Flexibility in gas markets: Storage

Ankara

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BP Gas Marketing

Integrated Supply & Trading

Disclaimer

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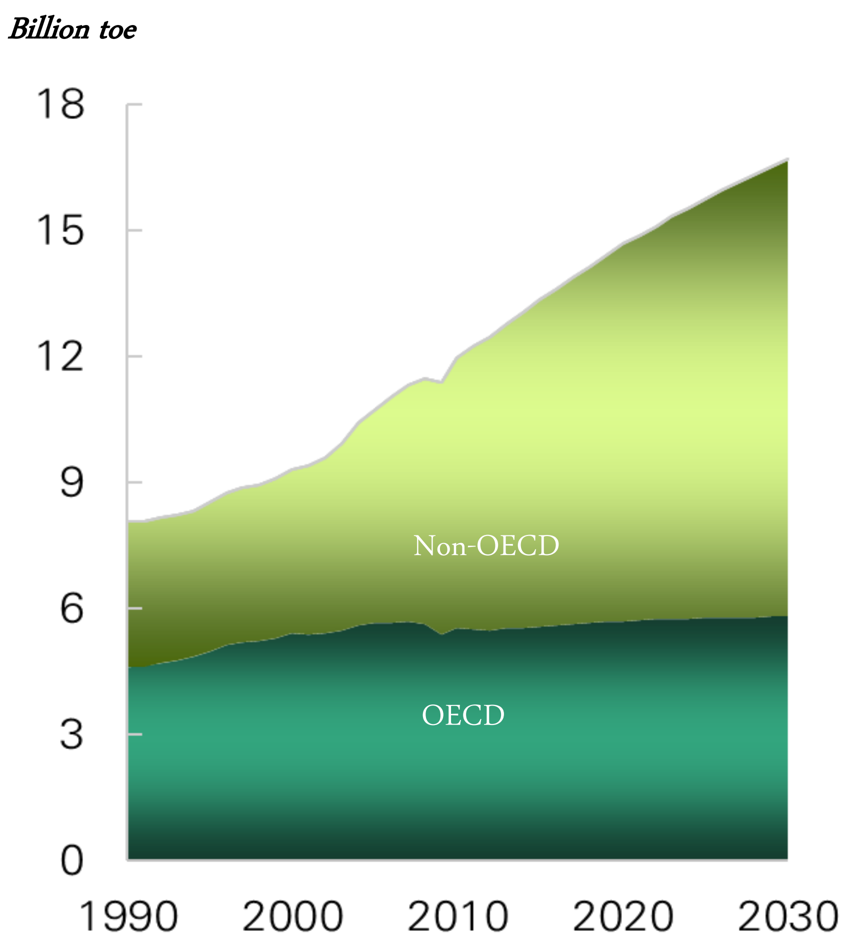
Agenda

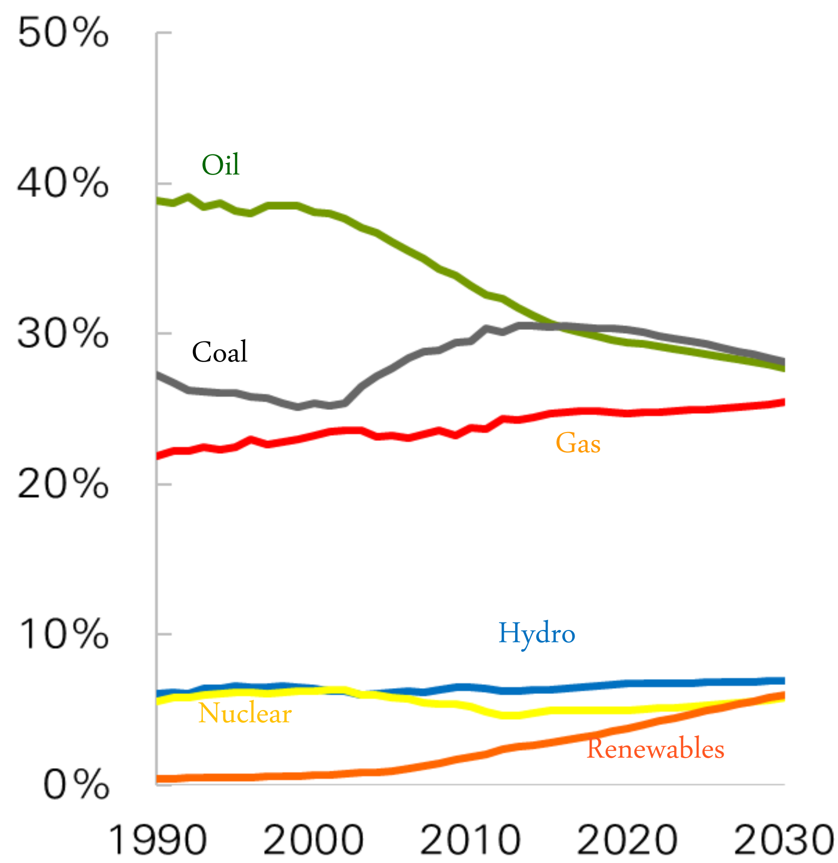
- Energy demand globally
- Global gas markets
- European gas market flexibility
- Turkey’s gas supply and demand
- Turkey’s gas infrastructure
- Flexibility needs of Turkey
- Meeting Turkey’s flexibility needs

Energy demand globally

Global energy demand

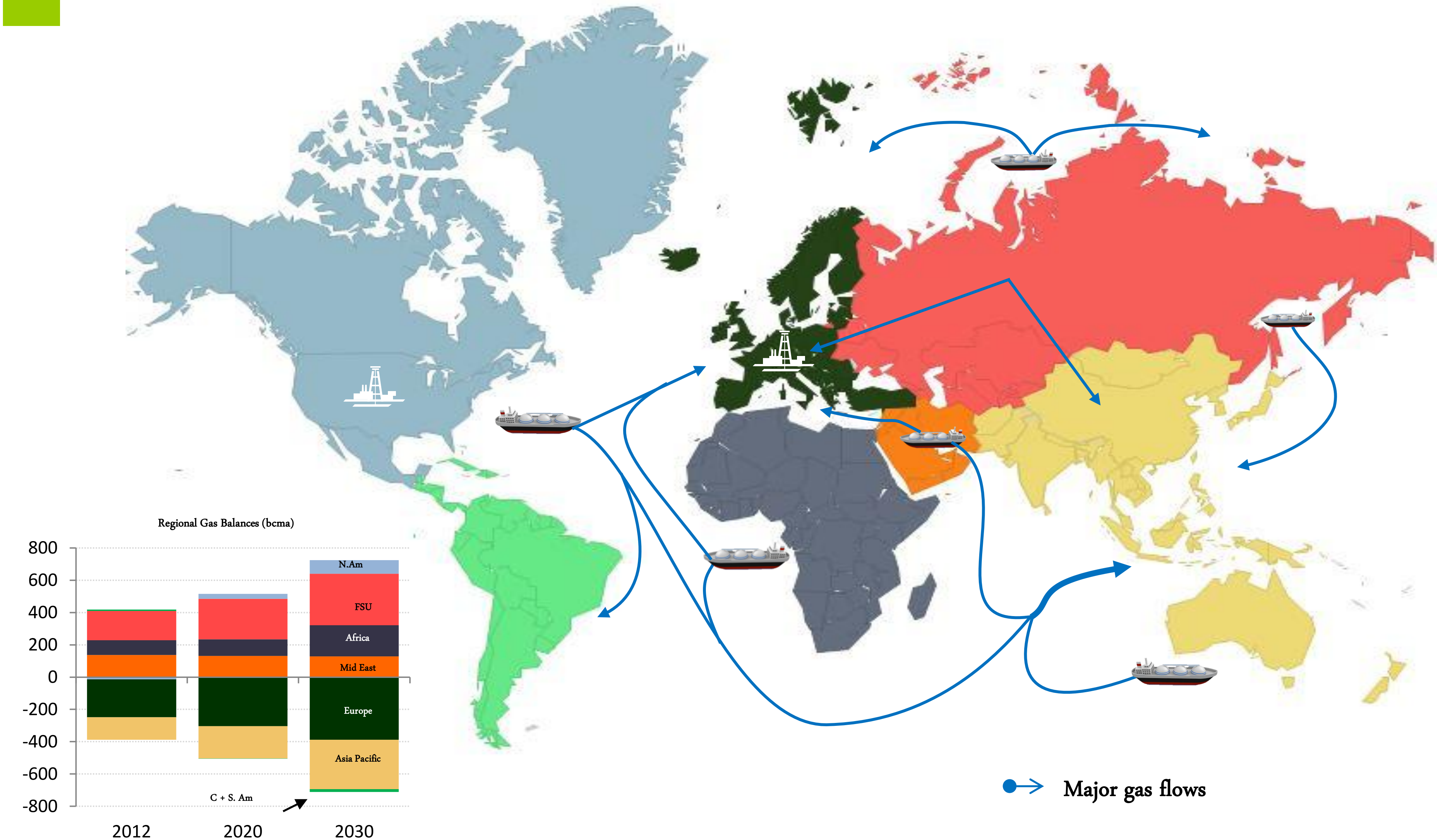


Global energy supply



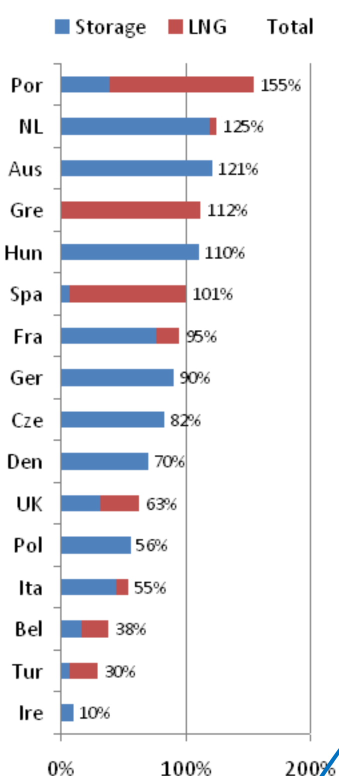
Source: *BP Energy Outlook 2030, January 2013*

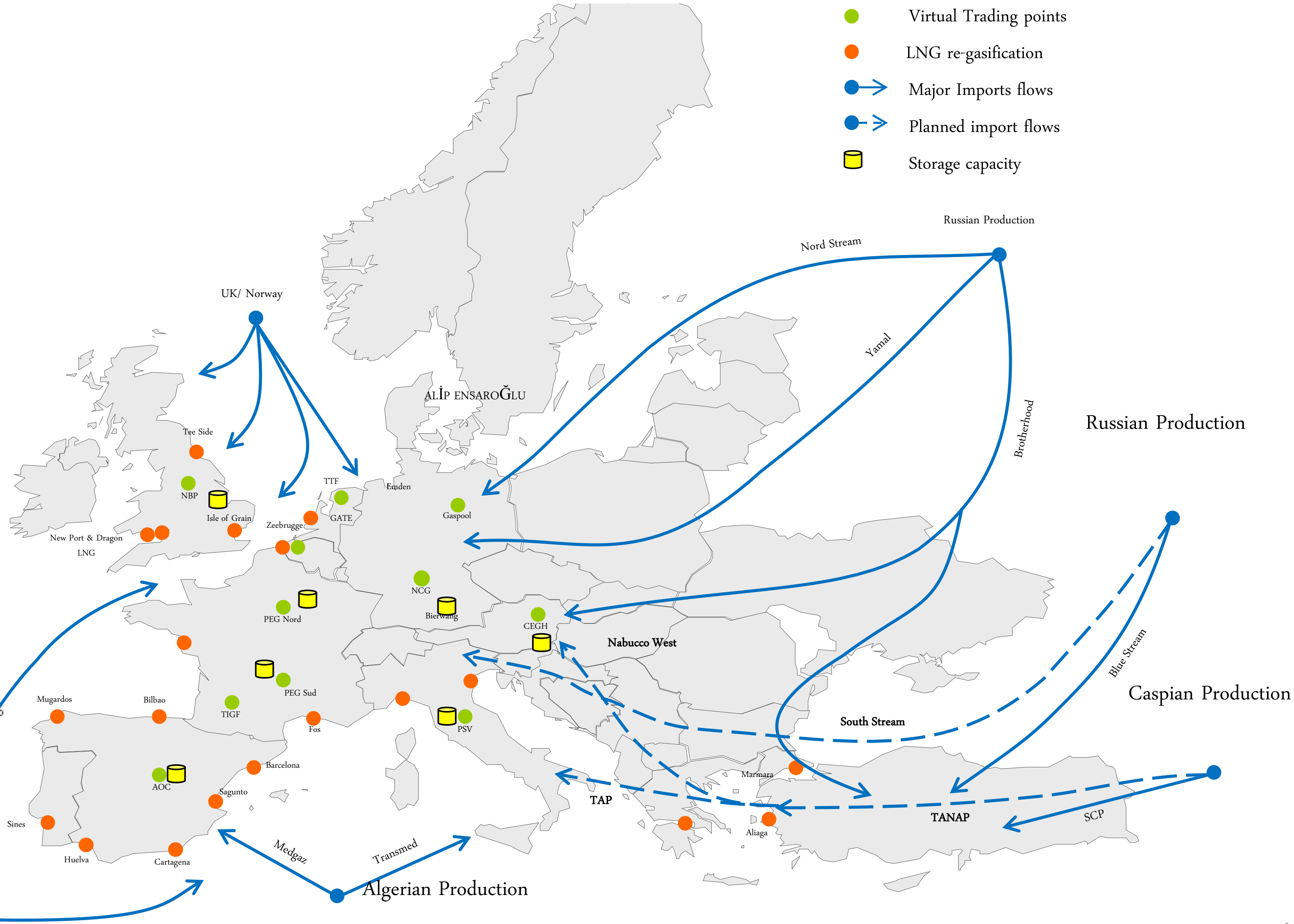
Global gas markets



European gas market flexibility

Send out capacities as a % of peak demand

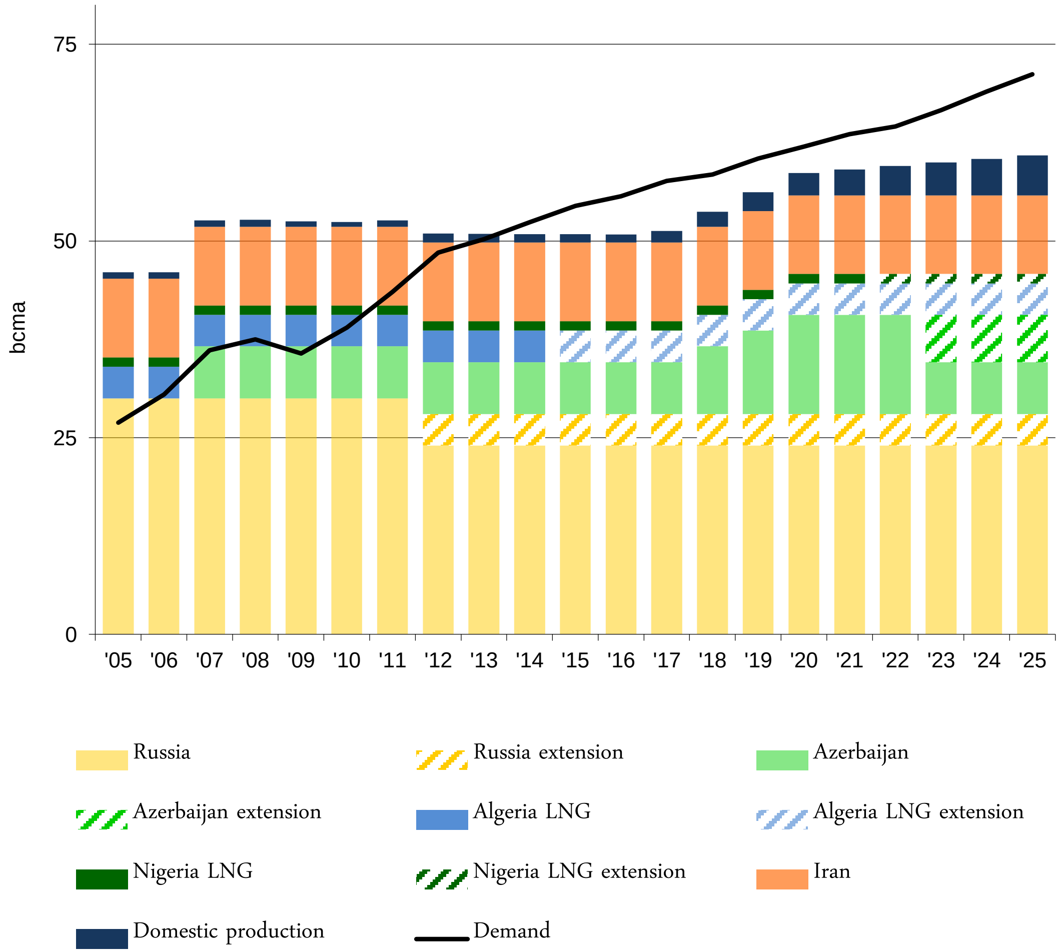




Source: International Energy Agency and team analysis

Turkey's gas demand and supply

Annual Demand vs Supply



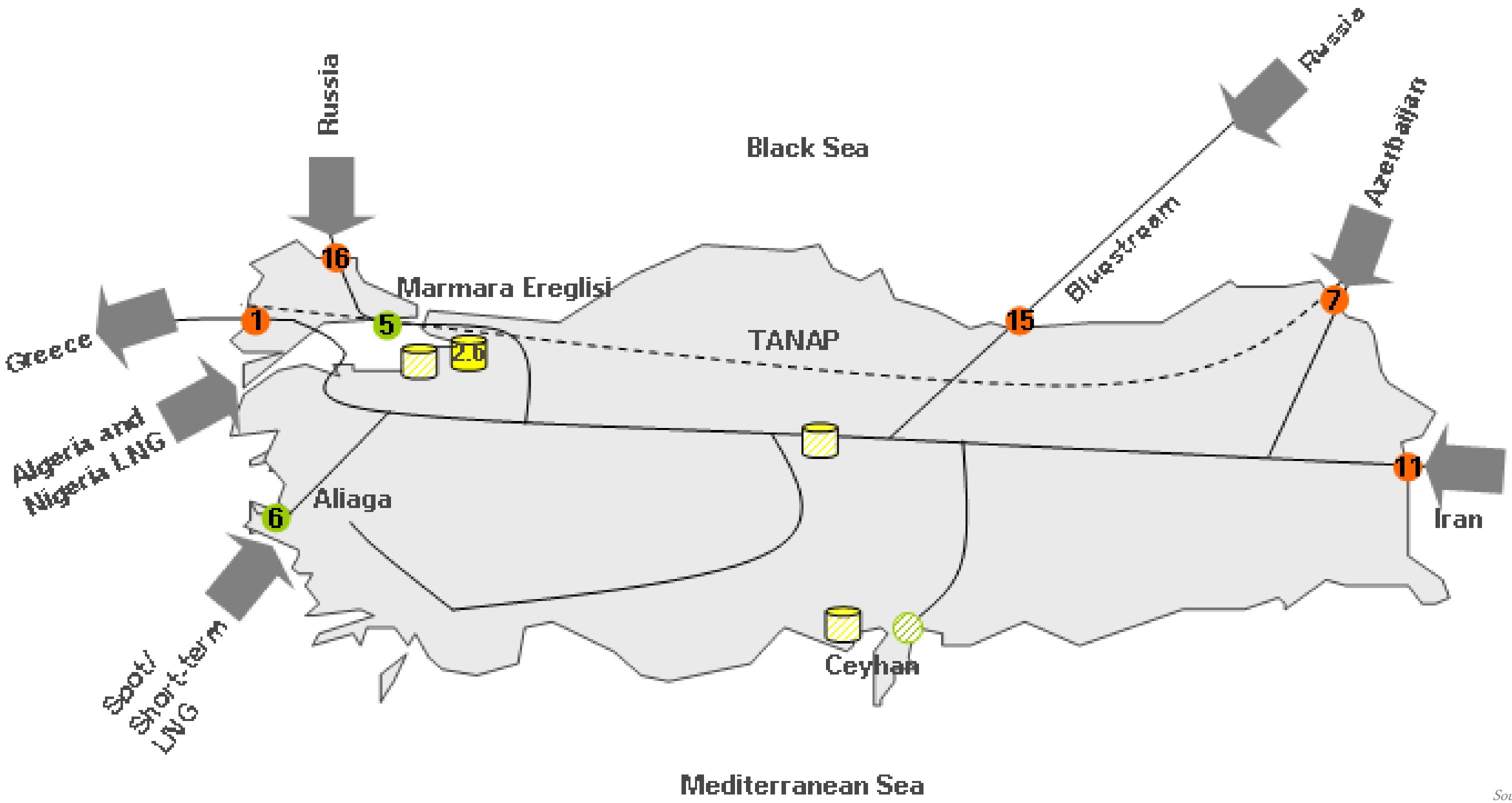
Sources of Supply

Source	Buyer	Start-End	ACQ	ToP
Russia West I	Botas	1987-2011	6.0bcma	80%
Algeria LNG	Botas	1994-2014	4.0bcma	93%
Nigeria LNG	Botas	1999-2021	1.2bcma	94%
Russia West II	Botas+GR	2001-2021	8.0bcma	80%
Iran	Botas	2002-2025	10.0bcma	85%
Russia Blue Stream	Botas	2003-2028	16.0bcma	80%
Azerbaijan SD1	Botas	2007-2022	6.6bcma	80%
Azerbaijan SD2	Botas	2018-2042	6.0bcma	N/A
Total			**57.8bcma**	

Source: IBS 2012 & team analysis

Turkey’s gas infrastructure

- LNG terminal in operation (max. capacity in bcma)
- LNG project
- Physical Border points (max. capacity in bcma)
- Pipeline in operation
- Pipeline project
- Storage in operation (max. capacity in bcma)
- Storage project



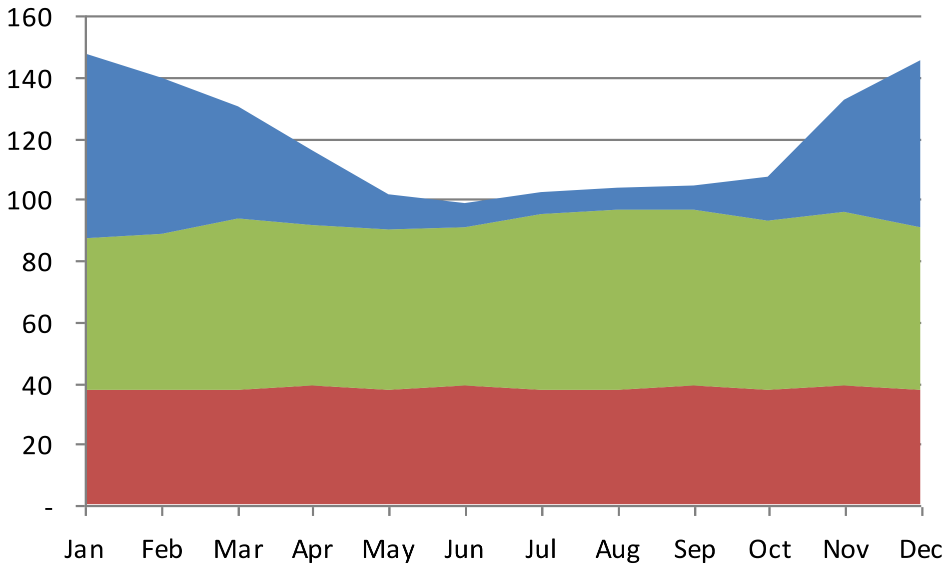
Source: ENTSOG, Cera, team analysis

Flexibility needs of Turkey

Average Monthly Demand Profile

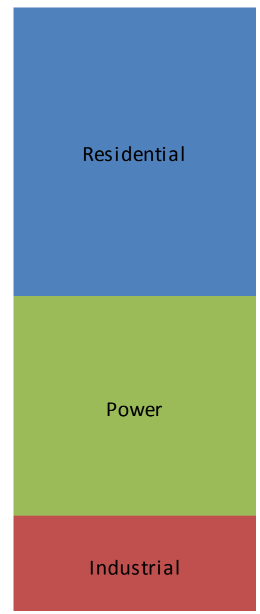
2012

mcm/d



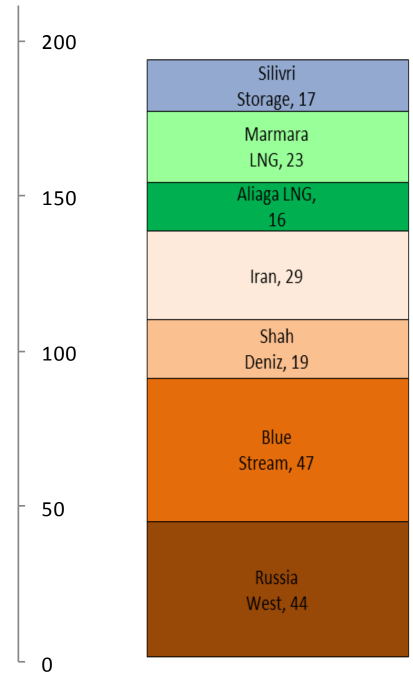
Peak Daily Demand

mcm/d



Maximum Daily Supply

mcm/d



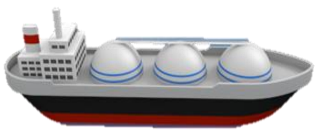
Source:: IBS 2012

Meeting Turkey's flexibility needs

Options

Short Term

Fully utilise existing flexibility at LNG terminals

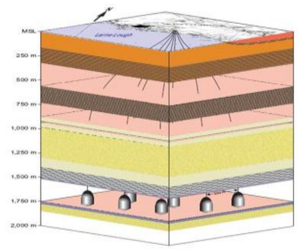


Floating Storage and re-gas units

Long Term

Build LNG facilities

Invest in gas storage



Gas storage advantaged over LNG

- Build costs 50% lower
- Ability to respond to daily fluctuations in demand
- Lower gas purchase price

Enablers

- Compete on the global market for seasonal cargoes
- Lease vessels on short term contracts
- Market liberalisation
- Supportive regulatory framework

Thank you