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# Eastern Mediterranean gas

## *A reality check*

LSE Hellenic Observatory  
22 October 2020

# East Med Gas: a reality check

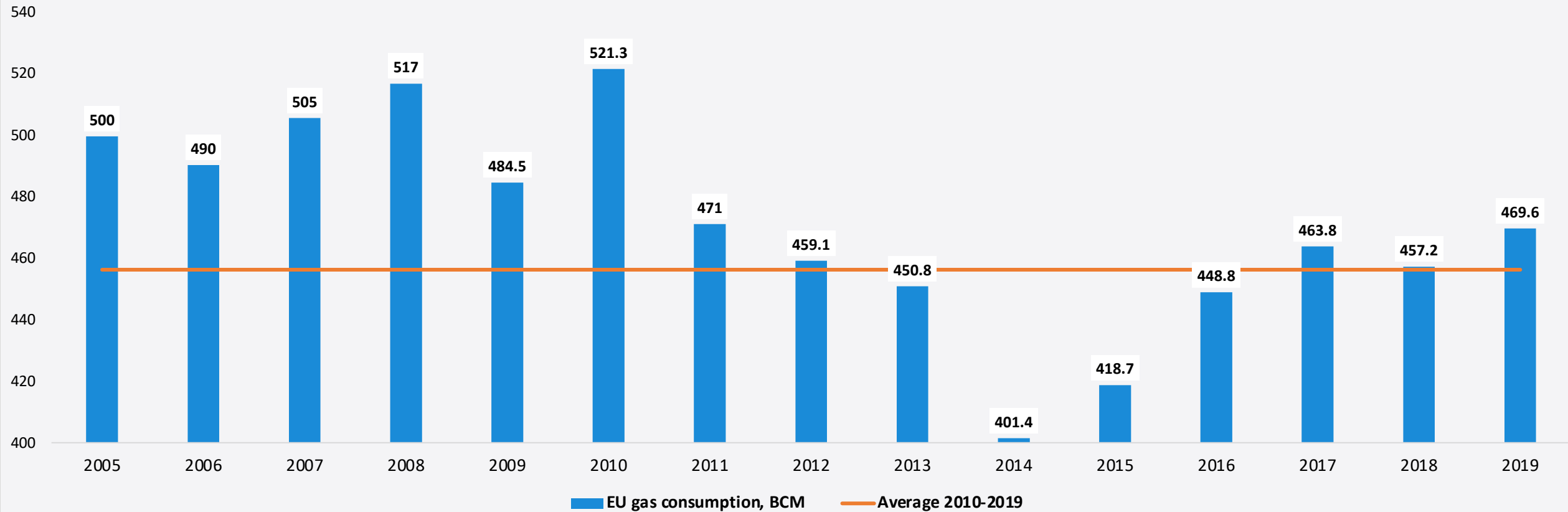
- **Global gas** market context: demand-supply-price trends
- Supply context: **how big** are the East Med gas finds?
- At what price is East Med gas **viable**? (Sapienta model)
- Recommendations to **policy-makers**

# Global gas market context

# EU gas demand is not growing

Source: BP Statistical Review of World Energy;  
chart prepared by Sapienta Economics Ltd

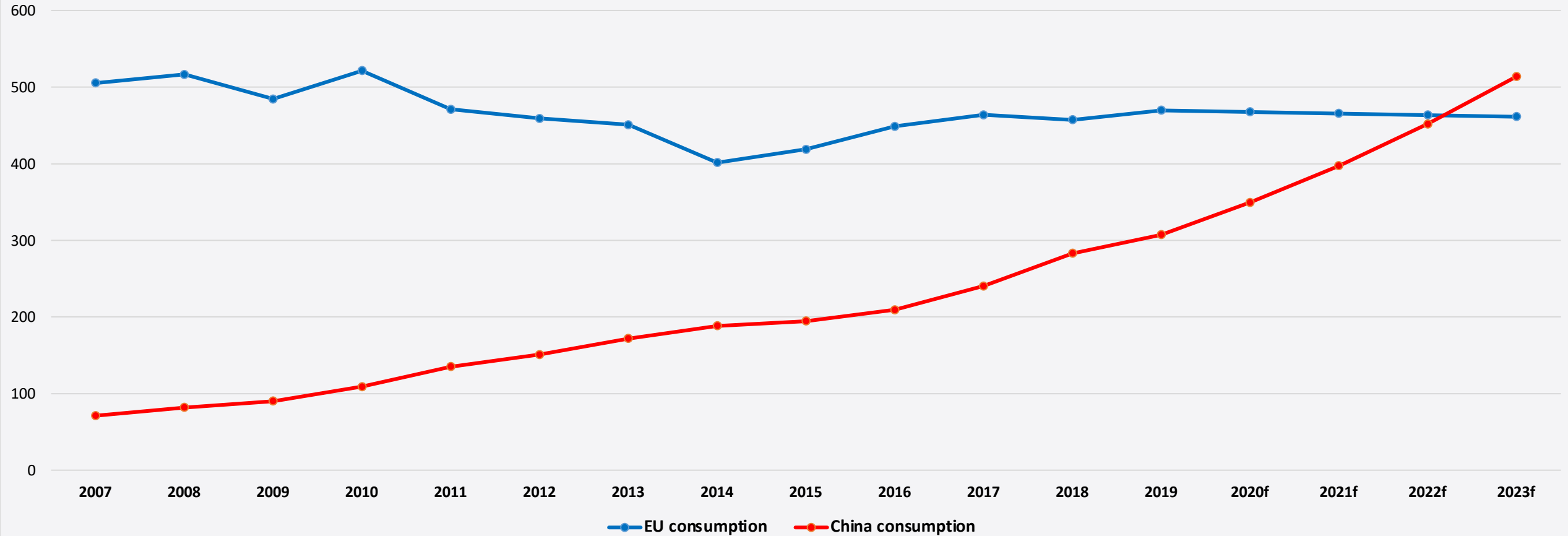
EU gas consumption, BCM  
(scaled y-axis)



# China will soon take over gas demand

Data source: BP Statistical Review of World Energy;  
chart prepared by Sapiaenta Economics Ltd

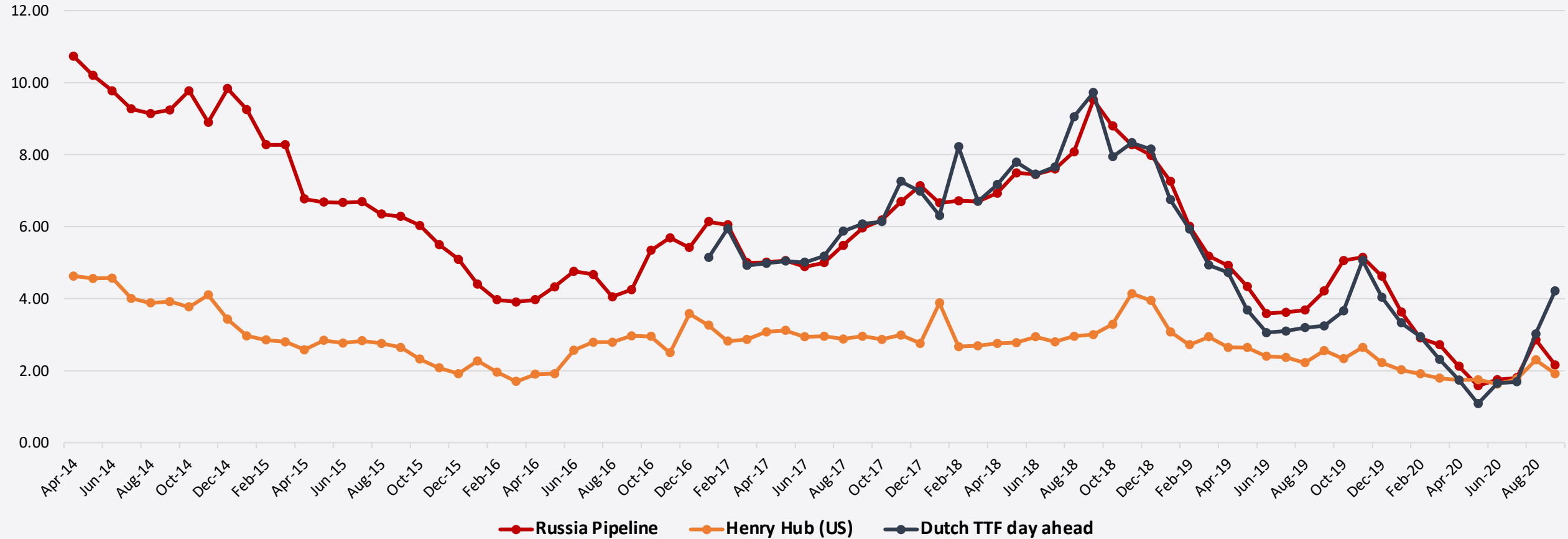
Scenario: EU v China consumption growing at average 2010-2019 rates (BCM)



# Gas price pressure is downwards...

Data sources: IndexMundi; Platts;  
chart prepared by Sapienta Economics Ltd

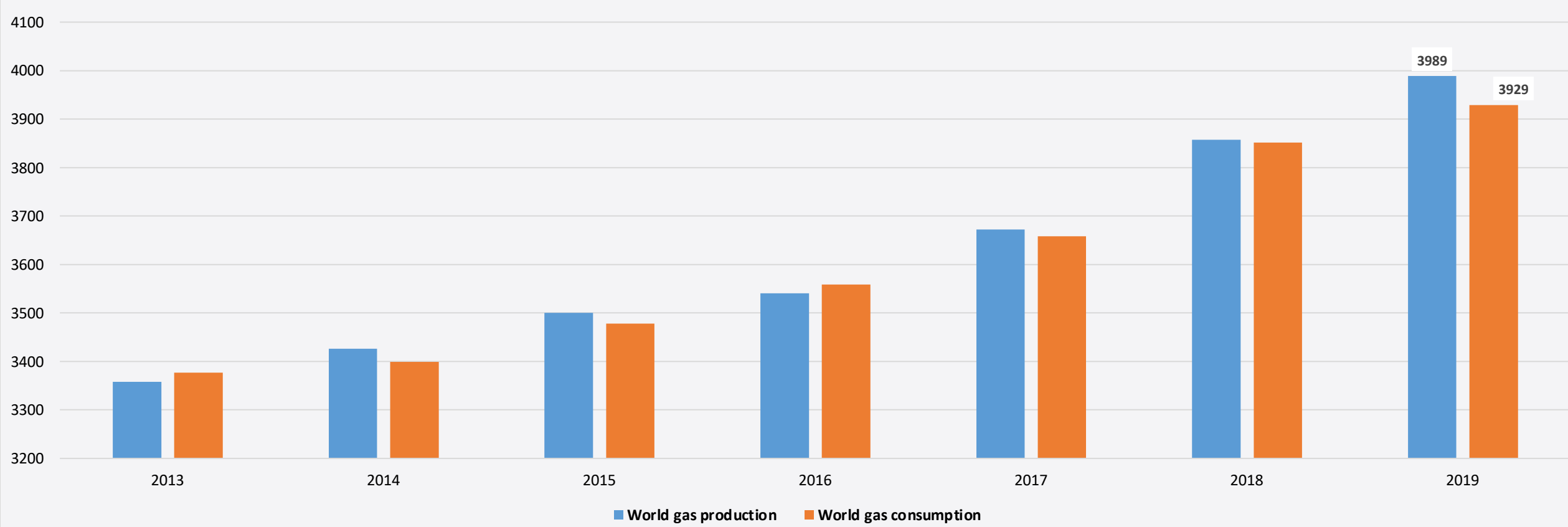
### Natural gas prices, \$ per MMBTU



# ...because gas is oversupplied

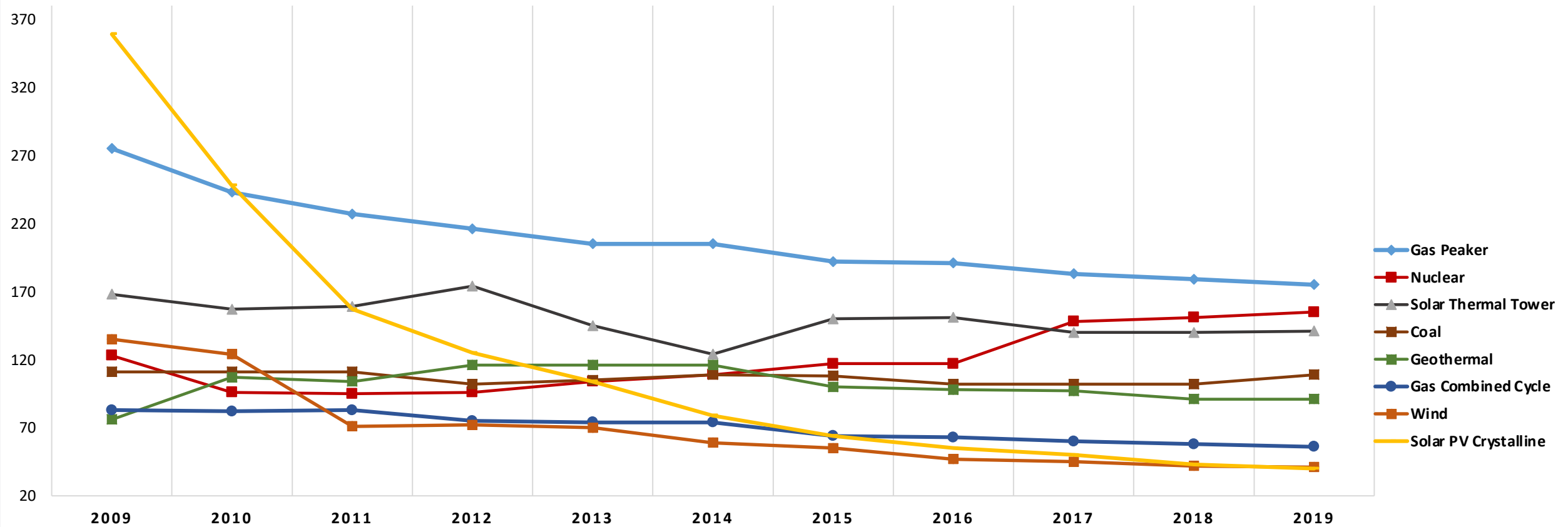
Data source: BP Statistical Review of World Energy;  
chart prepared by Sapienta Economics Ltd

Recent world gas production and consumption (BCM)  
(scaled y-axis)



# The sun is already king

LAZARD LEVELIZED COST OF ENERGY (LCOE),  
UNSUBSIDIZED, MEAN \$/MWH





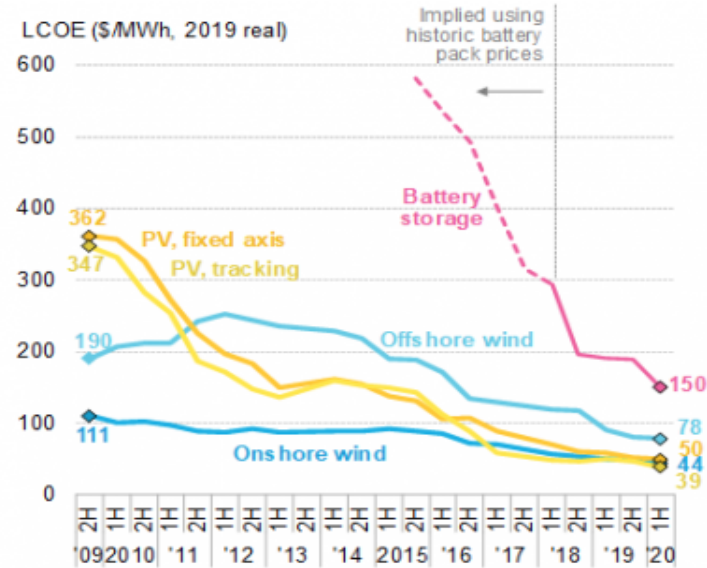
# Technology is fixing the storage price issue...

GRID SCALE  
MARKET WATCH

## BloombergNEF: 'Already cheaper to install new-build battery storage than peaking plants'

Published: 30 Apr 2020,  
10:16

By:  
**Andy Colthorpe**



# ...and will get there on the environmental issue



Science for Environment Policy

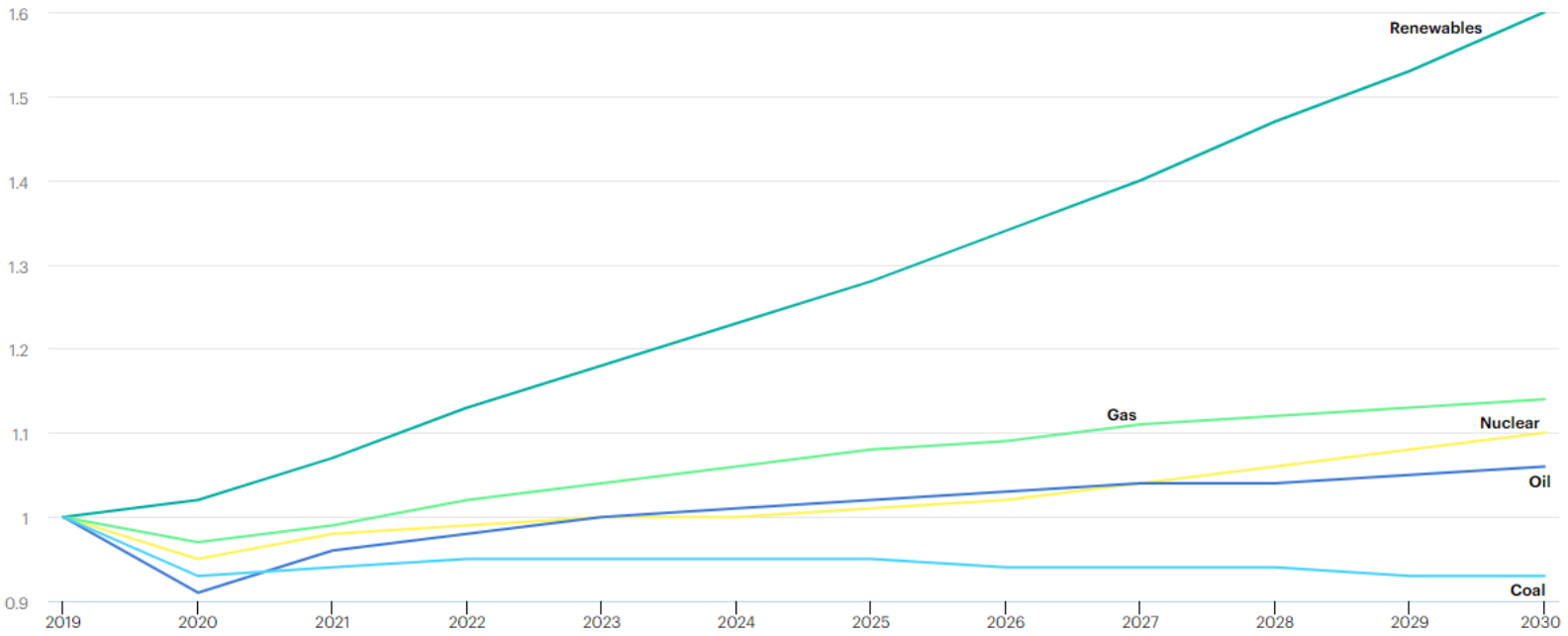
FUTURE BRIEF:

**Towards the battery  
of the future**

September 2018  
Issue 20

# IEA energy demand by fuel to 2030

Primary energy demand by fuel, Indexed to 2019 levels




IEA. All Rights Reserved

● Coal ● Oil ● Gas ● Renewables ● Nuclear

# How big are the East Med gas finds?

# Cyprus discoveries ≤255 bcm

 Announcement date	Field	Drilling company	Stage of discovery	Estimate in tcf
2011	Aphrodite	Noble	Recoverable	4
2019	Glaucus	Exxon	Gas in place	5-8
2019	<i>Glaucus</i>	<i>Exxon</i>	<i>Estimated recoverable</i>	2.5-4.5
2018	Calypso	ENI	n/a	Nothing official
2018	<i>Calypso</i>	<i>ENI</i>	<i>Low/high rumours</i>	2.5-8.0
Total generous estimate (tcf)				9.0
Total generous estimate (BCM)				255

Source: Company announcements.

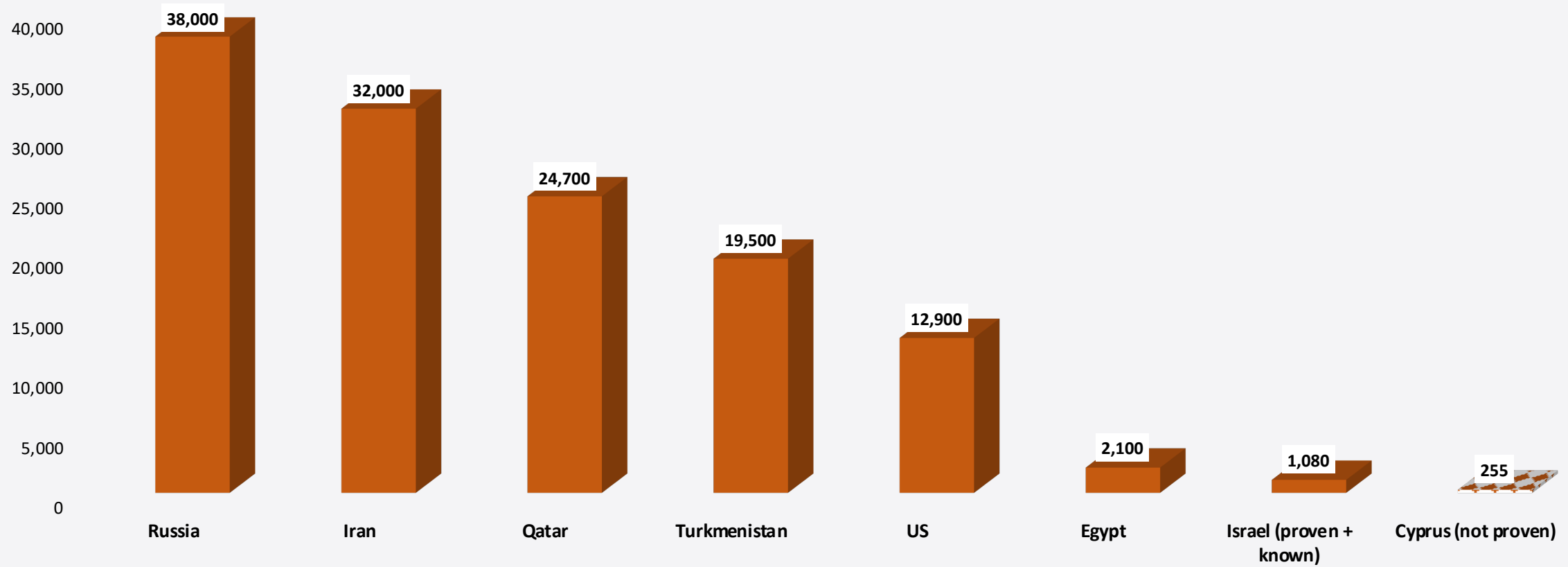
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# World top 5 v. East Med proven reserves

Source: BP Statistical Review of World Energy; industry sources;  
chart prepared by Sapienta Economics Ltd

World top 5 & East Med proven reserves, end-2019 (BCM)



# Russia: 80 yrs of EU demand v ~3 yrs IL-CY

Data source: BP Statistical Review of World Energy;  
chart prepared by Sapienta Economics Ltd



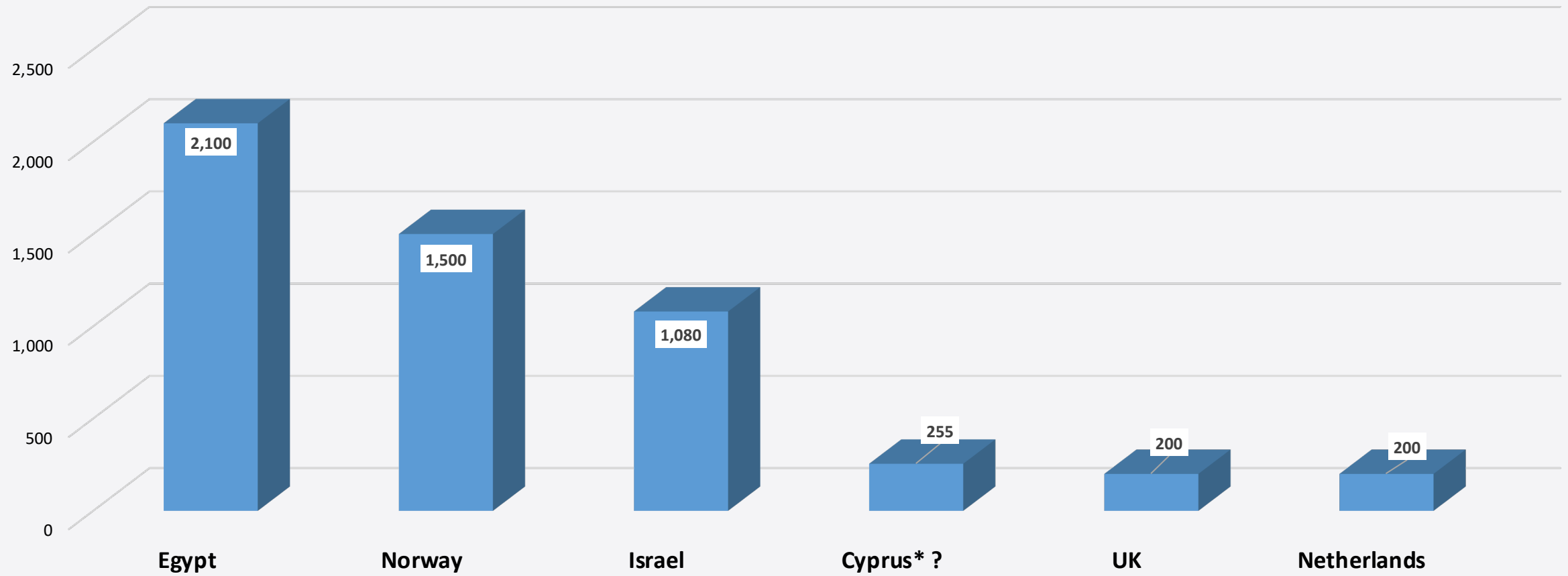
### Russia & Cy-IL reserves v EU demand in one year (BCM)



# Europe & East Med proven reserves

Data source: BP Statistical Review of World Energy;  
chart prepared by Sapienta Economics Ltd

## Western Europe & East Med proven reserves (BCM)

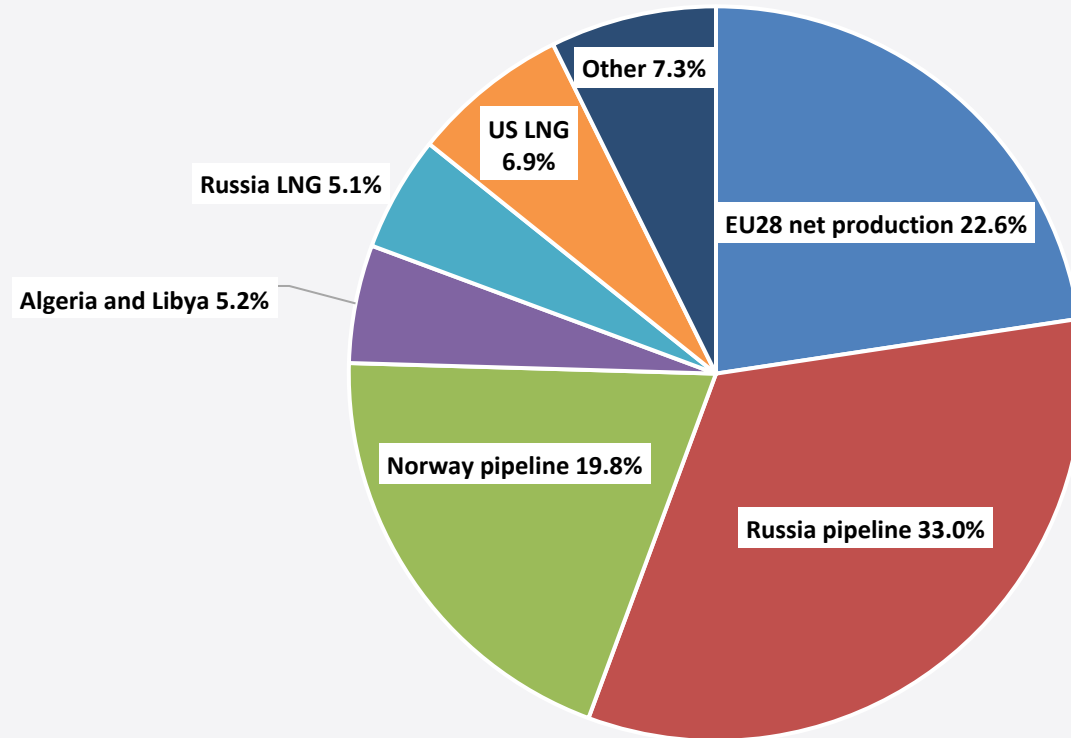




# Any East Med supply will be at the margins

EU gas consumption by supplier country, 2019-20

Data source: EC Quarterly Report on European Gas Markets;  
% inferred by Sapienta Economics Ltd



# At what price is East Med gas viable?

# At what prices is it viable?

Sapienta Economics gas viability model: price viability bands



End-customer purchase price, \$ per MMBTU

	TCF	\$3.5	\$4.28*	\$5.50	\$6.00	\$7.00	\$8.00	\$9.00
Turkey pipeline (4.1 TCF) (Cyprus only)	4.1	YES	YES	YES	YES	YES	YES	YES
FLNG (Glaucus/Calyp: 4.5 TCF) (Cyprus only)	4.1	NO	NO	YES**	YES**	YES**	YES**	YES**
Egypt Idku LNG plant (4.1 TCF) (Cyprus only)	4.1	NO	NO	NO	NO	YES	YES	YES
East Med pipeline (20.9 TCF) (Cyprus and Israel)	20.9	NO	NO	NO	NO	NO	NO	YES

\*Average 2019 Dutch TTF spot price. \*\*Based on Oxford Economics March 2019 paper.

Model inputs include cost of exploration, production, pipelines, transport, finance, NPV, etc.

# How do we make it viable?

- Broaden the East Med market **beyond gas**
- Gas - **Renewables** - Interconnectors
- Green hydrogen? **Communications** tech?
- We need **top energy experts** to flesh out possibilities
- We need low-cost **finance**: SWFs, PEs, EIB, EBRD
- We need a **grand energy deal** for the East Med

# Recommendations to policy-makers

- Understand that East Med gas is **not viable** by itself
- Help politicians **build a vision** for a broader energy mix
- **Facilitate** the finance that will make it viable
- The **political deals** will follow

# Shameless plug

## Sapienta Country Analysis Cyprus

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- ✓ Fiscal | Banking | Macroeconomy | Forecasts
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- ✓ Energy | Healthcare | Sectoral policies & reforms
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*We are confident no organization can match our breadth and depth on Cyprus*