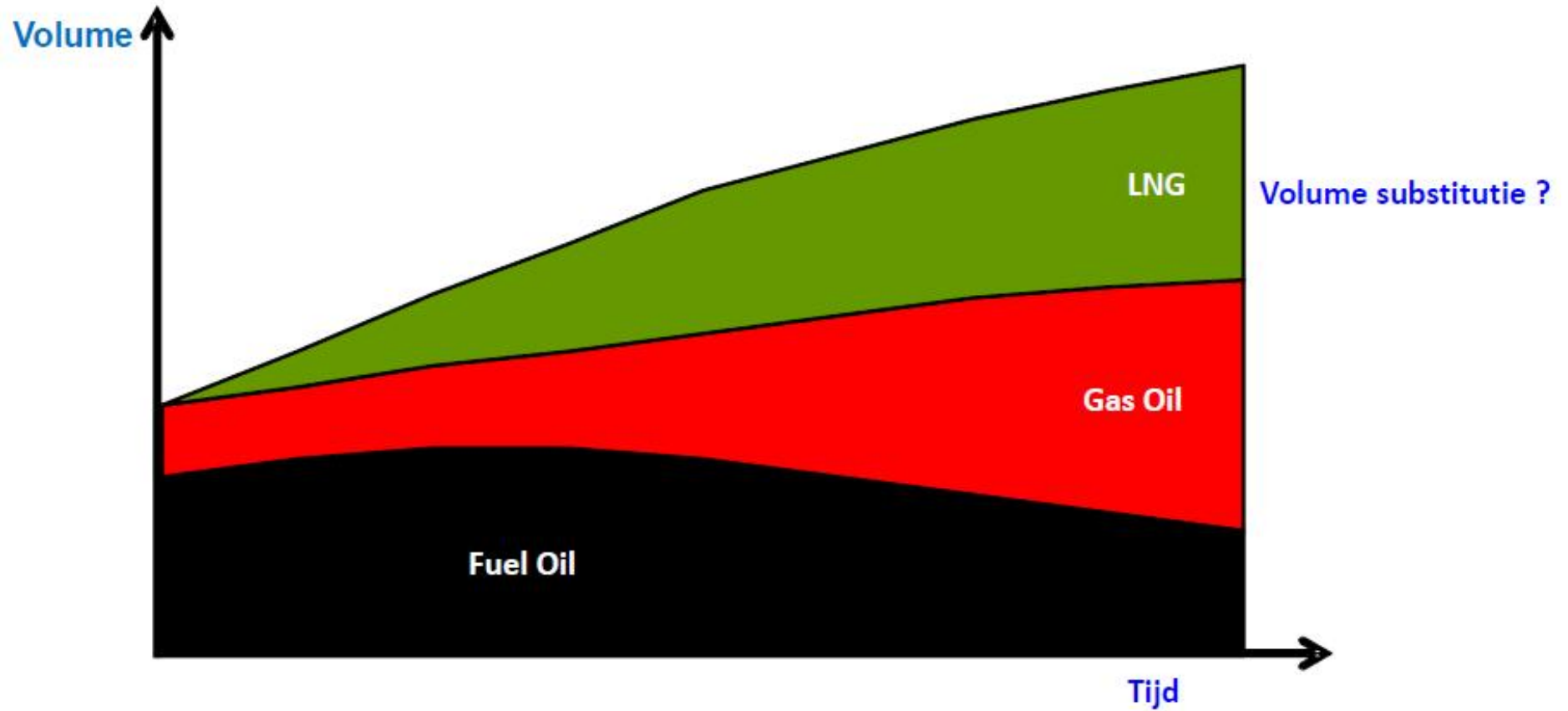
# World energy related carbon dioxide emissions

[source: IEA Energy Outlook]



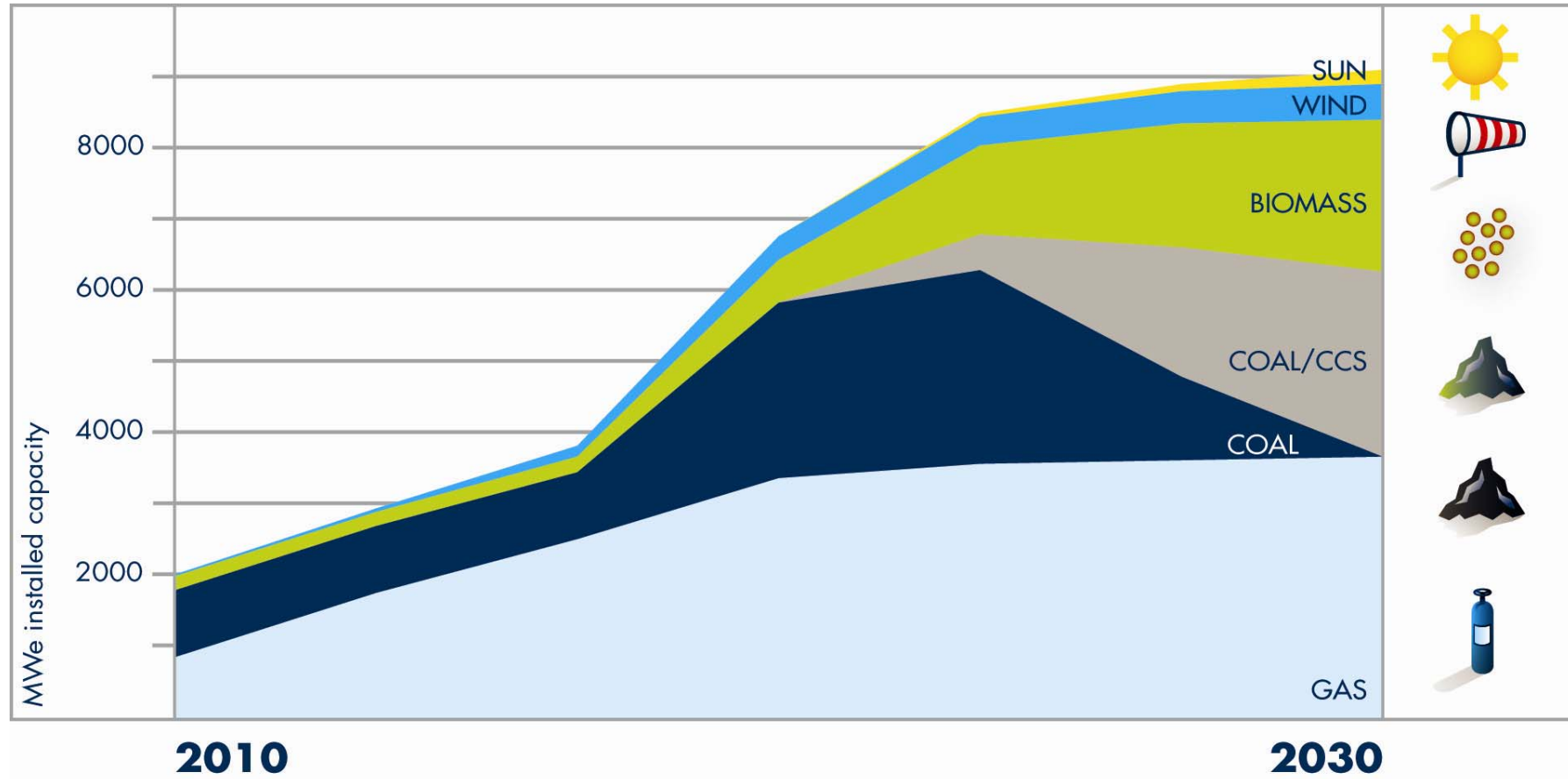
# Expected growth of LNG

[source: Vopak]



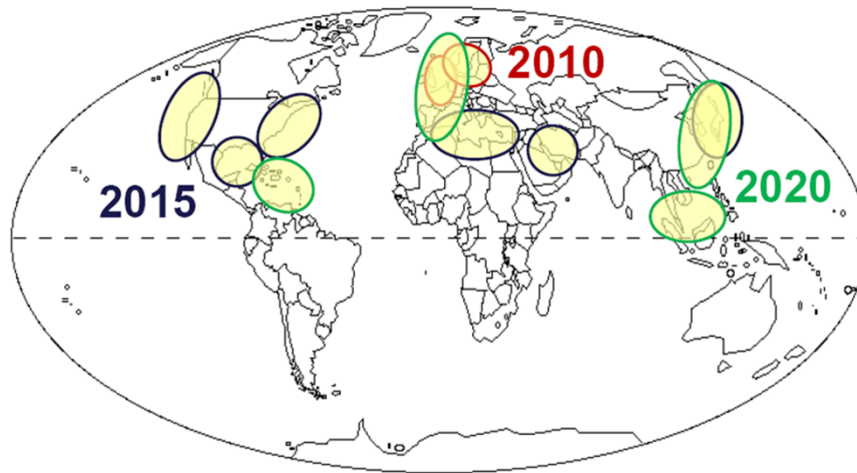
# Future fuel mix

[Port of Rotterdam]





# Environmental driver for LNG



IMO: Emission control area's,  
ECA's



EU Directives: Reduction of emissions from  
the transport industry

## Why LNG as transport fuel

- Strong reduction of SO<sub>x</sub> and NO<sub>x</sub> emissions.
- Zero particulates.
- Reduction of CO<sub>2</sub> emissions.
- LNG fueled engines have a lower noise production.
- Opens the path for further greening of the chain by introducing bio-LNG (LBG).
- Lower dependency on oil.
- Gas will be dominant in the future.

**IEA World Energy Outlook:**

***"a bright future, even a golden age, for natural gas."***

## 2. That's why we made a 'Green Deal LNG'

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## 'Green Deal'-policy in the Netherlands

Companies take initiatives that meet the targets, set by the government, in the field of climate and environment.

Terms for a Green Deal:

1. Sustainable Economic Development
2. Short term focus, effect within 2 – 4 years
3. Potentially international dimensions
4. Stimulating innovation and new technology

## Green Deal 'Rhine and Wadden'



- The National LNG Platform works within the context of the 'Green Deal Rhine and Wadden'.
- Parties: Departments of Infrastructure & Environment (H. Kamp), Economic Affairs and Finance (J. Dijsselbloem) / LNG Market Parties via National LNG Platform.
- Our new minister for Environment: Wilma Mansveld

## National LNG Platform's vision

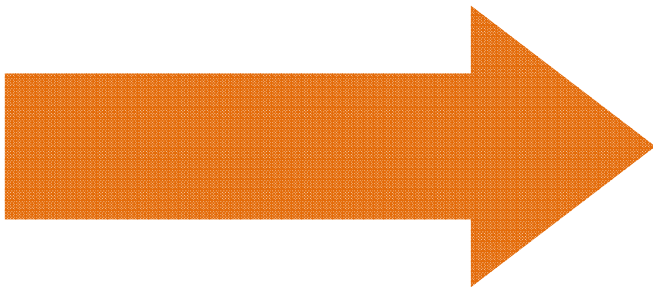
Connecting companies and authorities that are active in the introduction of LNG as a clean fuel for the transport industry:

- Operating under a common flag, reinforcing one another, avoid fragmentation.
- Realizing a sizeable market share over the full LNG chain.
- Coordinating the communication with authorities.

Targeting to have by 2015:

- **50** inland ships
- **50** sea vessels
- **500** trucks

running on LNG



## Role of the Platform

1. Organizing a 'Launching Customer Coalition'.
2. Help determining geographical layout of LNG fuel distribution.
3. Workshops with Government advisors and industry experts to exchange knowhow on development of rules.
4. Strategic Stakeholder Communications.
5. Support a Social Impact Study and economic chain analysis.
6. Communications with Belgian and German Authorities (particularly Westfalia), International Rhine Commission, UN (Geneva), European ISO organizations (standardization).

## 3 Work Groups in the LNG Platform

**Regulation:** environmental issues, safety, 'Network for Transport of Hazardous Goods', LNG infrastructure

Deliverable: PGS-report

**Chain Analysis:** costs and benefits, market development, oil/gas spread, LNG infrastructure, tax.

Deliverable: chain analysis with incentive study

**Environment Management:** stakeholder definition, communication

Deliverable: script for local authorities



### 3. LNG Chain is a European chain

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# LNG chain starts in Rotterdam: Gate Terminal

[Vopak / GasUnie]



# LNG chain from bulk to tank

## Source



Bulk LNG



Small liquefaction  
Bio LNG

## Transport



LNG Trailer



Tow boat - LNG barges

## Fuelling station



Fuelling station trucks



LNG bunker storage



LNG bunker vessel

## End user



LNG truck



Inland ship

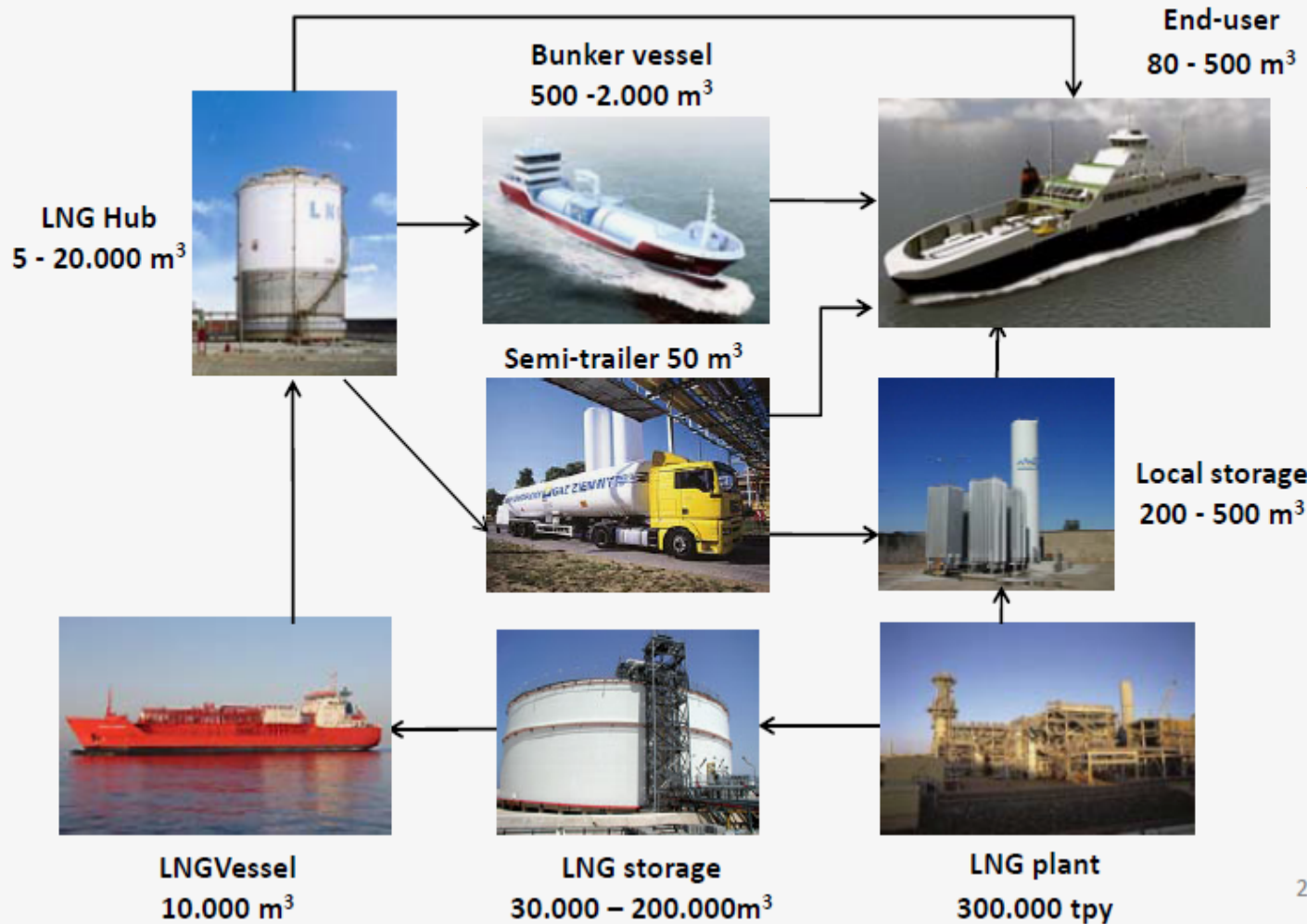


Ferry



Short sea ship

# What needs to be organized?



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## 4. Requirements for a European LNG-chain

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# Requirements for a European LNG chain

1. From exemption to legislation
2. From individual pilot projects to chain approach
3. From unknown to known: LPG  $\neq$  LNG

# The need for legislation

			Existing projects	Planned / feasibility phase
Bulk LNG			1	0
	LNG Break Bulk		0	4
		<i>Road Trucking:</i>		
		Truck loading / transport	1	3
		Fuel stations	3	18
		Trucks	1	45
		<i>Inland Navigation:</i>		
		Ship loading / transport	2	6
		Bunker stations	0	9
		Inland ships	1	19
		<i>Sea Navigation:</i>		
		Ship loading / transport	0	3
		Ship-to-ship fuelling	0	1
		Short sea ships	0	24

## From exemption to legislation

Legislation is key, and leads to:

1. Confidence, for market parties and the regulatory bodies
2. A solid basis to build a business case
3. A stable situation, not subject to too many changes.

This also requires standardization: some words about our standardization project by NEN



# LNG Standards Report - NEN

## 2011 – NEN Report and action plan LNG Standards and regulations



Need for standards and guidelines (PGS) as the basis for design, installation, operation and permit procedures

- LNG filling stations: PGS 33-1 Ready 12 - 2012
- LNG bunkering stations: PGS 33-2 Kick-off 09 - 2012
- LNG ship to ship bunkering: PGS 33-3 2013

[www.publicatiereeksgevaarlijkestoffen.nl](http://www.publicatiereeksgevaarlijkestoffen.nl)

**NEN**

# European Harmonisation & cooperation

- NEN will assure alignment of PGS 33-2 standard and the ISO standards for supply of LNG as fuel to ships
- Cooperate, evaluate and distill experiences and practices developed in the Rhine river area
- Ensure one harmonised approach for technical regulation based on the technical EN and ISO standards
- Cooperation CCNR and NEN/CEN/ISO working groups to ensure one approach
- CCNR is an example on how regulation and technical specifications can work together!

## From pilots to chain

- We have seen a number of successful pilot projects
- Now we need legislation
- ... and funding
- Our Platform supports projects to serve as inspiration to become part of the chain.
- Example: Port Regulation Port of Rotterdam.

# LNG in the port of Rotterdam:

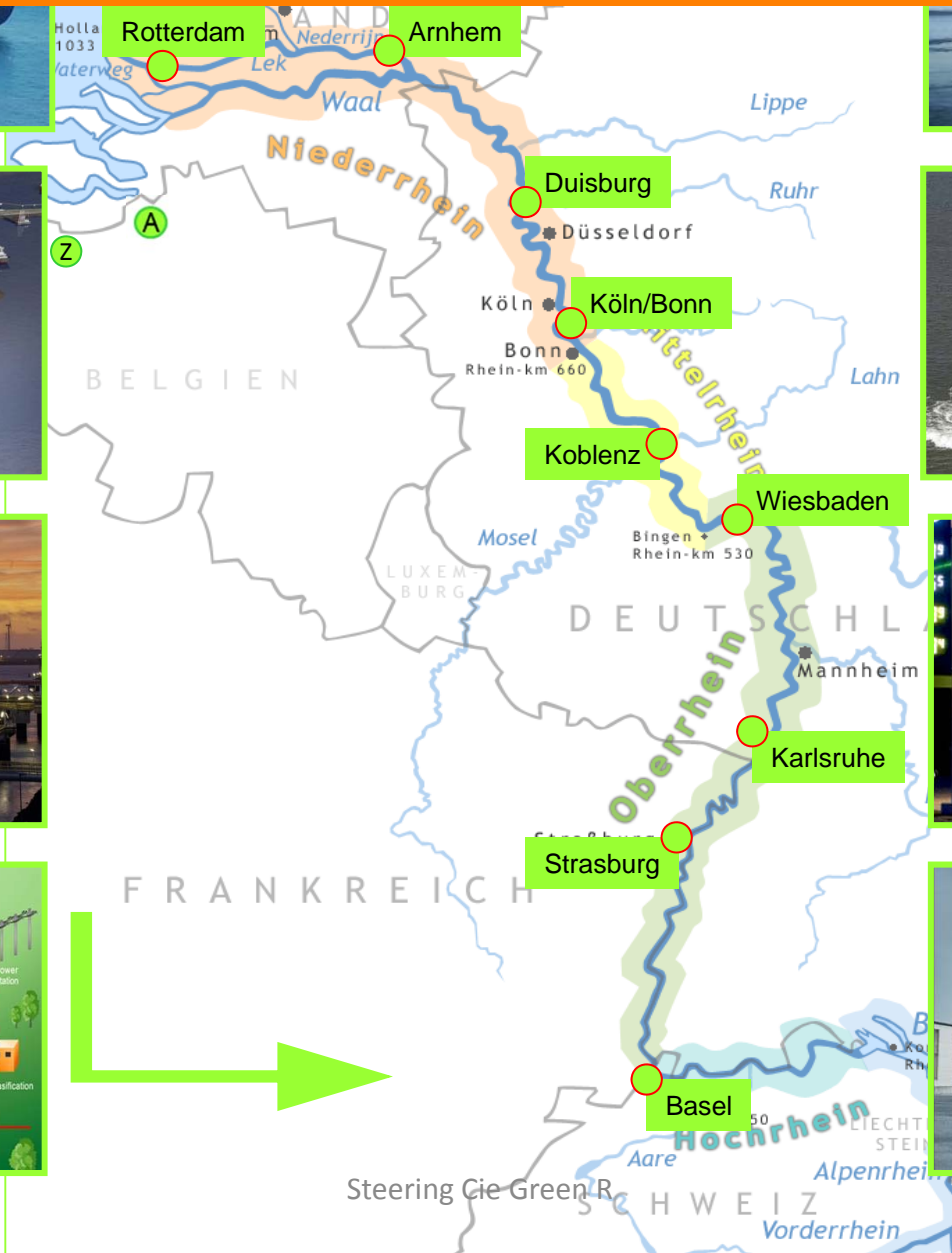
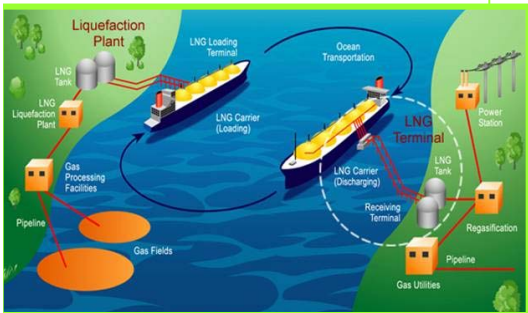


- Frame work regulations for LNG vessels and LNG activities;
- Inland activities 2012;
- Ship to ship bunkering (sea going vessels) 2013;
  - Checklists
  - Accreditation LNG bunker companies and LNG bunker ships
  - Location management on LNG activities
    - Safety distances to populated area's
    - Nautical conditions
    - Passing distances maritime traffic
  - Report of LNG bunker activities
  - Simultaneous activities

## From unknown to known and trusted

- Detailed comparison of LNG with other fuels.
  - Social impact study and review on economic drivers.
  - Identify Stakeholders and their positions.
  - Open dialogue.
  - Communications strategy and messages
- 
- Dialogue about breakbulk terminal Gate has started.
  - Participation of NGO's.

# We plan to make a trip along the *River Rhine*



Steering Cie Green R

# We invite you to travel with us!

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