Paradigm Shift: The CEO's Perspective
-Leadership challenges in a rapidly changing environment-

Energy Delta Institute / Energy Business School

Fellowship on Energy Programme: Energy Policy & European East West Relations

Bratislava, 19 September 2016

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The Gas Value Chain Company GmbH

Agenda

Introduction: energy, a story of constant changes

Snapshot: the last decade of the natural gas business

- From fragmented monopolistic markets (almost) towards a European Henry Hub
- Shrinking demand, supply glut, falling prices, COP21

Challenges & opportunities: change no excuse to forget modern management virtues

- Communicative/Participative/Empowerment
- The One Minute Manager
- Lead by example/Motivate by involvement

Adopting to the dynamics of the energy industry - examples

- The hunt for new “elephants”
- The Dutch end user market entry – a multiple cultural challenge
- The quest for a “Southern Corridor”
- The “shake-out” after the financial crisis 2008/2009
- The search for a new midstreamer business model

The ultimate challenge: COP21

- Understanding the COP21 process
- Natural gas the “low hanging fruit”

Gas advocacy reloaded

- Putting a price on carbon
- Overcome reputational damage
- The conundrum: attack subsidies (i.e. renewables)?

Energy, a story of constant changes

Brent crude prices since 1985: boom & bust cycles since I joined the oil and gas industry

Energy, a story of constant changes

Exiting highlights along the business cycles

New Elephants in Frontier Areas

Single European Market

Dutch Liberalization Phase 1

Midstream Consolidatio

COP21

German Reunification

German “Gas War”

Czech Rep. joins NATO/EU

Dutch Liberalization Phase 2

Merger Exxon Mobil

Energie Wende

Czech Liberalization

NABUCCO

Gas-to-Oil Spread Arbitrations Shale Gas Revolution

Energy, a story of constant changes

The most exiting yet to come?

?

My own business:

Project Management, Negotiations,

Expert Advice

Focus: Change Environment

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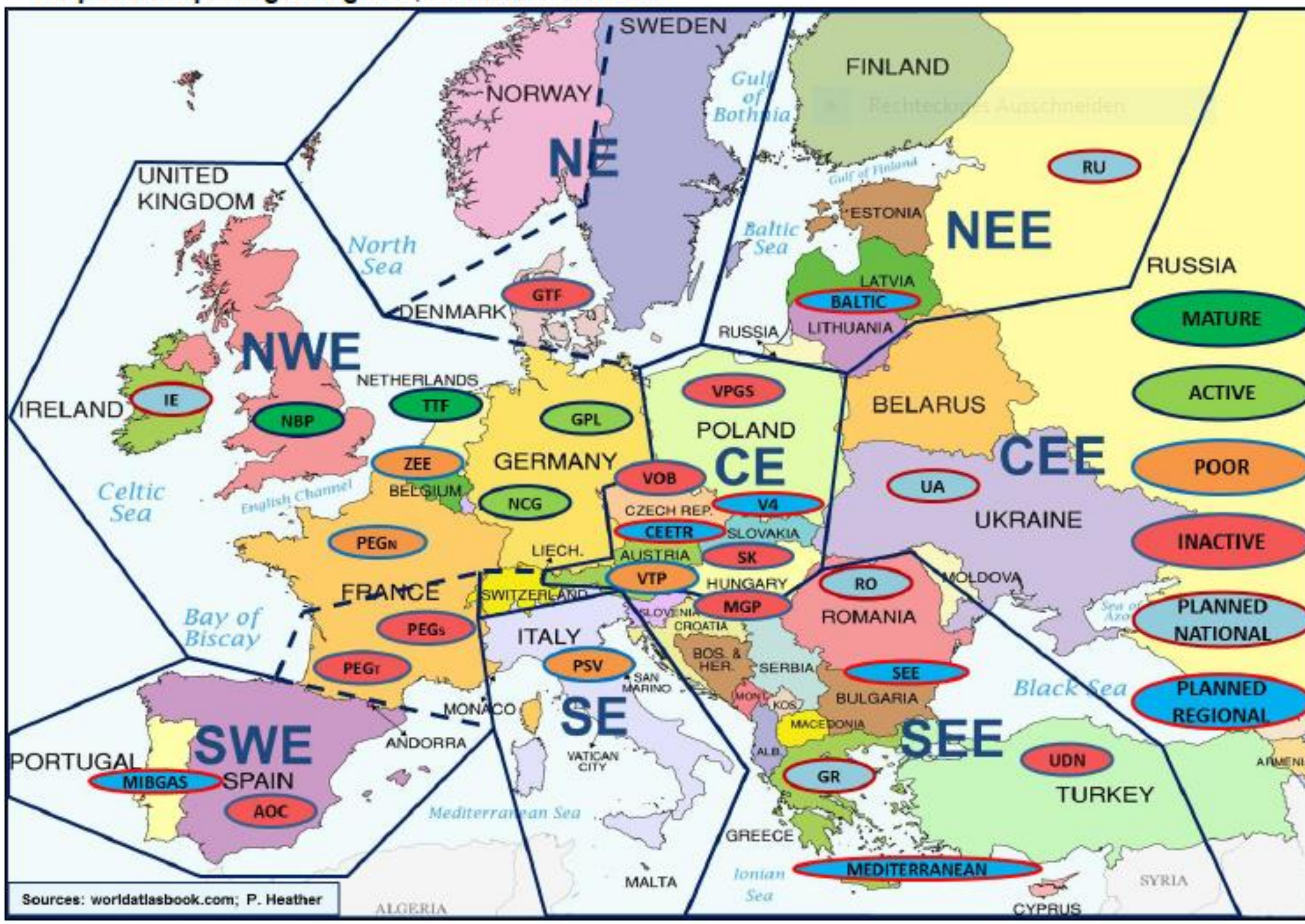
Snapshot: last decade natural gas

European Gas Regions around 2000:

Fragmented national markets; proliferation import pipelines

European Hubs 2015:
multitude of national hubs; from “mature” to “poor”

Map 1: European gas regions, markets and hubs[66]

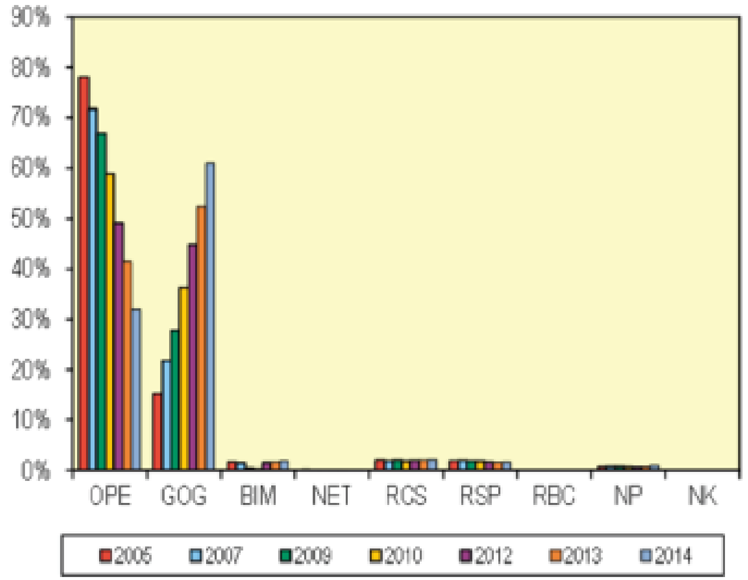


Snapshot: last decade natural gas

Price Formation 2004 – 2014:
Hubs price setter, but varying by region

Figure 3: European Gas Price Formation: 2005-2014

Europe Price Formation: 2005-2014



Europe Gas Supply by destination and pricing: Q4-2014

Region and approx. % of total European demand	OPE	GOG	RCS	RSP	BIM	NP
North West Europe 50%	12	88				
Central Europe 15%	32	53		15		
Med. Europe 30%	64	30			6	
South East Europe 5%	38	4	52	4	2	
			3	2	2	
Europe Total	32	61	7			

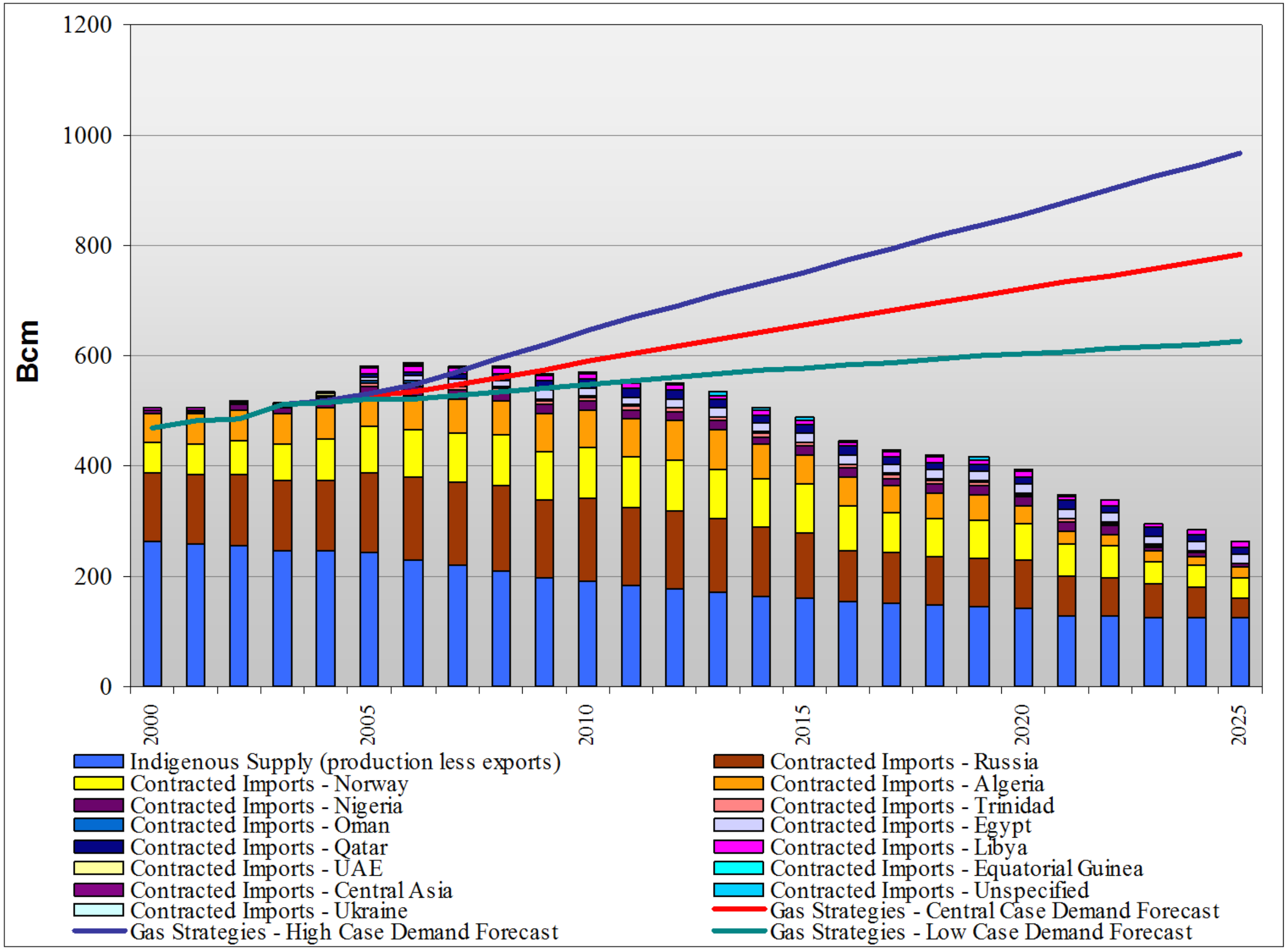
OPE: Oil Price Escalation GOG: Gas-on-Gas Competition RCS: Regulated Price (Cost of Service) RSP: Regulated Price (Social and Political) BIM: Bilateral Monopoly NP: No Price North West Europe: Belgium, Denmark, France, Germany, Ireland, Netherlands, UK. Central Europe: Austria, Czech Rep, Hungary, Poland, Slovakia, Switzerland. Mediterranean Europe: Portugal, Spain, Italy, Greece, Turkey. South East Europe: Bosnia, Bulgaria, Croatia, Macedonia, Romania, Serbia, Slovenia.

Source: IGU Wholesale Gas Price Survey - 2015 Edition

Snapshot: last decade natural gas

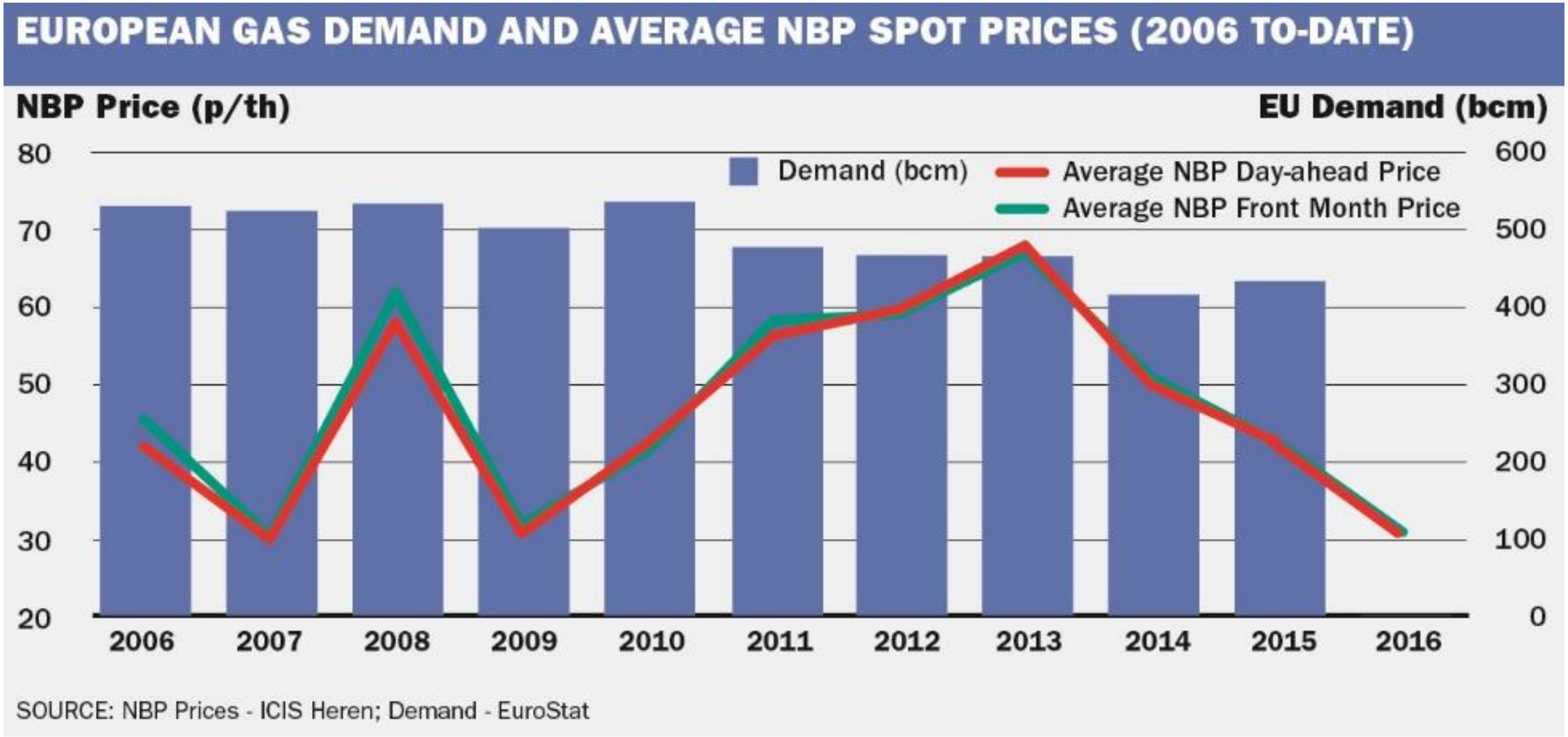
Once upon a time…

European demand vs contracted supplies seen in 2007



Snapshot: last decade natural gas

European demand 2015:
below financial crisis levels; 60 bcm/a lost in power generation



The ultimate challenge:

Treaty of “COP21” (21st Conference of Parties under the United Nations Framework Convention on Climate Change)

Is this the „sudden death“ of all fossil fuels including natural gas?

To be discussed later

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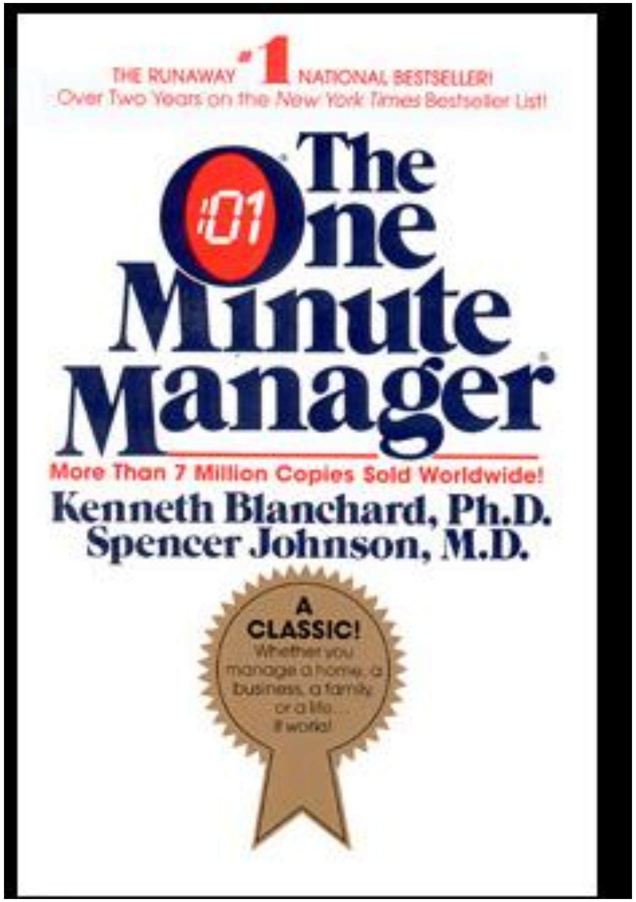
Change is no excuse to forget modern management virtues, quite the contrary!

- **Open communication**
  - foster sharing of information culture
  - no „secret missions“ (also not the CEO)
  - say where you‘re at (your people are not stupid)
- **Participartive management**
  - Allow ideas & thoughts for better decision making
  - Once decided, claim loyalty also from „dissidents“
- **Empowerment & accountability**
  - Have the courage to delegate
  - Ensure empowerment comes with <u>accountability</u>
  - This only works if you have „learning organization“ instead of „blame“ culture

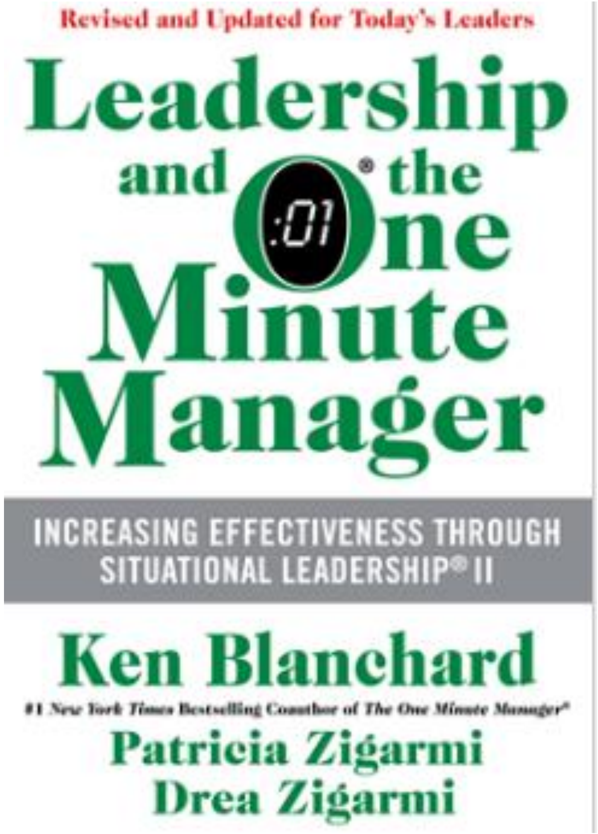
The One Minute Manager:

One minute goal setting (clarity of purpose)
One minute praising (reward & recognition)
One minute reprimands



The One Minute Manager:

Situational Leadership: “different strokes for different folks”



The conundrum of the “right people”

“Different strokes for different folks” will not always work

- **Find the task at which the individual excels**
  - Skills
  - Personality
  - Coaching & counselling
- **Letting people go**
  - Sometimes things „just don‘t work out“
  - Note: This is more likely with „yes men“ than with „contrarians“
  - You have responsibility for
    - The other team members
    - The company business
    - The individual who does not „fit“

The One Minute Manager & other lessons: One more thing, for all managers but especially for CEOs

- **Lead by example**
  - Try to be a role model
  - Expect your attitude & behavior to be copied
- **Motivate by involvement**
  - „Sitting in an easy arm chair taking decisions" is NOT an option
  - If people respect you for your knowledge & involvement, it will motivate them more than anything
  - Memo: not to be confused with micro-management

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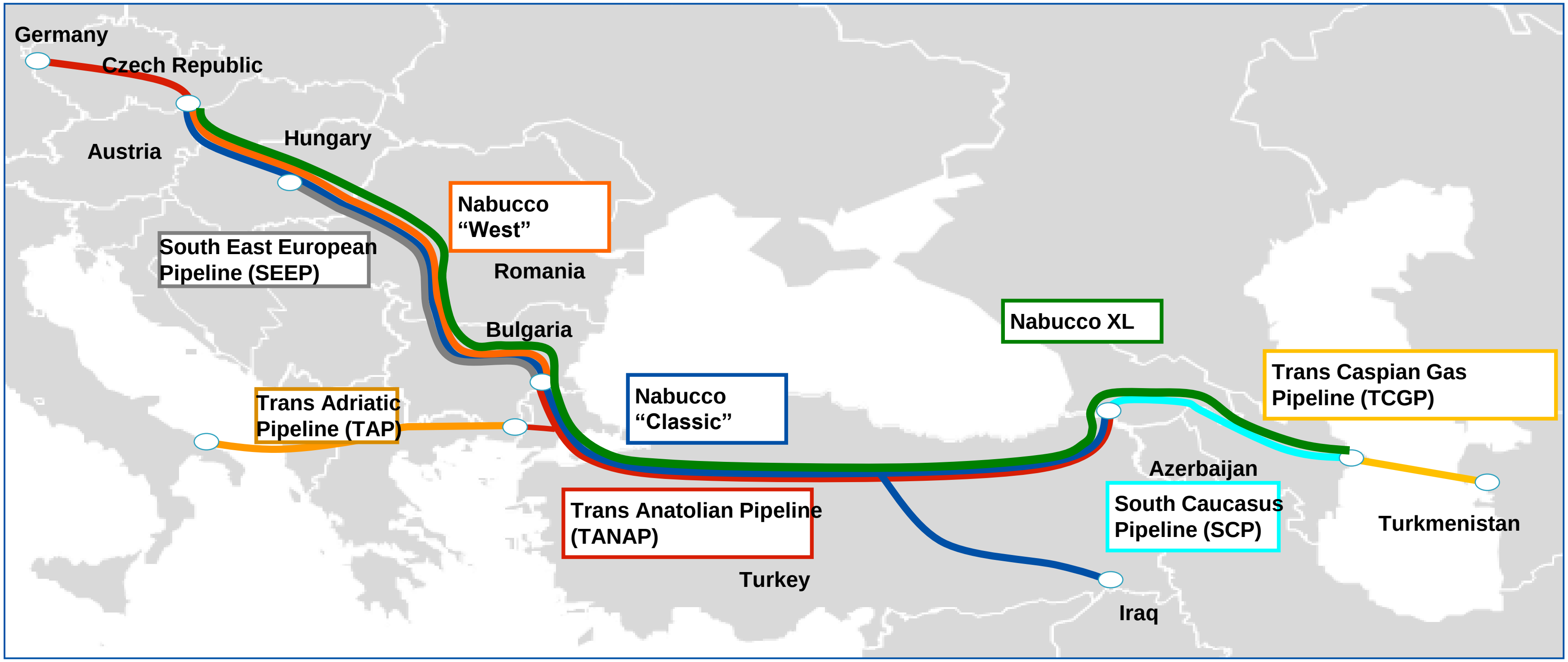
Example late 1980ies: IOCs "hunt" for new elephant discoveries in frontier areas

- **Discovery => „company maker": exiting!**
- **Learn to negotiate in entirely different business cultures (e.g. South America, Africa, Trinidad)**

Example ~2001: entry Dutch end user market, a multiple cultural challenge

- **RWE Energy Nederland**
- **Nutsbedrijf Harlemermeer**
- **Nutsbedrif Obragas**
- **<u>Triple cultural challenge:</u>**
- **„market“ & „old world“ people**
- **Brabant & „Randstad“ people**
- **Dutch & German people**

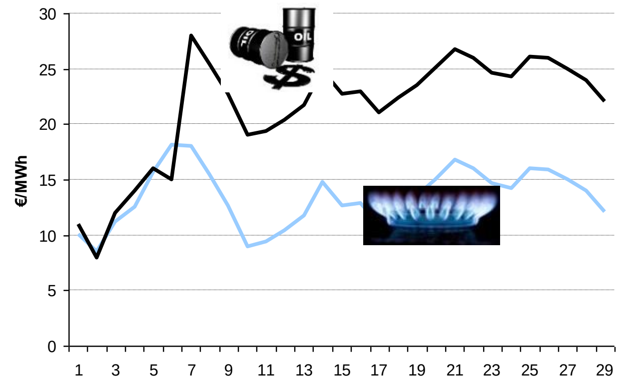
Quest for Southern Corridor diversification 2007-2012:
- Insanity of pipeline competition
- Fallacy of Third energy package application
- The elephant has born a "mouse": 10 bcm/a



Example ~2009/2010: “shake-out” after the financial crisis – oil & gas price decoupling

Fight for survival – price reviews - arbitrations

Example “Small” Volume	100 TWh
Price Oil Indexed	~35 €/MWh
Price NCG	~25 €/MWh
Gas-to-Oil Spread	10 €/MWh
Producer Cost to Market	~10 €/MWh



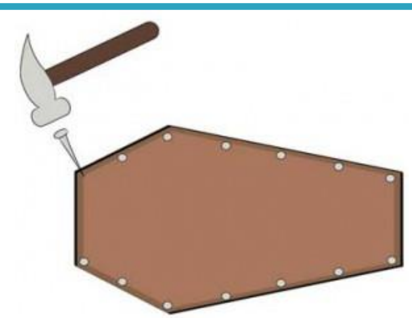
Producer:

Netback profit + Windfall profit

1.5 + 1 billion €/a

Importer: Nail in the coffin

- 1 billion €/a



The search for a new midstreamer business model:

Vertical value chain integrity broken!

- On import level, both producer and midstreamer can only rely on achievable price at point of first sale, i.e. wholesale traded market
- Previous customers can source at the hub themselves
- Producer can himself sell at the hub or even to end users
- Midstreamer obsolete? Also: No margin left on hub-indexed LTCs

Todays Structural Disconnect: End user value can no longer be claimed

Present	Retail	Wholesale	Import
	GAS	***GAS***	***GAS***
	Competing Fuels > **Renewables**	> Traded Gas Prices > No Substitute Fuel Competition > **No Net-Back from Retail**	> Point of First Sale: Wholesale Market > **Achievable Price: Wholesale Traded Market Price**

New midstreamer value proposition for producer:
Service provider against cost reimbursement and service fee

> Cash Flow Commitment (Take-or-Pay)
> Aggregation Risk End Users
> Volume Disposal Risk Traded Markets
> Multiple Counterparty Credit Risk
> Indexation Risk
> Transaction Cost
> Force Majeure Supply Interruption
> Massive deployment of Working Capital

Do I take:
Risk or
“easy”
Cash?

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Treaty of "COP21" (21st Conference of Parties under the United Nations Framework Convention on Climate Change)

Widespread Perception:

Decarbonization (abolish all fossil fuels) „done deal"

Actual content:

Reduce green house gas (GHG) emissions to keep temperature from rising more than +2°C (+1.5°C)

Implementation:

Intended Nationally Determined Contributions („INDCs");
re-assessment every 5 years

Extreme conclusions: “Sudden death” of all fossil fuels at once ./. cynical assumption of failure legitimizing “business as usual”?

First reputed energy outlook after COP21:

„BP Energy Outlook, 2016 edition“ in February 2016

Heavy criticism:

- Speaking „pro domo“ (to preserve business model)
- Cynically assuming failure of agreement of >190 political leaders
- Ignorantly pursuing „business as usual“

BP Energy Outlook 2016 assumptions – by no means "business as usual"

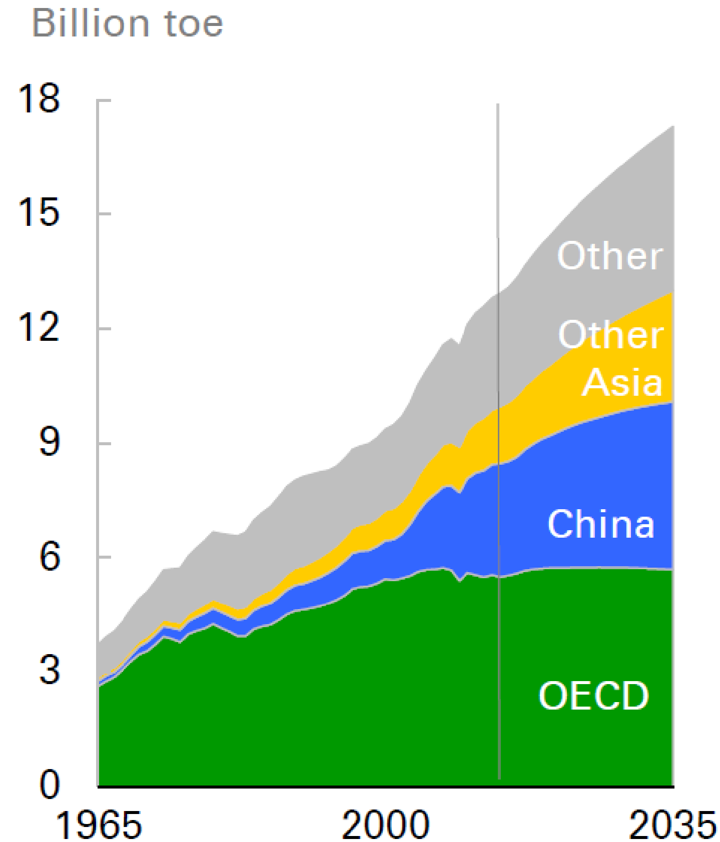
Population growth: 1.5 billion

GDP growth: doubles

Energy demand: + 34%

(Memo energy poverty: 1.6 billion)

Consumption by region

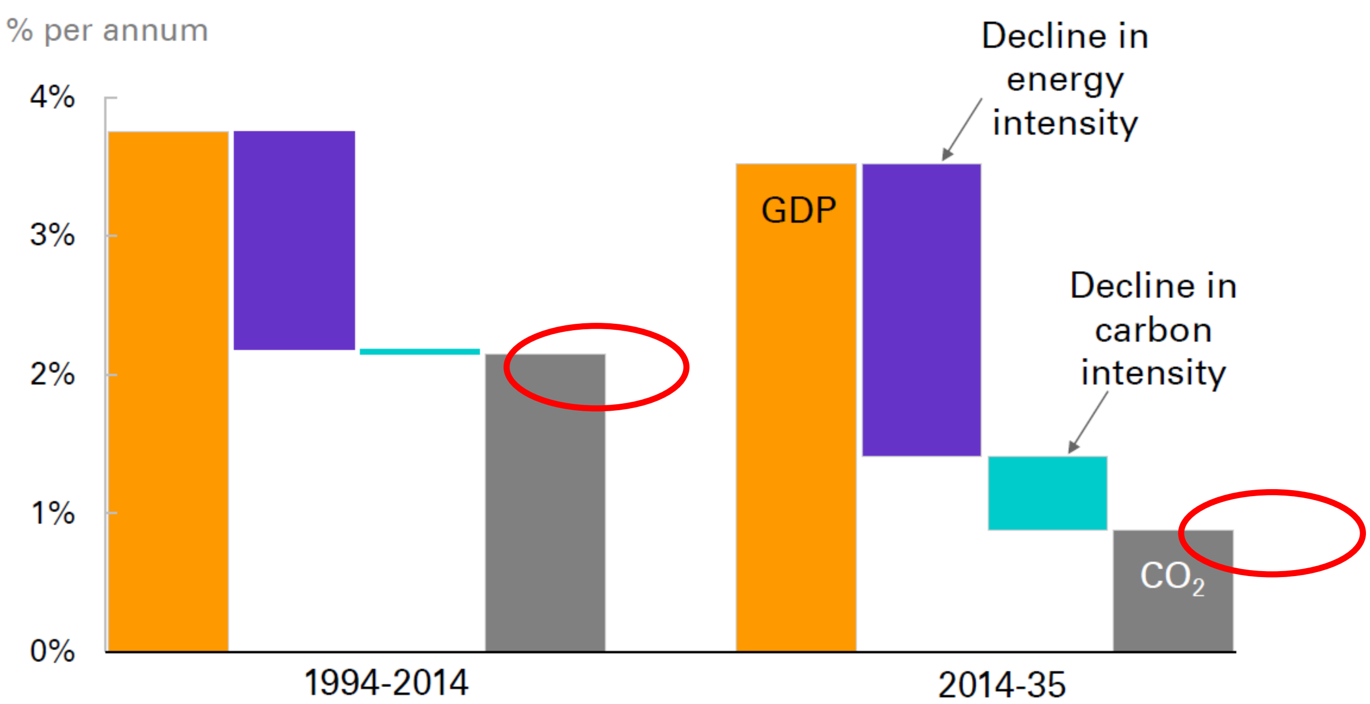


Source: BP Energy Outlook 2016

BP Energy Outlook 2016 assumptions – by no means "business as usual"

Correlation GDP growth/energy demand growth from 2.3% to 1.4% per unit
- decline in energy intensity (energy efficiency improvements)
- decline in carbon intensity

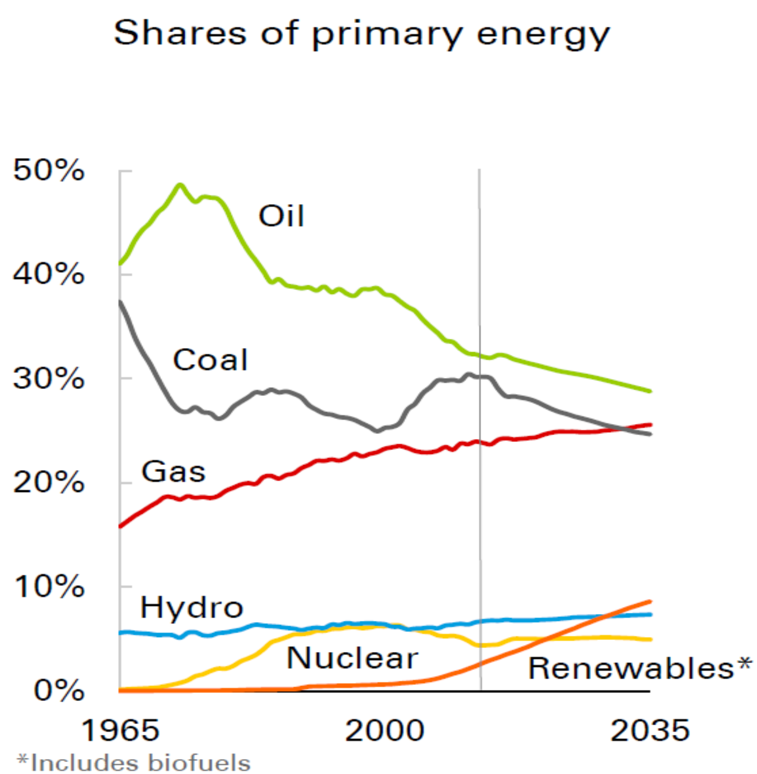
Decoupling emissions growth from GDP growth



Source: BP Energy Outlook 2016

BP Energy Outlook 2016 assumptions

Fuel mix 2035: significant shift, but 80% fossil fuels
Growth p.a.: coal 0.5%; oil 0.9%; gas 1.8%; renewables 6.6%
Natural gas displaces coal from 2nd rank in primary energy

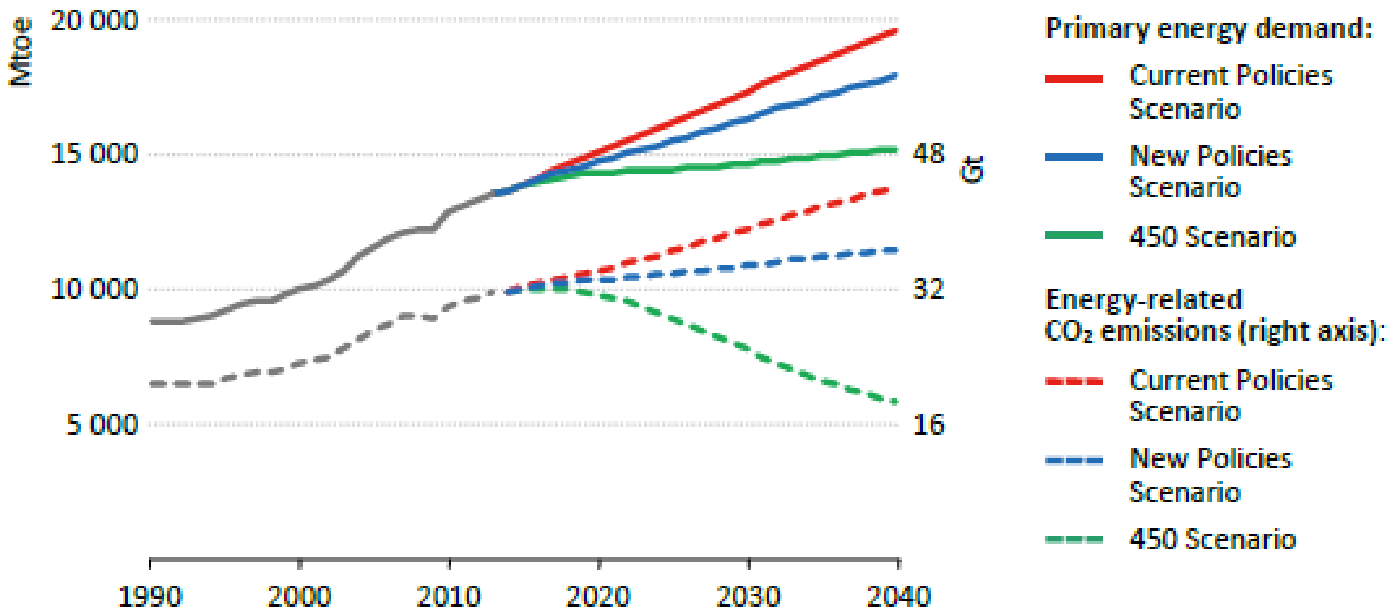


Source: BP Energy Outlook 2016

IEA "World Energy Outlook 2015", November 2015

- **New Policies Scenario comes to similar conclusions as BP**
- **Although including 150 INDCs from COP21 participants**
- **INDCs essentially limited by "affordable subsidies"**

Figure 2.1 ▷ World primary energy demand and CO_2 emissions by scenario



Source: IEA World Energy Outlook 2015

IEA "World Energy Outlook 2015", November 2015

Acknowledges that, even with its New Policies Scenario including 150 INDCs, the 2°C target will not be reached:

"THE DIRECTION OF TRAVEL IS CHANGING,

BUT

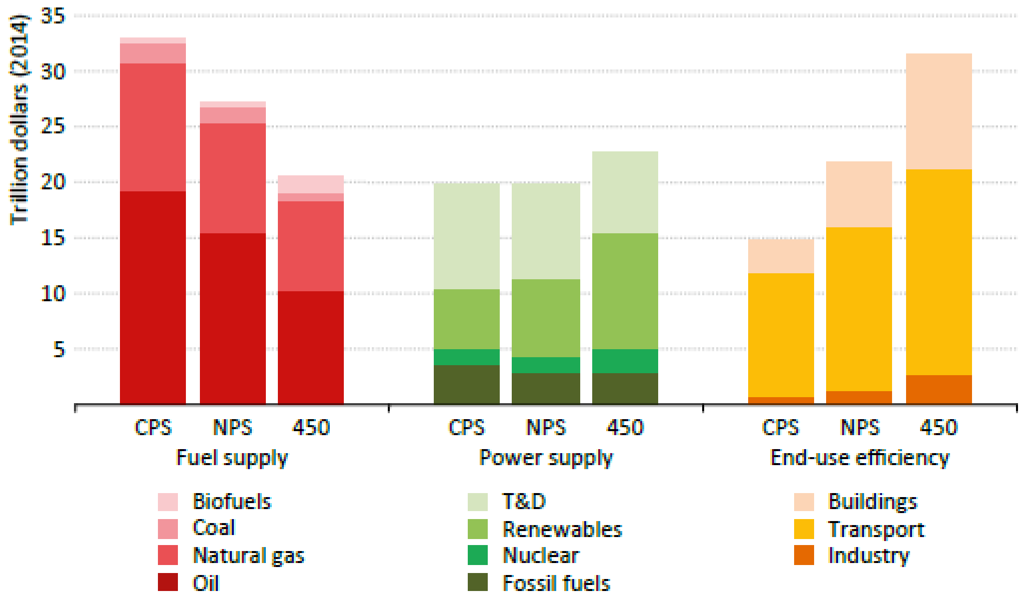
THE DESTINATION IS STILL NOT 2 DEGREES."

IEA "World Energy Outlook 2015", November 2015

Cumulative investments in global energy supply up to 2040:

- **$ 7.4 trillion in renewables = 15% of total**
- **Pace in power generation not matched in other sectors**

Figure 2.3 ▷ Cumulative world energy sector investment by sector and scenario, 2015-2040



Note: CPS = Current Policies Scenario; NPS = New Policies Scenario; 450 = 450 Scenario; T&D = transmission and distribution.

Source: IEA World Energy Outlook 2015

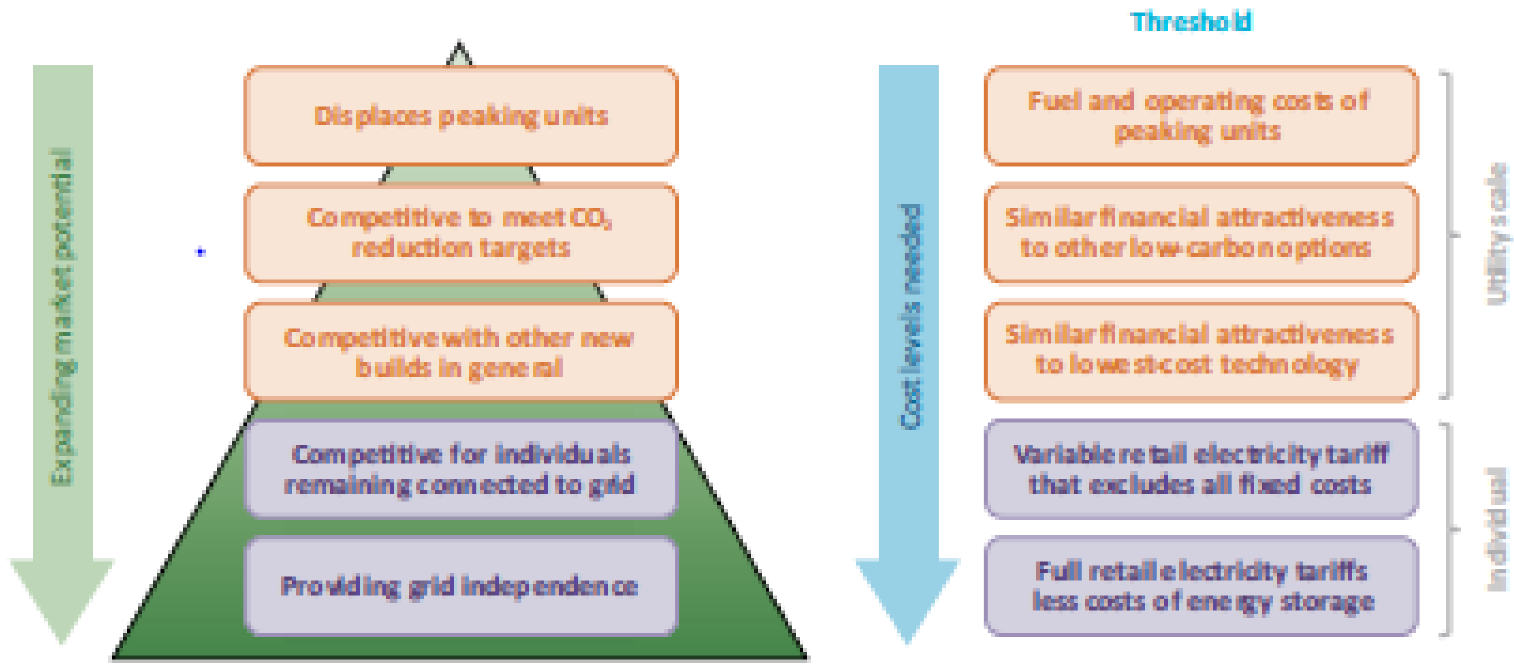
Understanding COP21 as a dynamic, progressive mechanism hinging on 5 year re-assessment intervals

INDCs essentially limited by “affordable subsidies”

Further GHG reductions in the 5 year “check-ups” require:

- **Increased competitiveness renewables => Reduction in subsidies**

Figure 9.15 ▷ Milestones on the road to competitiveness for renewables



Source: IEA World Energy Outlook 2015

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Since COP21/INDCs rely on further technological progress & cost degression of renewables, it is imperative to materially reduce GHG nonetheless NOW:

GHG reduction also by "selection" amongst fossil fuels which makes

THE CASE FOR NATURAL GAS:

"NATURAL GAS AS THE 'LOW HANGING FRUIT' FOR MATERIAL AND IMMEDIATE REDUCTION OF GHG!"

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Gas advocacy must more assertively demand its place on the road towards GHG reductions. The issues.

- **Putting a price on carbon**
  - Such that gas is above coal in the merit order
  - GHG materially reduced
  - Entry barriers for renewables lowered
- **Overcome reputational damage**
  - Misuse as „political weapon“
  - Perception is reality: Only market functioning helps
  - Use price effect of supplier competition as proof
- **More assertively claim its place as part of the solution**
  - Biogas
  - Hydrogene from „gas-to-power“
- **The conundrum: attack subsidies for renewables?**
  - Gas „helping“ renewables not enough!
  - At least advocate „technology-neutral“ subsidies

Conclusion and Outlook

COP21 is a progressive process of re-assessments in intervals

It is entirely legitimate (if not imperative) to promote natural gas as the low hanging fruit for immediate GHG reductions

There is no "silver bullet" to save the business model of oil & gas companies in the long run

The "greatest possible accident" would be that renewables become more competitive than coal, oil and gas

However, blindly "following the herd" to be "politically correct" (but straying outside core competencies) might actually accelerate your demise