



Welcome to Shippers' Forum

Jeppø Danø, 10 March 2016



Visitors at Energinet.dk



At Energinet.dk, we value our own safety. Therefore, we would appreciate it if you also know what to do in case of fire.

- our meeting room



assembly point



emergency exit



fire extinguisher



defibrillators



first aid



fire blanket



Agenda

- 12-13 *Lunch and networking*
- 13:00 Welcome
Jeppe Danø, Energinet.dk
- 13:10 Energinet.dk Gas Storage
Iliana Nygaard and Bjørn Denninger, Energinet.dk Gas Storage
- 13:25 Balancing model – status
Christian Rutherford, Energinet.dk
- 13:40 Supply situation
Christian Meiniche Andersen, Energinet.dk
- 13:55 Security of Supply and Market impact
Søren Balle Rasmussen, Energinet.dk
- 14:10 *Coffee break and networking*
- 14:40 Follow up on last Shippers' Forum
Jeppe Danø, Energinet.dk
- 14:50 "If I were Energinet.dk"
Jonas C. Svendsen, NGF Nature Energy
- 15:20 End of programme

Transmission tariffs 2016/2017



Transmission tariffs 2016/2017

Published 7 February 2016

	Tariffs 2015/2016	Tariffs 2016/2017	Diff. %	Diff. from uniform tariff %
Transmission tariffs				
<i>Entry-capacity (DKK/kWh/h/year)</i>	9.45*	11.64*	23%	-
Ellund	12.32	14.50	18%	25%
Nybro, Dragør, BNG	7.24	9.30	28%	-20%
<i>Exit-capacity (DKK/kWh/h/year)</i>	9.45*	11.64*	23%	
Ellund, Nybro	7.24	9.30	28%	-20%
Exit-zonen, Dragør	9.81	13.04	33%	12%
Commodity (DKK/kWh)	0.00259	0.00336	30%	-

NOTE: Subject to DERA approval

Cost base - Breakdown of OPEX and CAPEX

Expected result 2017

MDKK

Expected result 2017

Operational expenditures (OPEX):

Personnel	88
Other operational costs*	105
OPEX Total	193

CAPEX:

Depreciation	167
Financial cost (net)	70
CAPEX Total	237

Expenditures combined **430**

*Other operational costs includes: "SOL" (System Operator Storage), external services and payment to DEA & DERA and taxes

Over recovery

mDKK	2014 Realized	2015 Forecasted	2016 Budget	2017 Tariff Budget
Balance primo	260	147	45	46
Annual repayment	-113	-102	-16	-46
Adjustment	-	-	17	-
Balance ultimo	147	45	46	0

Development from 2015/2016 to 2016/2017

	2015/2016	2016/2017	Diff. %
Capacity (kWh/h/year)			
Ellund Entry	4,502,837	3,105,405	-31%
Exit zone, Dragør Exit	9,665,000	5,752,917	-40%
Other points	7,465,486	7,197,898	-4%
Total	21,633,323	16,056,220	-26%
Commodity (mio. kWh)			
Denmark	32,039	27,602	-14%
Sweden	12,001	10,075	-16%
Export Germany	24,750	13,232	-47%
Total	68,790	50,909	-26%

Shippers Forum 15 March 2016

Radisson Blue Hamburg Airport 10.30 – 15.00

- Recently completed Expansion Projects in Denmark and Germany
- Current status of contractual and operational capacity situation at Ellund
- Introduction of the a new product to increase the free available capacity at Ellund
- Launching the public consultation process for the new product

Register until ~~04th~~ 11th March 2016 by sending an email to Nina Lücke via Nina.Luecke@gasunie.de

GAS FUNC

ACER and ENTSOG launch a joint platform to facilitate a smooth gas network code implementation

A newly created web-based platform www.gasncfunc.eu launched by ACER and ENTSOG will allow stakeholders to notify implementation and operational issues related to gas network codes already in force.

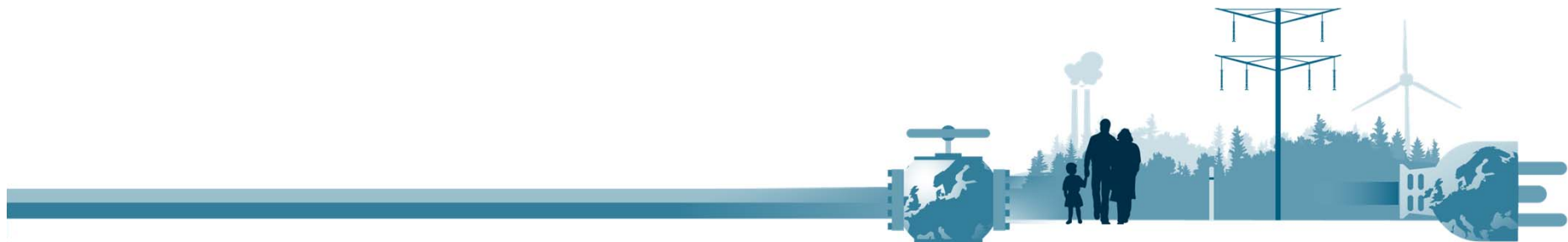
A joint process between ACER and ENTSOG aims to develop commonly recommended guidance on how to address such issues.

'Grøn Gas Forum'

15 March 2016



Energinet.dk Gas Storage



REMIT Reporting Service

10th March 2016

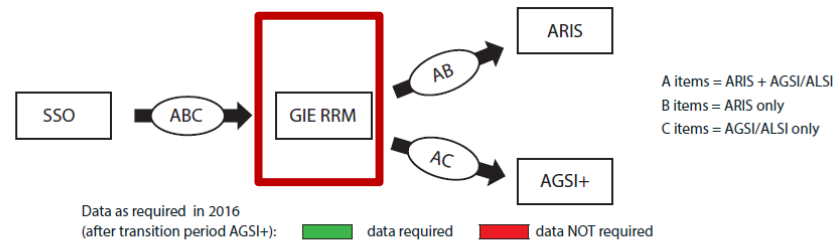


Why?

According to Art. 9 (9) in conjunction with Art. 12 (2) of COMMISSION IMPLEMENTING REGULATION (EU) No 1348/2014 **market participants shall report** to ACER the **amount of gas** the market participant has **stored** at the **end of the gas day**. Such reporting can also be **handled by the storage operator** on behalf of the market participant.



How and what to report?



Reporting through Gas Infrastructure Europe

GIE RRM storage reporting to ARIS and publication on AGSI+				
StorageFacilityReport				
dataset	definition	AGSI+	ARIS	
storage type	aquifer, salt cavity,...			A
storage	energy units			A
injection	energy units			A
withdrawal	energy units			A
DTMTS = technicalCapacity	energy units			A
DTMTI	energy units			A
DTMTW	energy units			A
contracted capacity	energy units			B
available capacity	energy units			B
StorageParticipantActivityReport				
storage	energy units			B
StorageUnavailabilityReport				
UnavailableInjection	energy units			A
UnavailableWithdrawal	energy units			A
EndFlag (status for end time)	Confirmed / Estimated			A
Type	Planned / Unplanned			A
Description	free text			A

The volume in TWh stored end of gas day

What to do?

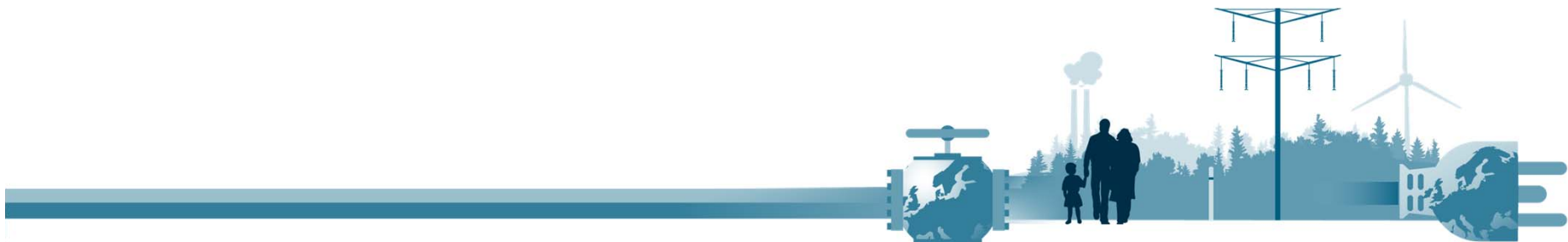
- Add-on service and free of charge
- New framework agreement to sign with an additional section regarding the service
- Deadline for implementation prior to 7 April 2016



Balancing

Adjusting the balancing model

Christian Rutherford



Status on the evaluation

- Energinet.dk has delivered an evaluation of the balancing model to DERA by 1 January 2016
- The evaluation is based on market involvement
- Energinet.dk are awaiting DERA's approval, before Energinet.dk can implement expected changes

ENERGINET/DK	
<p>To DERA</p>	<p>Torste Kjærvej 65 7000 Fredericia Tel. +45 70 10 22 44 Fax +45 76 24 51 80 info@energinet.dk www.energinet.dk cvi-nr :8 98 06 71</p>
Evaluation of the new balancing model - DRAFT	
02 December 2015 CRU/JFS/SBR	
Contents	
1. Introduction.....	2
2. The function of the balancing model.....	2
2.1 General function.....	2
2.2 Energinet.dk's residual balance after the gas day.....	4
2.3 Shipper evaluation.....	5
3. Experience with calculating the green zone.....	5
3.1 General experience.....	5
3.2 Shipper evaluation.....	8
4. Key challenges for the balancing model and tool box with possible solutions.....	9
4.1 Introduction.....	9
4.2 Introduction of a market maker to reduce risk.....	10
4.3 Calculation of the neutral gas price.....	11
4.4 Size of small adjustment.....	13
4.5 Experiences with trading windows.....	13
5. Data performance and Data Payment.....	14
5.1 Information about consumption to shippers.....	14
5.2 Data performance.....	14
5.3 Distribution Company Data performance.....	15
5.4 Energinet.dk Data performance.....	16
5.5 Data Payment.....	16
5.6 Characteristics of the Data Payment Model.....	17
5.7 nDMS forecast.....	17
5.8 Evaluation on data performance.....	17
6. The balancing models implication on competition.....	18
6.1 General view.....	18
Dok. 14/14301	1/15

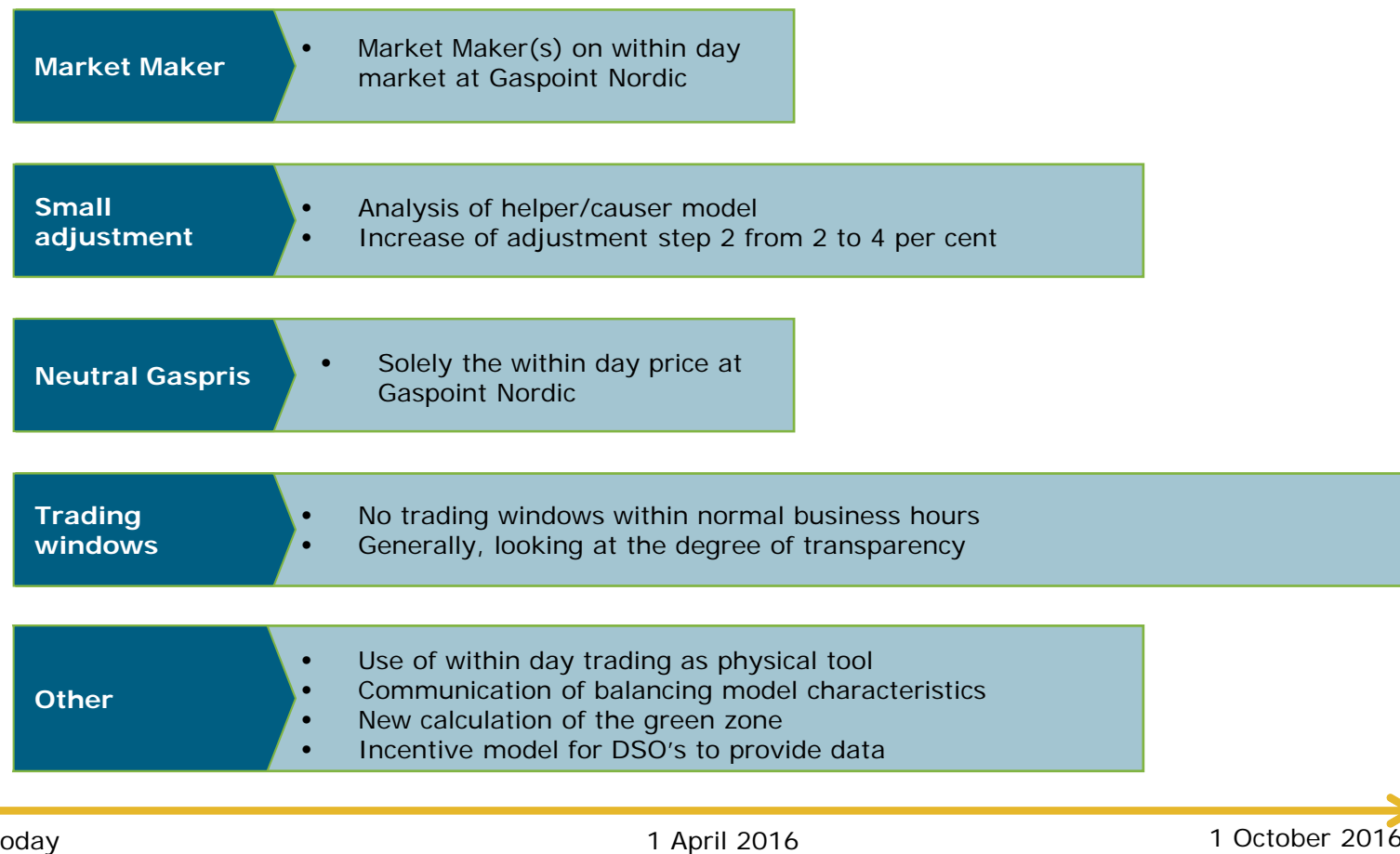
notat

Not only an evaluation.....



....ENDK uses this opportunity for general improvements

Recommendations – overview (indicative timeline)



Market Maker

Market Maker

- Market Maker(s) on within day market at Gaspoint Nordic

Nature Energy to become market maker

Please sort [▶ ALL NEWS](#) [▶ TRADING NEWS](#) [▶ COMPANY NEWS](#) [▶ MARKET REPORTS](#)

29.02.16 11:49

Nature Energy to become market maker

We are pleased to announce that Gaspoint Nordic and NGF Nature Energy A/S has signed a market maker agreement by which Nature Energy is committed to quote orders to buy/sell Within Day product and Month Ahead product. The commitment will commence by March 1st 2016 and involve Within Day market making between 11:00 and 12:00 and Month Ahead market making between 13:00 and 15:00 CET. Market making will be conducted on all Exchange days.

- Nature Energy will place Within Day orders of 30 MW with a maximum spread of 0.25 EUR/MW
- The Month ahead orders will be 30 MW with a maximum spread of 0.45 EUR/MW

Small adjustment and neutral gas price

Small adjustment

- Analysis of helper/causer model
- Increase of adjustment step 2 from 2 to 4 per cent

Neutral Gasprice

- Solely the within day price at Gaspoint Nordic

- Have started the analysis of a helper/causer model
- Are waiting on the approval from DERA. However, Energinet.dk has only applied for an increase of 3 per cent

Trading windows

Trading windows

- No trading windows within normal business hours
- Generally, looking at the degree of transparency

- Energinet.dk is looking at having continuous trading within normal business hours (see next slide)
- Energinet.dk will minimize the degree of transparency, of when Energinet.dk will trade
- Energinet.dk can choose not no trade if prices are too high/too low, compared to the physical situation

Suggested continuers trading

Between 11 and 18

Normal business hours

20:05-
20:15

23:05-
23:15

Trading windows

- Energinet.dk can trade continuously between 11-18 every day in all hours, still based on E(SCB)
- Energinet.dk can choose not to trade, or to only trade part of the amount (valid also for later trading windows)
- This is to avoid trading at prices that does not reflect the actual market situation

Other

Other

- Use of within day trading as physical tool
- Communication of balancing model characteristics
- New calculation of the green zone
- Incentive model for DSO's to provide data

- Working on analysis of using within day trading as a physical tool
- Please read the evaluation from Energinet.dk to know more about the balancing model characteristics
- There have been a new calculation of the green zone (as required by the market)
- Energinet.dk have worked out a first draft model for incentivising DSO's

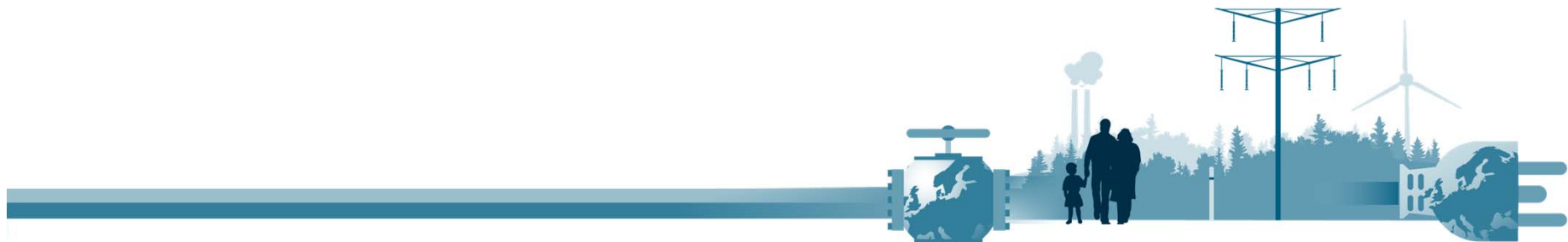
Thank you for your time!

Christian Rutherford
Customers and Market Development
cru@energinet.dk

Supply situation

Winter 2015/2016

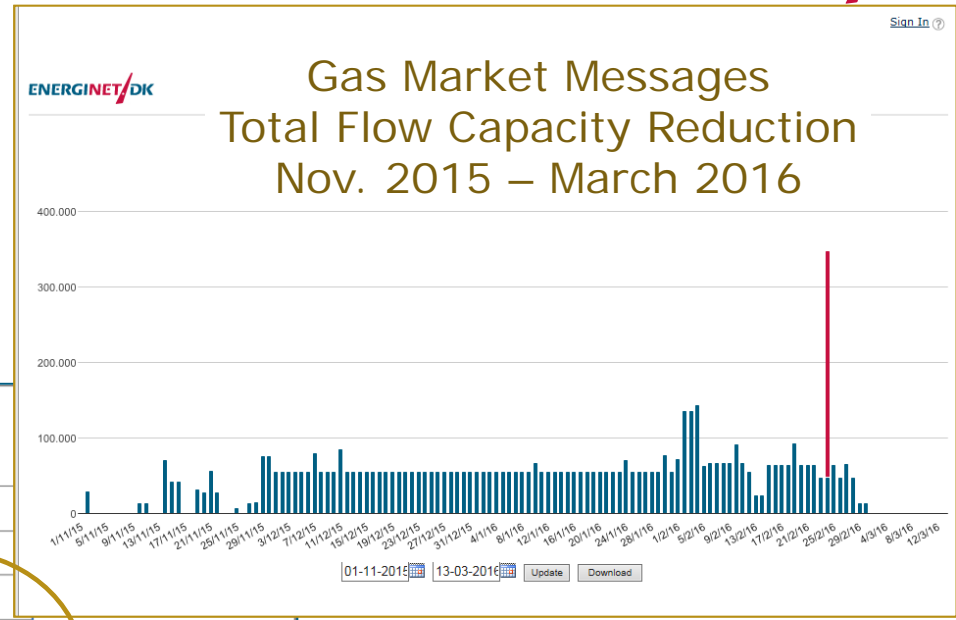
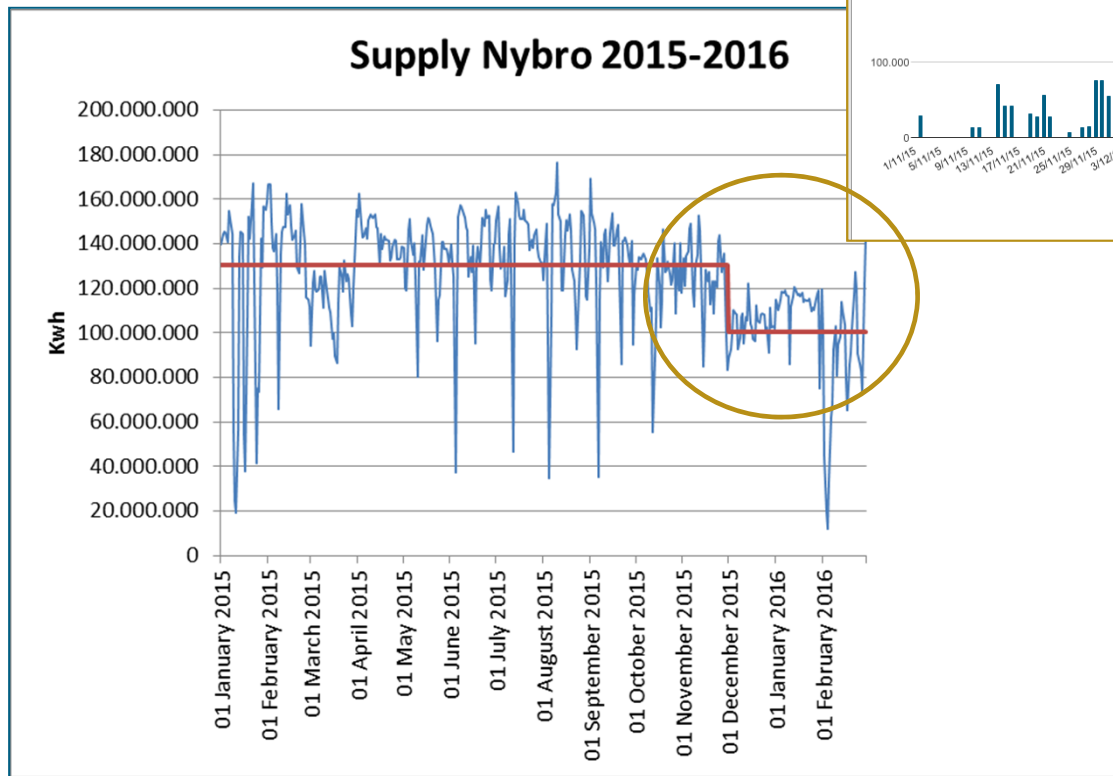
Christian Meiniche Andersen



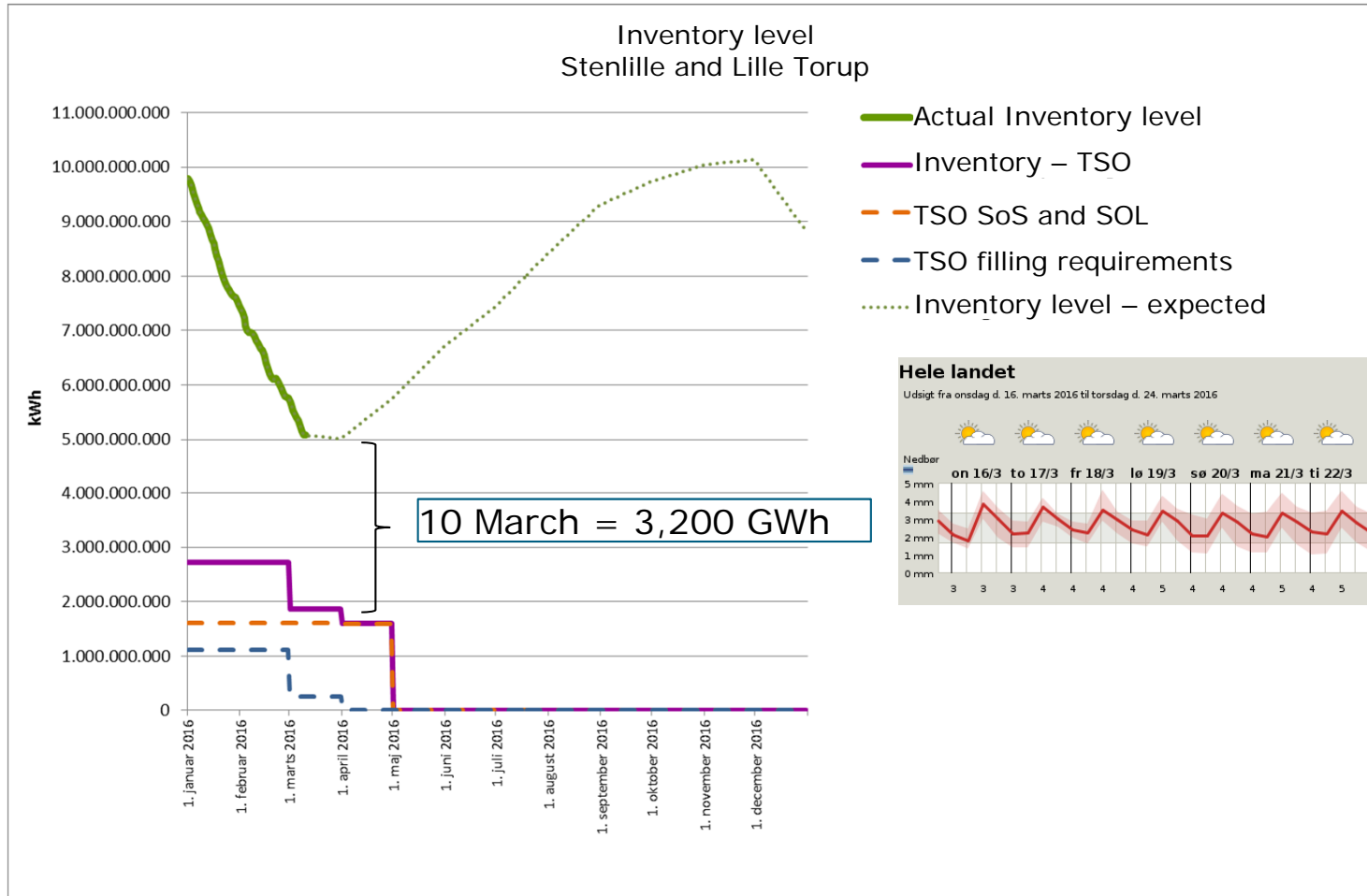
Supply situation Denmark/Sweden

- Winter 2015/2016 - Flow Capacity reduction from the North Sea
- Spring 2016 - Inventory Level
- North Sea – taxes and security of supply

Supply from Nybro and capacity reduction Winter 2015/2016



Inventory level March 2016



North Sea – taxes and security of supply


FINANS FINANS UPDATE

ERHVERV ØKONOMI FINANS POLITIK TECH TREND FINANS UNDERSØGER FLERE

Danmark risikerer uventet milliardtab på lukningstruet olieeventyr i Nordsøen

Staten risikerer helt uventet at gå glip af skatteindtægter for et tocifret milliardbeløb, hvis Dansk Undergrunds Consortium, DUC, inden for kort tid vælger at lukke landets største gasfelt i Nordsøen ned, for alt olie- og gas er indvundet. En beslutning, som DUC kan blive tvunget til at træffe, hvis et akut renoverings- og udbygningsarbejde til over 30 mia. kr. viser sig ikke at være økonomisk rentabelt.

OLIEKRISE I NORDSØEN | 21.01.2016 KL. 20:30



Havbunden synker under Tyråfeltet pga. gasproduktionen, og det betyder, at produktionsanlægget efterhånden er i fare for at udligge en sikkerhedsrisiko. Renoverer man ikke anlæggene, må produktionen indstilles. Billedet her er fra Tyrå Vest. Foto: Maersk Oil

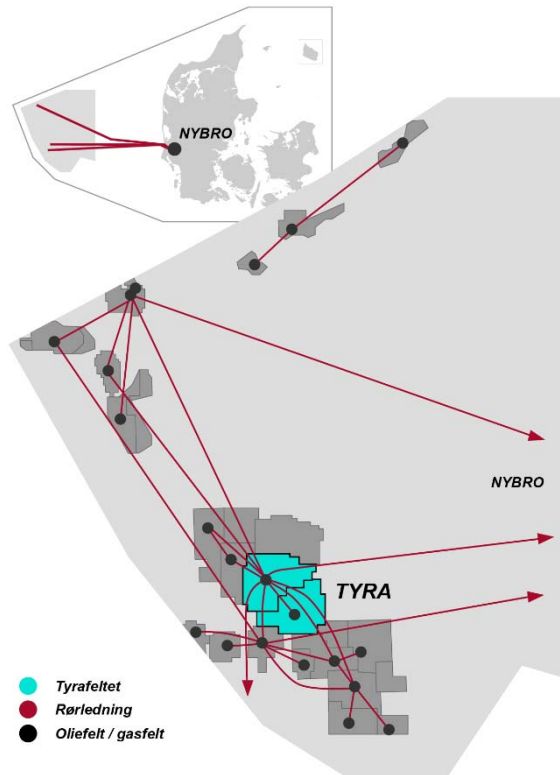
Denmark is in immediate danger of losing a billion DKK in revenues from the North Sea

....

...The reason for this is that within the next year DUC will be forced to choose between investing more than 30 billion DKK ...

.... or closing Denmark's largest gas field

Security of supply is based on the estimated risks at the given time



National crises:

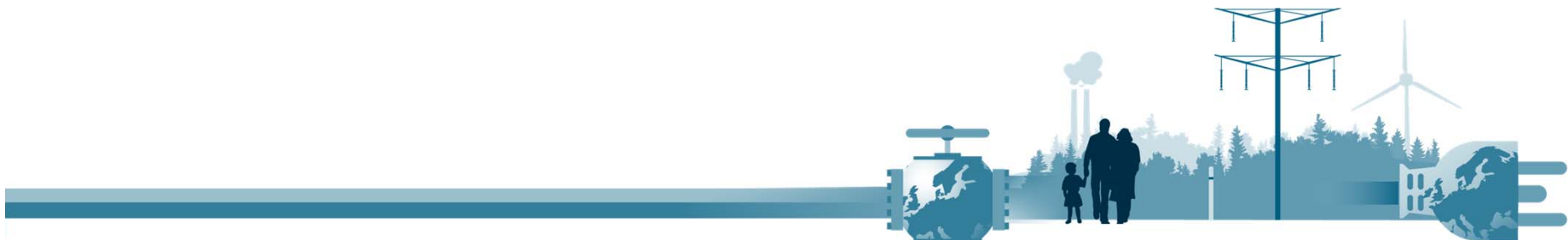
- Disruption of off-shore pipeline in the North Sea
- Interruption of supply from the North Sea
- Compressorfailure at Egtved
- Interruption of supply from any one of the two storage facilities
- Extremeley cold weather conditions (20-year event)

EU crisis (interruption of supply from Russia)

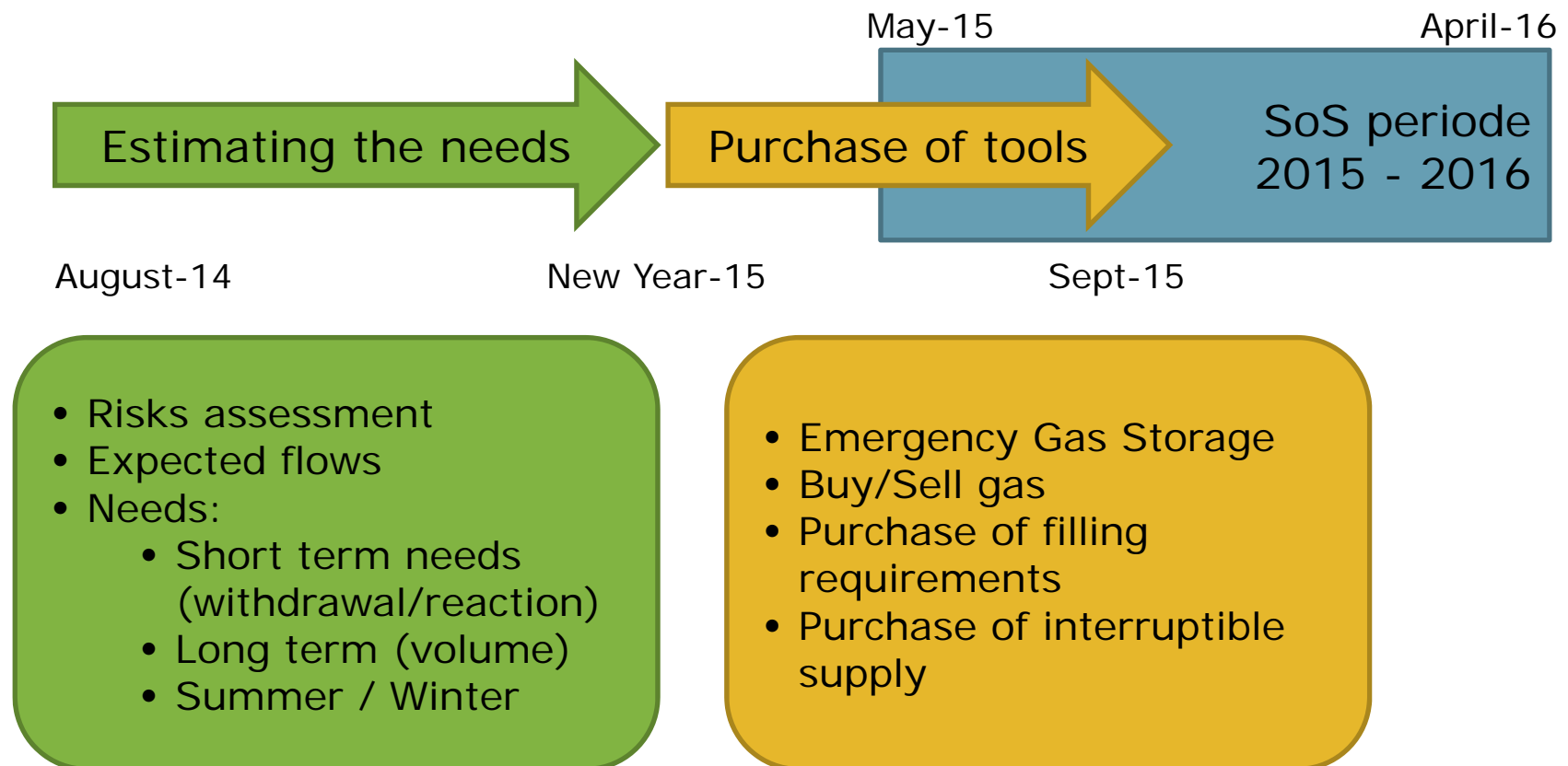
Security of Supply Tools

Shippers' Forum 10 March 2016

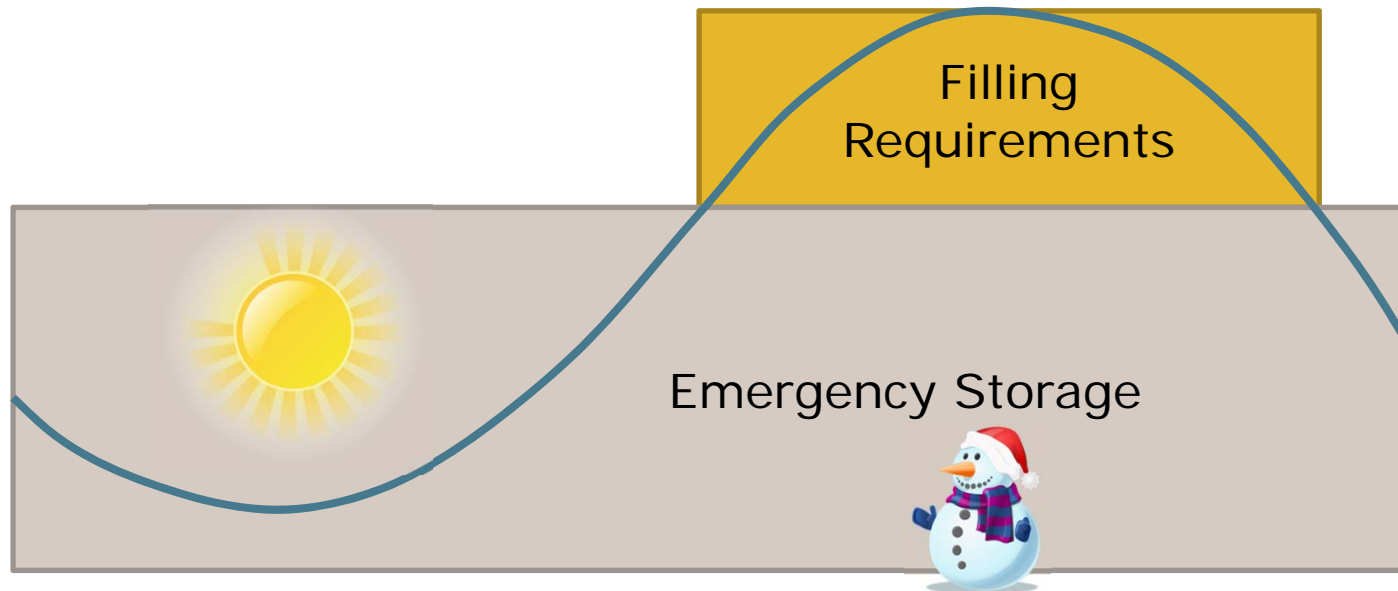
/Søren Balle Rasmussen, System Operation Gas



Yearly process

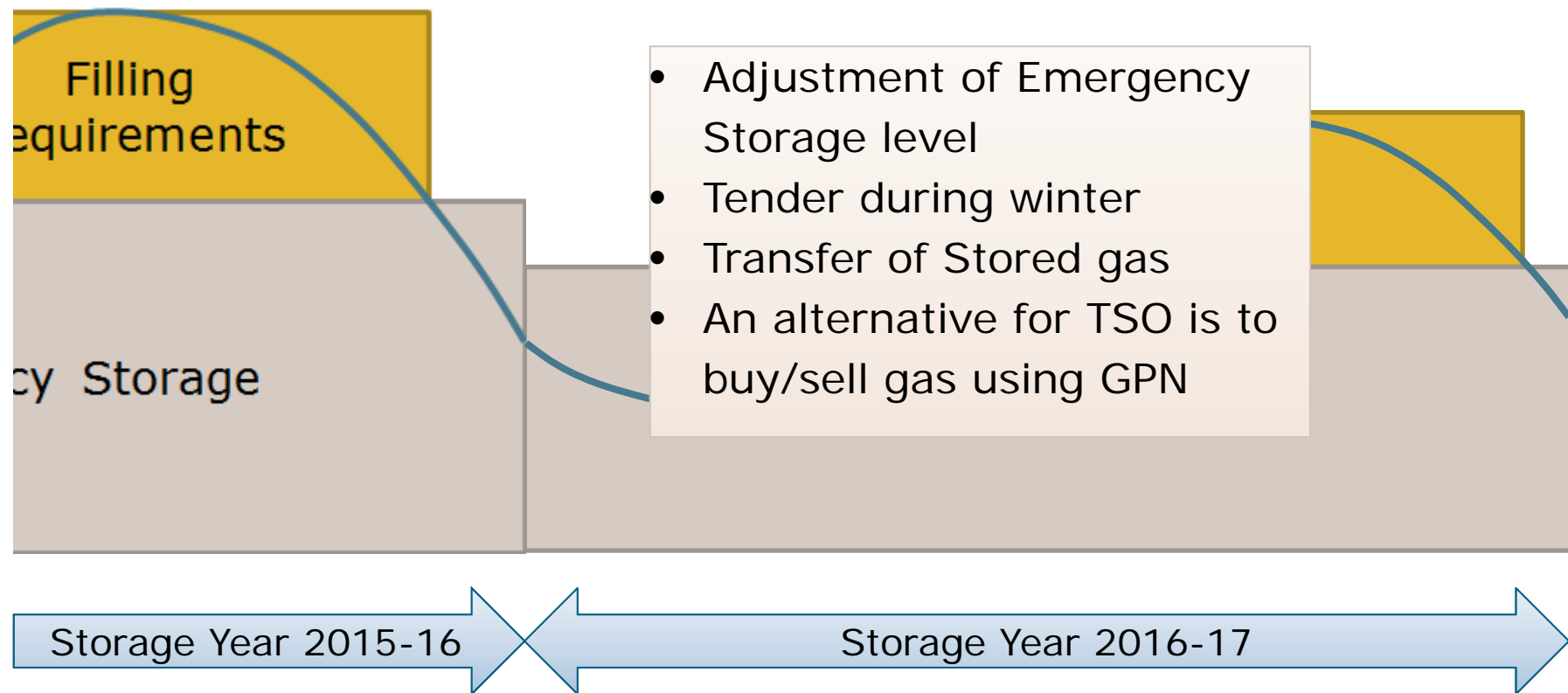


Profile for Storage need

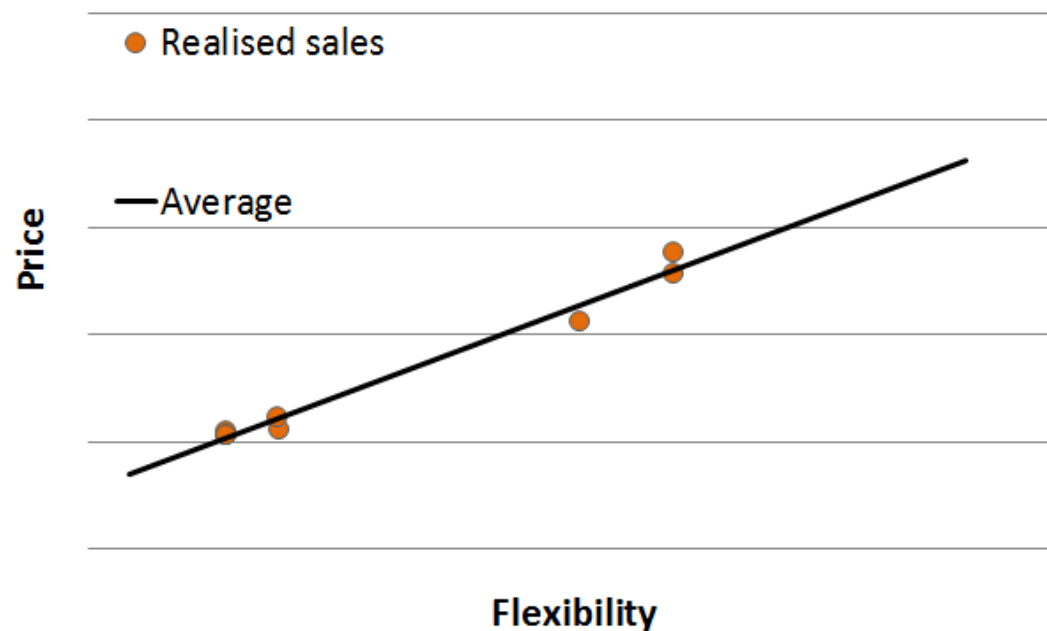


- Estimated storage need
- Split Emergency Storage and Filling Requirements
- Order Emergency Storage to Energinet.dk Gas Storage

Adjustment of Emergency Storage level



Determination of the price for Storage



TSO buys Storage from Energinet.dk Gas Storage based on market price

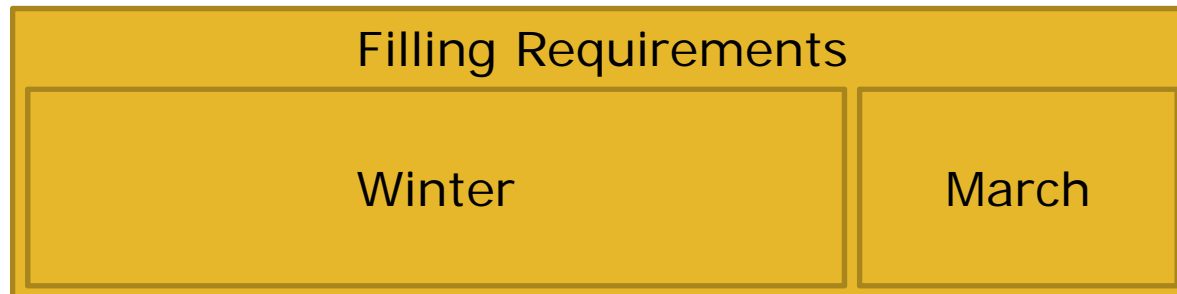
Emergency Volume:
Realised sales during Q1

System Operational
Storage:
Realised sales during Q1

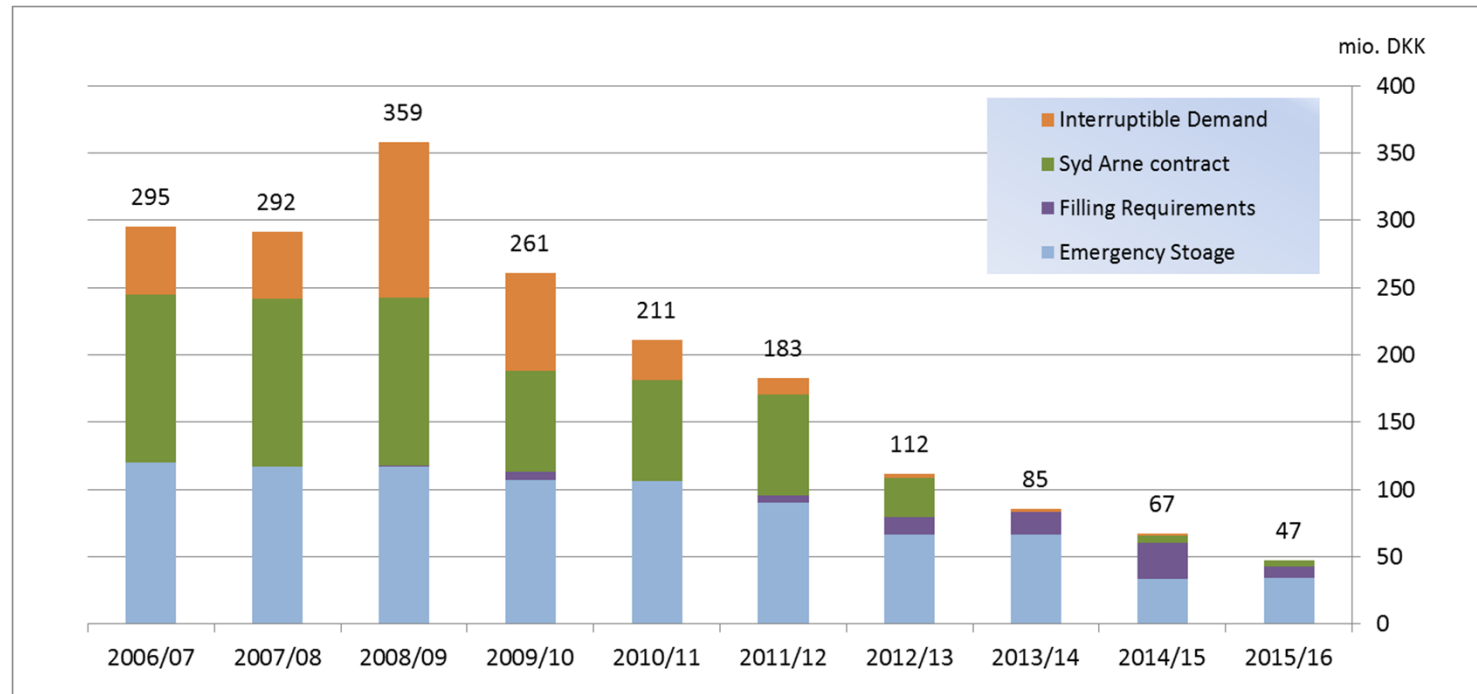
Emergency Withdrawal:
Cost based

Filling Requirements

- Tender during autumn
- Contract between Storage Customer and TSO
- Typically two periods
- Alternative price sets maximal price



SoS costs



- Ellund entry has been fully developed
- Implementation of new EU SoS Regulation in 2012
- Decreasing demand
- Decreasing Storage prices

<http://www.energinet.dk/EN/GAS/Det-danske-gasmarked/Sider/Kommerciel-disponering.aspx>

GAS

- News
- Danish gas market
- Products and trade
- Rules for gas transport
- Gas data
- About safety
- Operation and maintenance
- Biogas
- Development of gas technologies
- Gas in Denmark 2015
- What happened in 2014?
- What is happening in 2014-2015?
- Future challenges facing gas
- Issues of current importance

You are here: Frontpage > GAS > Danish gas market > Market based activities
Last updated on 23. February 2016

Market based activities

Transparency and non-discrimination carry great weight in relation to the cost of the purchase and sale that we undertake to safeguard security of supply and system balancing.

Overview of necessary market based activities on the gas market
To fulfil the emergency obligation, Energinet dk cannot avoid engaging in market based activities, but will strive to minimise the effect of interfering with the market by securing a high level of transparency.

Latest purchase of storage products, gas trade and security of supply agreements:

Latest update	Type	Capacity	Location	DKK	Additional information
23.02.2016	Gas trade	312,000,000	Storage	29,063,724	Read more
16.11.2015	Emergency volume and withdrawal	1,500,000,000 8,100,000	Storage facilities	34,620,900	Method description
16.11.2015	Storage SBU	110,000,000 300,000 300,000	Storage facilities	3,978,795	Volume Injection Withdrawal
16.11.2015	Filling requirements	250,000,000	Storage facilities	1,777,511	

Important dates for Emergency supply

Relevant dates for the different topics/processes related to Emergency supply in the Danish gas market.

The link/PDF on the right side lists relevant dates and deadlines that you, as a market participant, should be aware of in relation to the different topics and processes that are part of Energinet.dk's Emergency supply concept:

Topic/proces	Applicable for the period
Non-protected customers	October 1st Year 1 – September 30st Year 2
Commercial interruptible supply	October 1st Year 1 – April 30st Year 2
Commercial interruptible supply – Operational	October 1st Year 1 – April 30st Year 2

<http://www.energinet.dk/DA/GAS/Det-danske-gasmarked/Forsyningssikkerhed/Sider/Vigtige-datoer-for-noedforsyning.aspx>

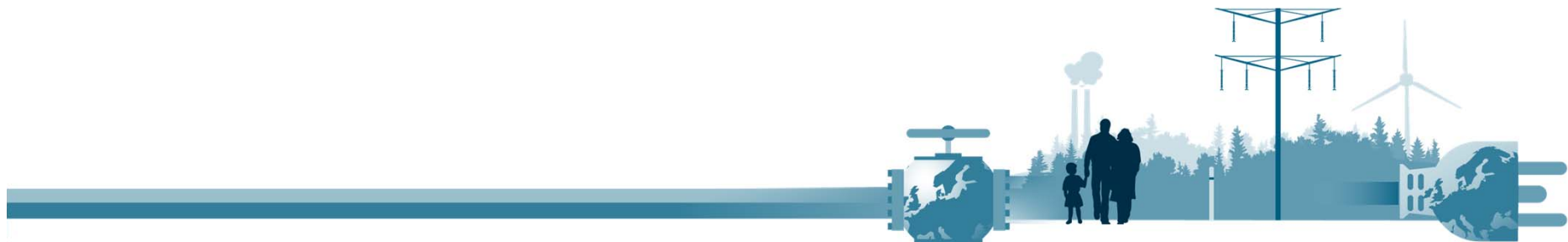
Thank you for your attention!

Coffee break and networking

We meet again at 14:40

Follow up on last Shippers' Forum

Jeppé Danø, Energinet.dk



MEMAS - The 4 C's

If I were Energinet.dk...| page 50

If I were Energinet.dk...I would make the 4xC



MEMAS – Cost efficiency

If I were Energinet.dk... | page 51

“We pay, meaning you pay”...



- Costs are paid by the users
- Benchmark of costs between TSO's – available?
- Distribution companies measured on cost efficiency
- Energinet.dk tariffs part of the gas value chain
- Lower volumes → higher tariffs
- Energinet.dk shall also adjust to the future

MEMAS - Conclusions

If I were Energinet.dk...|page 55

Walk the talk....

-
- Buy the offshore pipelines at the right price **Will do...**
 - Initiate talks with the DSO's **Done!**
 - Initiate talks with Sweden **Done!**
 - Gaspoin Nordic to be fully integrated at EEX **Not yet accomplished...**
 - Commodity tariffs instead of send-or-pay tariffs **Partly...**
 - Accept that a within-day market requires a certain physical gas market to have sufficient liquidity **Accepted (but still room for improvement, within the current market circumstances)**
 - Ask DERA for exemptions to the CAM Balancing NC **No (but still room for improvements, within the given legislation)**
 - Publish Energinet.dk costs in a TSO benchmark

Benchmark done, results awaiting!



Nature Energy

If I was Energinet.dk

March 2016

NGF
nature
energy

If I were Energinet.dk...

- *Well I used to be, therefore...*
- *Ceterum censeo Carthaginem esse delendam*
 - https://en.wikipedia.org/wiki/Carthago_delenda_est
- Apparently this is grammatically very interesting

- Who is Nature Energy?
- Value of assets
- Cato the Elder

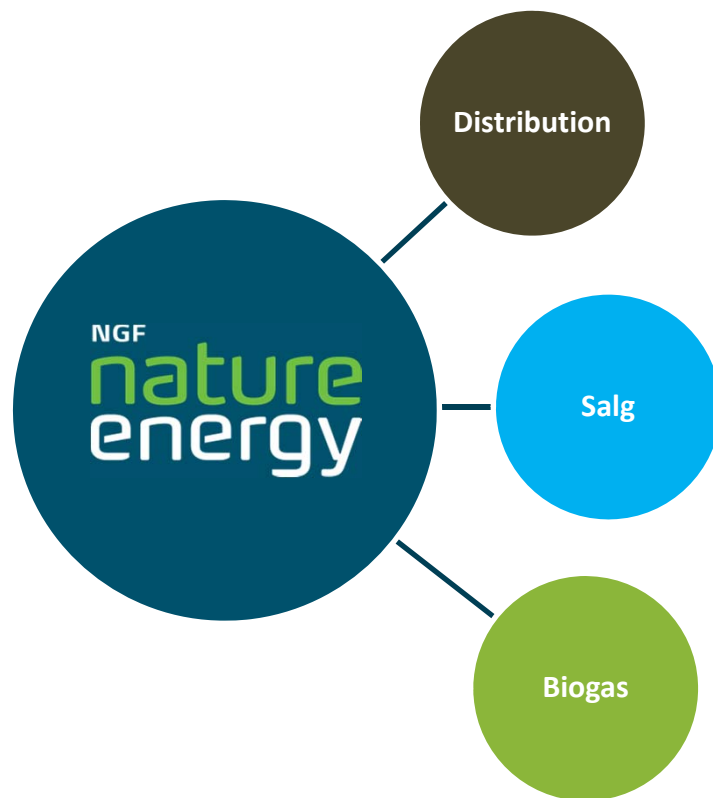
EJET AF DE FYNSKE KOMMUNER



- Odense Kommune 25,7 %
- Assens Kommune 16,1 %
- Faaborg-Midtfyn Kommune 14,2 %
- Svendborg Kommune 13 %
- Middelfart Kommune 8,8 %
- Kerteminde Kommune 8,4 %
- Nyborg Kommune 7,9 %
- Nordfyns Kommune 5,9 %

- Beskæftiger ca. 120 ansatte

3 PRIMÆRE FORRETNINGSOMRÅDER



- Ejer af det fynske naturgasnet
- Distribution af 130 mio. m³ gas på Fyn 2014

- Salg og handel af naturgas
- Markedsandel ca. 17 %
- Kundetilvækst 2014 ca. 16 %
- Forsyningspligt i hele DK

- Udvikling af dansk biogasproduktion til naturgasnettet
- Grøn gas på nettet fra maj 2015

BIOGAS- og CNG-ANLÆG



STATUS BIOGASANLÆG

- **SAMLET PRODUKTION:**
45 mio. m³ bionaturgas/år
- **SVARER TIL:**
1/3 af naturgasforbruget på Fyn
- **FORVENTET LØBENDE UDBYGNING**

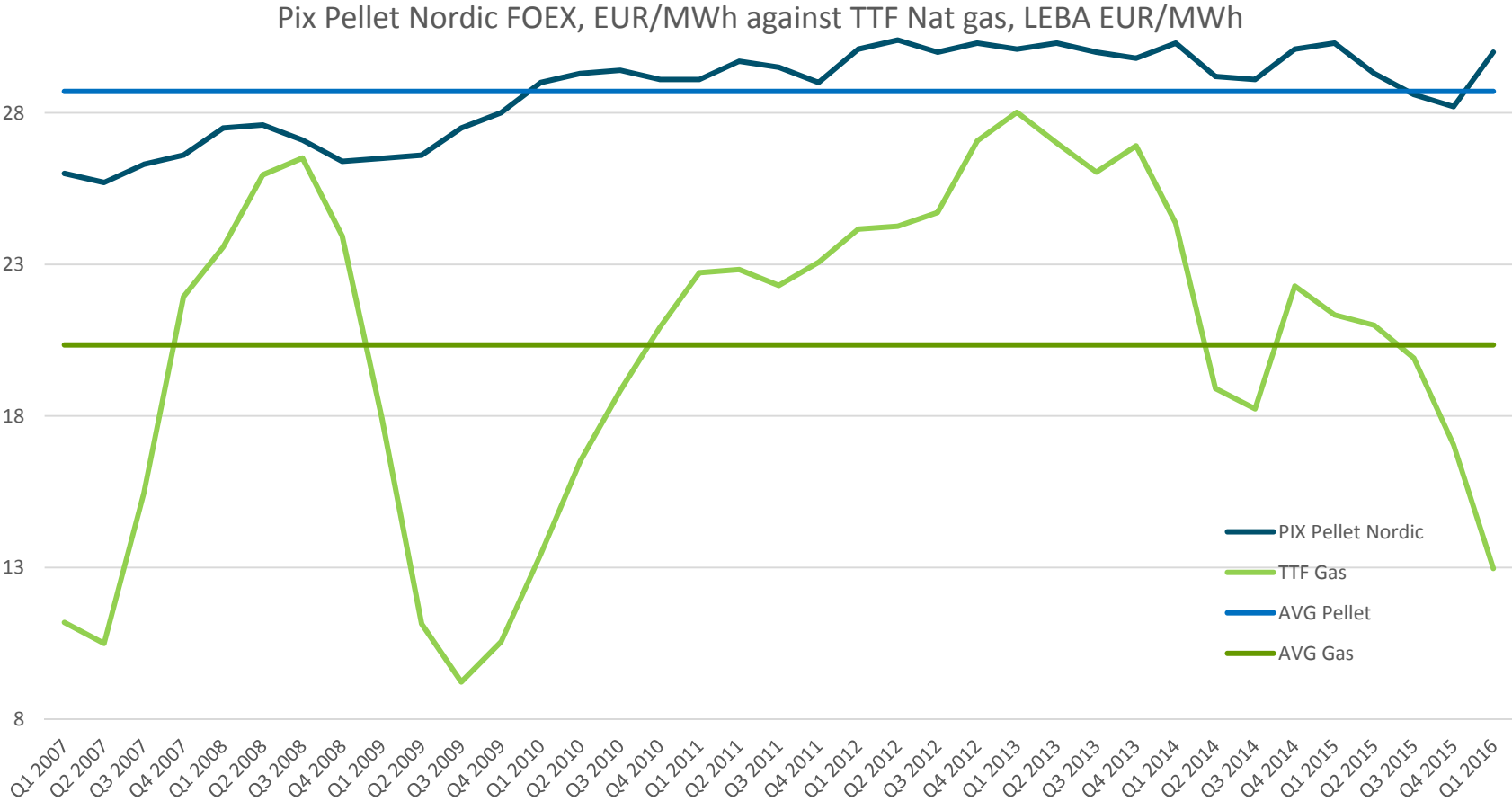


STATUS CNG TIL TRANSPORT

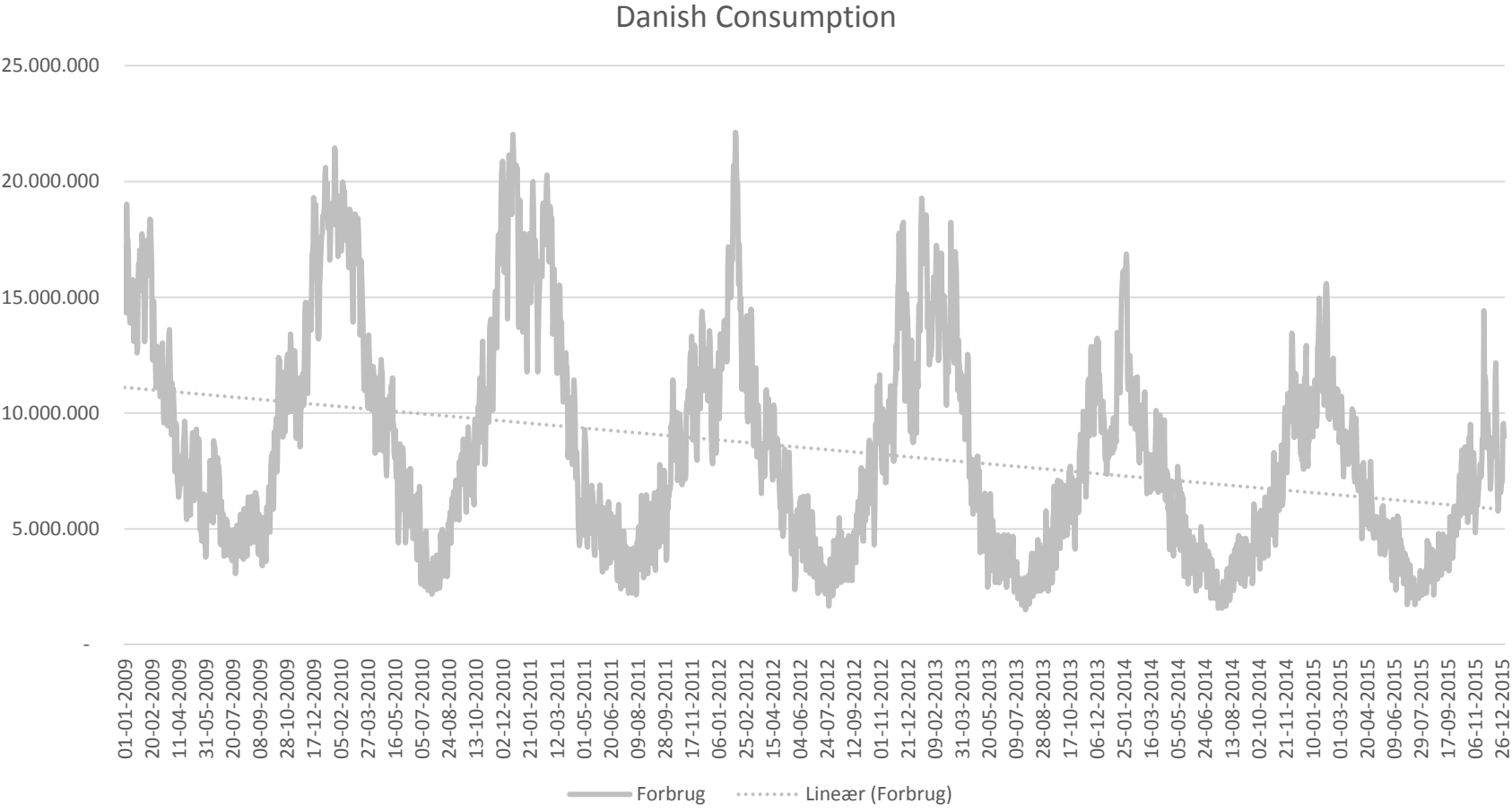
- **ODENSE:**
DKs første CNG tank
- **FREDERICIA:**
Første projekt med CNG til offentlig bustrafik i DK + første døgnåbne kommercielle CNG-tank
- **VEJLE**
Renovationskøretøjer på gas og tankanlæg ved Exxit59

If I were Energinet.dk...

Gas competitiveness



Danish Consumption



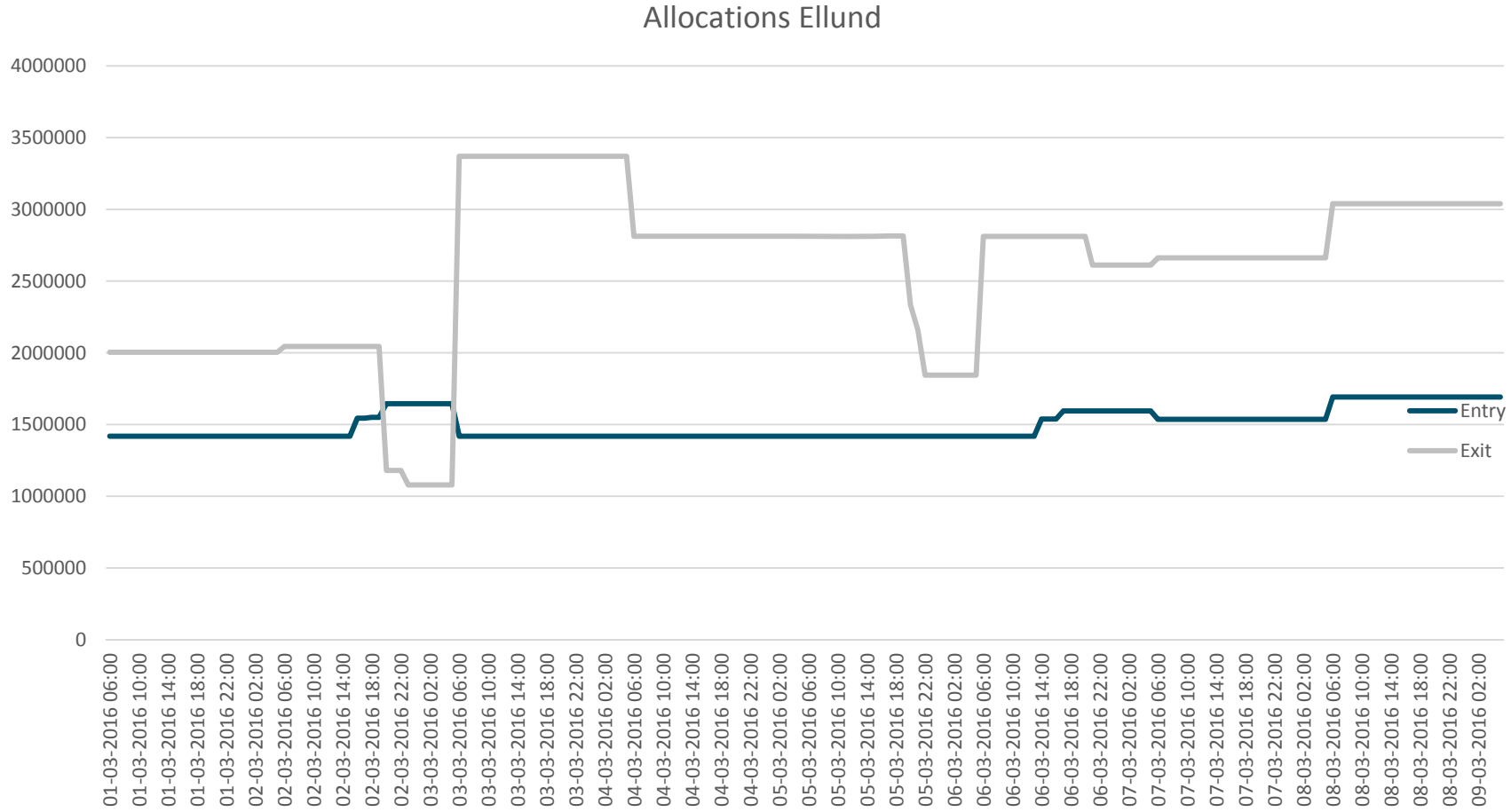
Value of Assets

- Are infrastructure assets worth book value?
 - Distribution assets?
 - Offshore pipeline?
 - Transmission assets, how do we make sure that the assets are available when we as a society needs them
 - For balancing intermittent Renewable Power Production
 - For transporting Renewable Energy as biogas or gas from electrolysis
- Cost plus regulation on book values may kill what consumption is left before the assets realise their potential in a renewable energy system
 - New Consumption
 - Level playing field against competition

And Finally

- *Ceterum censeo Carthaginem esse delendam,*
 - *Cato the Elder, (234 – 149 BC)*
- Furthermore, I consider that Carthage must be destroyed
- From DERA report December 2015 / January 2016
- **Chapter 5: Analysis of gas prices and gas flows at Ellund**
 - DERA has observed gas flows contrary to price signals for most of the period 1 January 2014 to 30 June 2015.
 - DERA considers that, for a period, it will be necessary to focus on prices in the Danish, German and Dutch markets. If necessary, DERA will ask market players to account for their commercial considerations on flow direction.

Flows on Ellund



If I were Energinet.dk

- Evaluate everything you do internally in a context of how your Rules for Gastransport are affecting end users
 - Tariffs
 - Balancing rules
 - New purchases of assets
- Speak out on how the competition from tax exempt fuels are affecting you and the effects this will have on society in
 - Deadweight loss'
 - Ineffecient investments among consumers
 - Engage owner in this dialogue
- Make sure that the market functions
 - Monitor the market
 - Gas target model

NGF Nature Energy



Thank you for your attention

See you at next
Shippers' Forum
16 June 2016