Russia in the Global LNG Market: Strategic View

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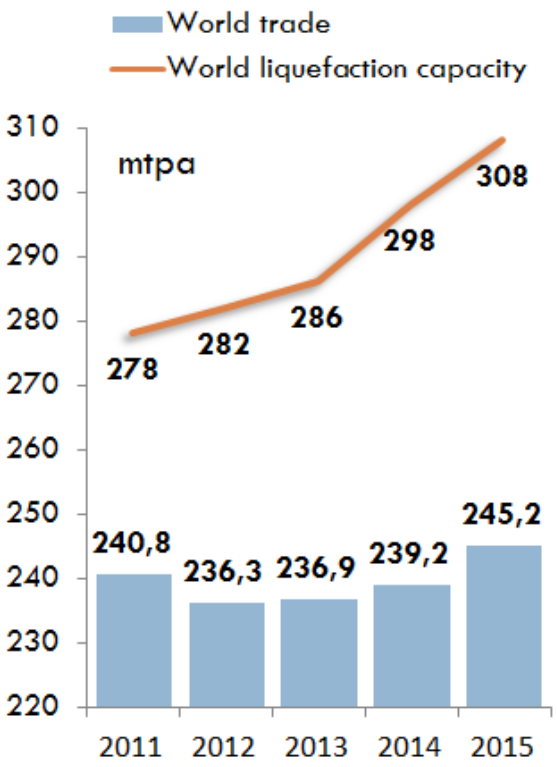
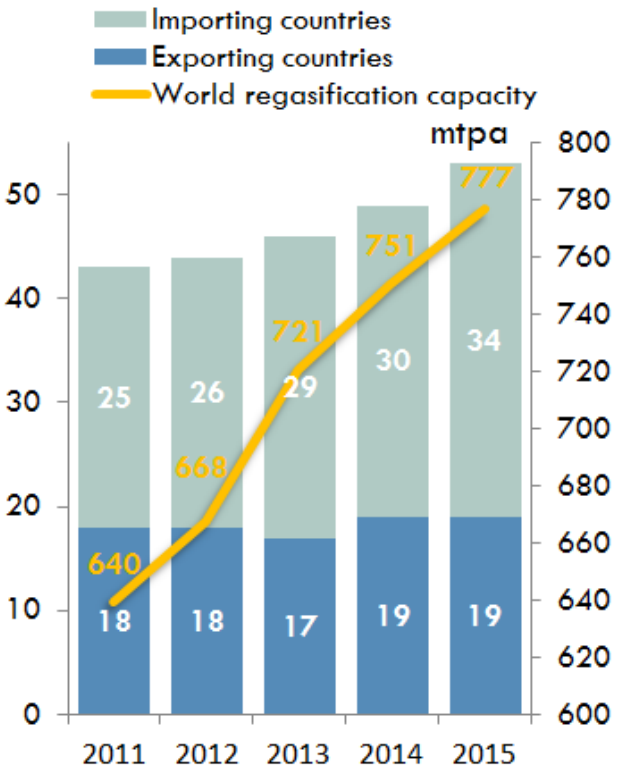
Key LNG Market Trends

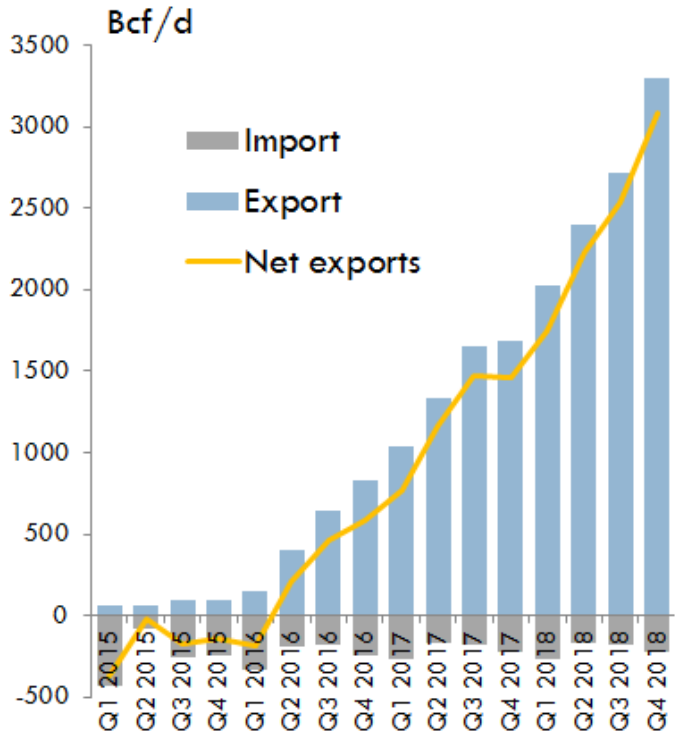
Global LNG trade



LNG trade participants



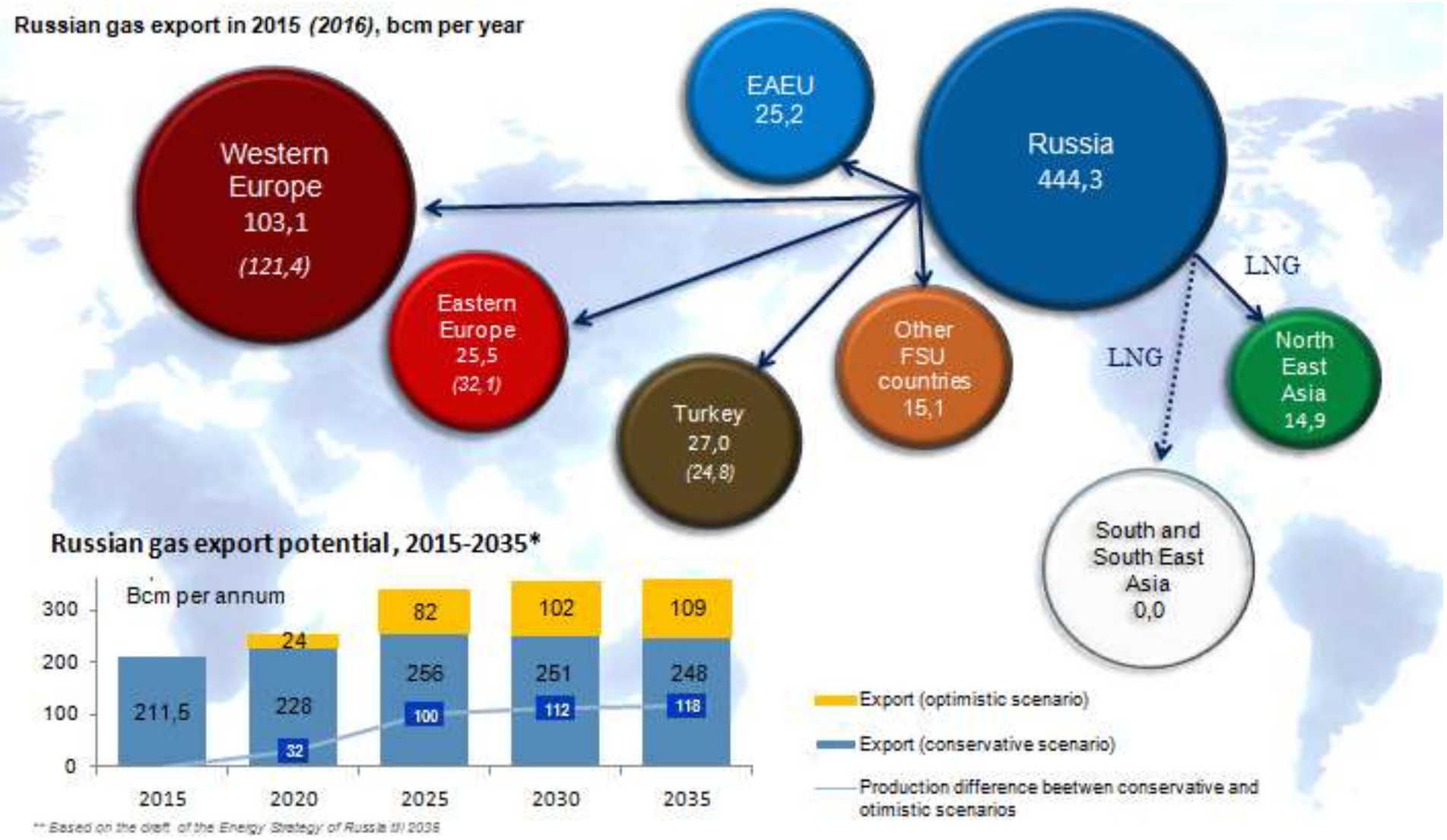
US LNG trade, 2015-2018



- In 2015-2016 world LNG trade has emerged from a long period of stagnation
- The share of a spot or short-term contracts in global LNG trade has grown very slowly – from 25,4% in 2011 to 28% in 2015
- The key LNG market remains Asia (72%), the key importer - Qatar (32% of global LNG trade in 2015)
- The main game changer is starting of LNG export from the USA

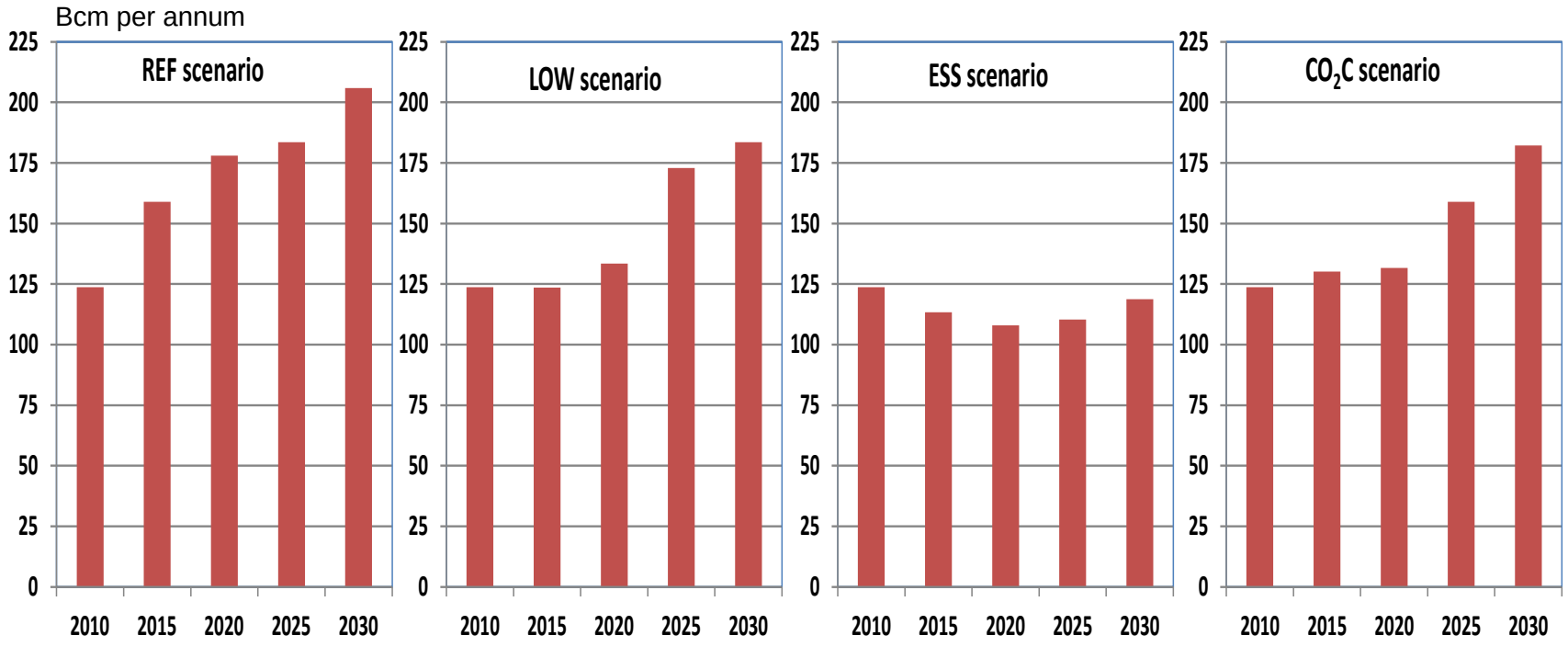
Source: EIA, GIIGNL, FIEF

The Geography of the Russian Gas Export



EU-28 Will Remain a Key Buyer for Russian Gas until 2030

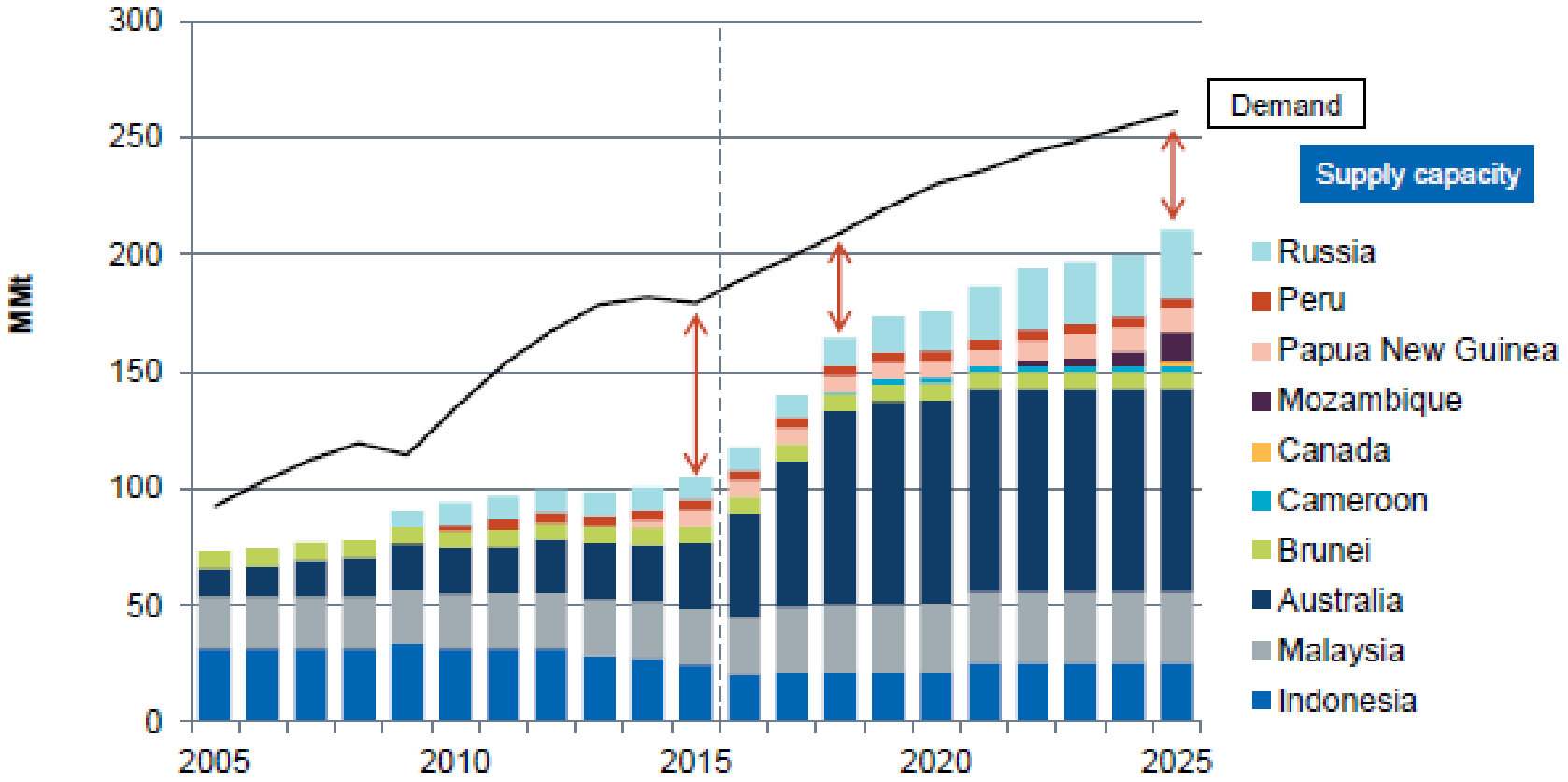
Russian gas import profiles in the EU-28 (different scenarios)



- Russian gas supplies in the EU mix do not decline by 2030 in any of the scenarios (assuming reasonable price policy)

Source: EU-Russian Gas Advisory Council (GAC), WS1, 2013-2015

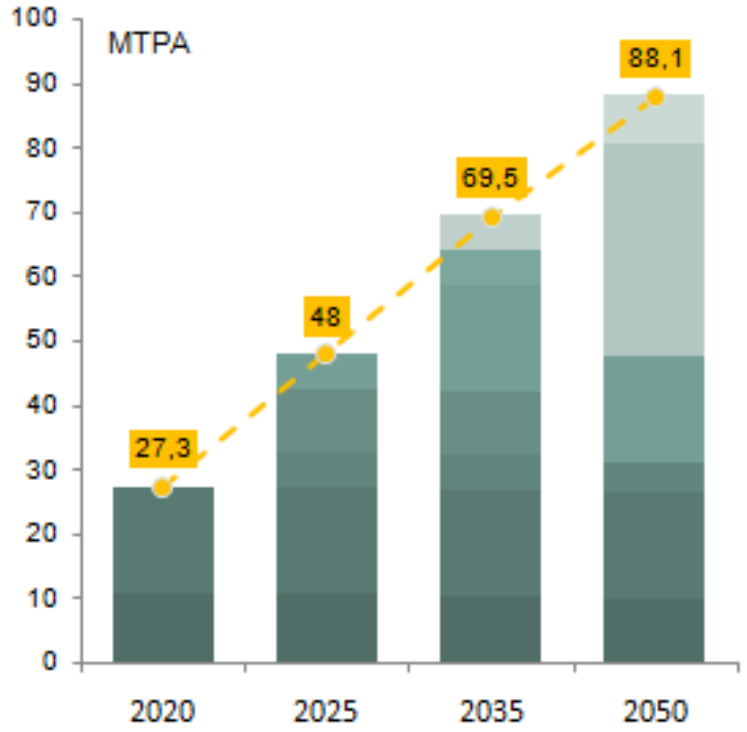
Asia-Pacific Is a Core Region for Russian LNG Development



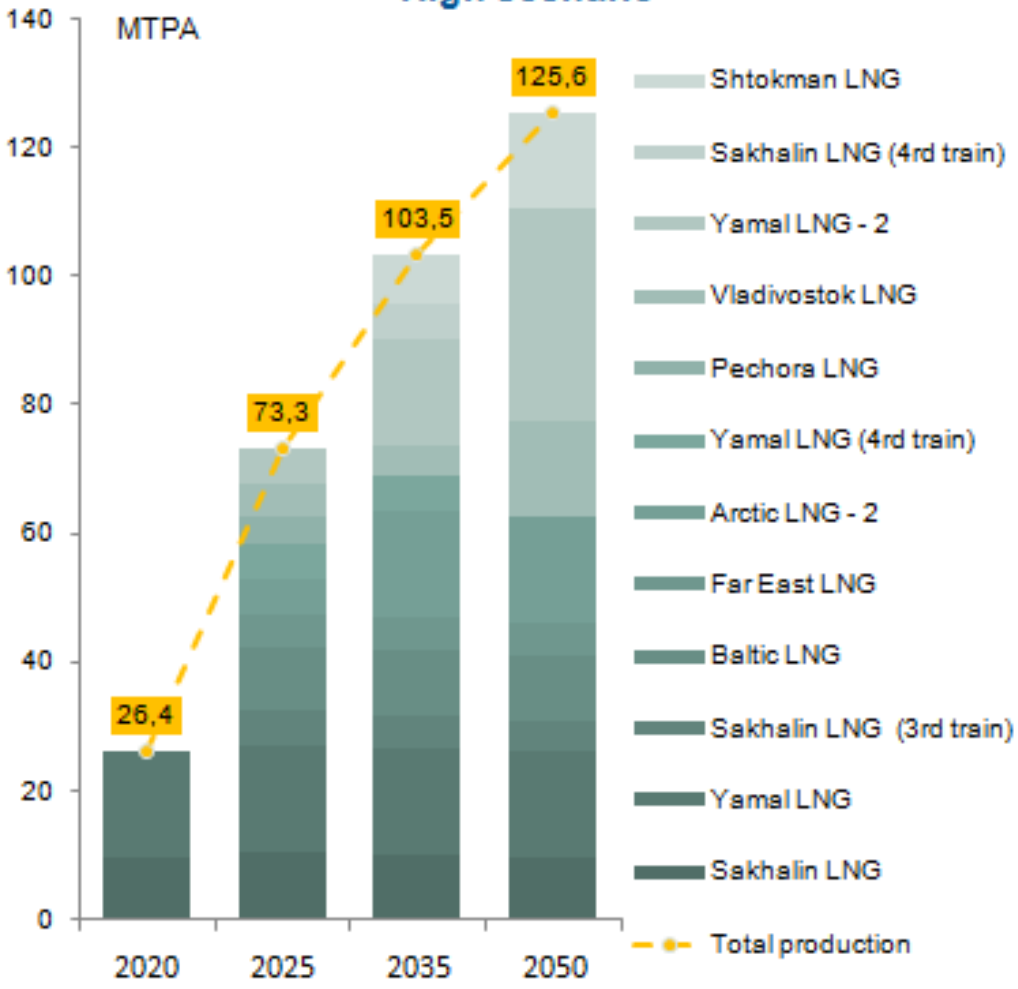
Source: IHS

Russian LNG Production Forecast

Basic scenario

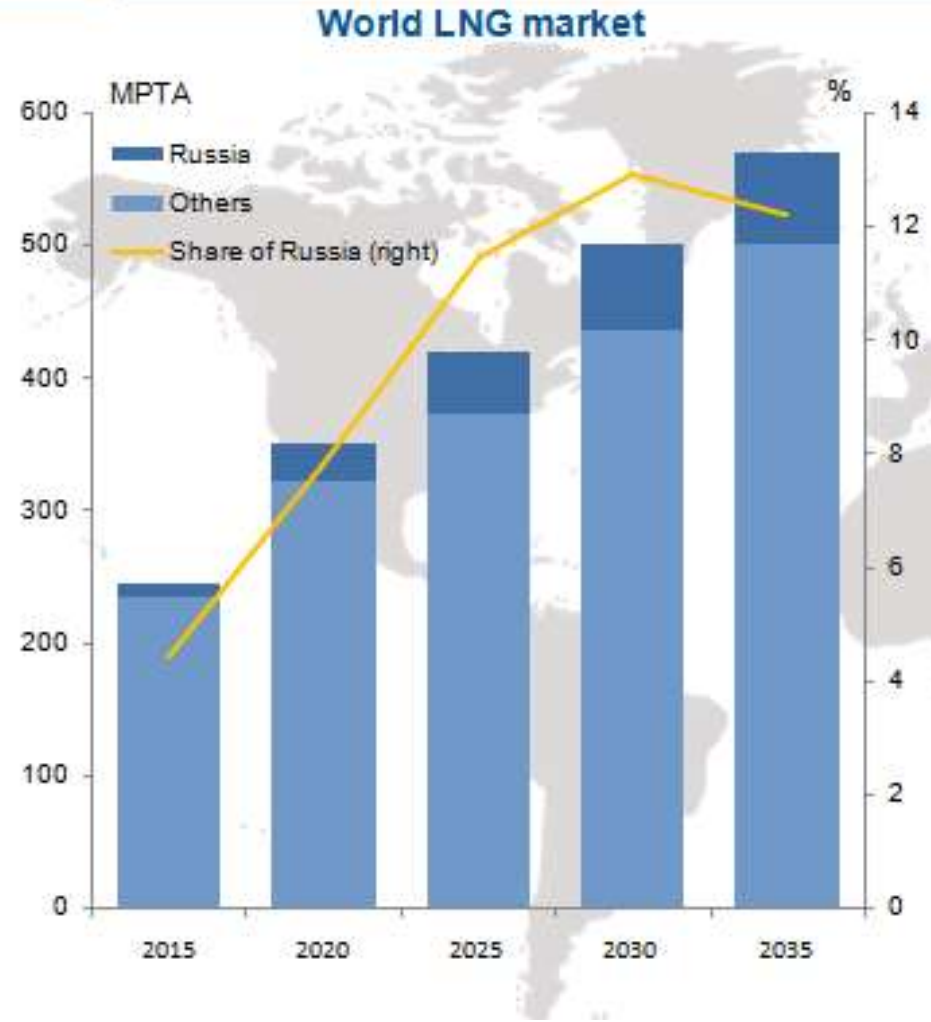


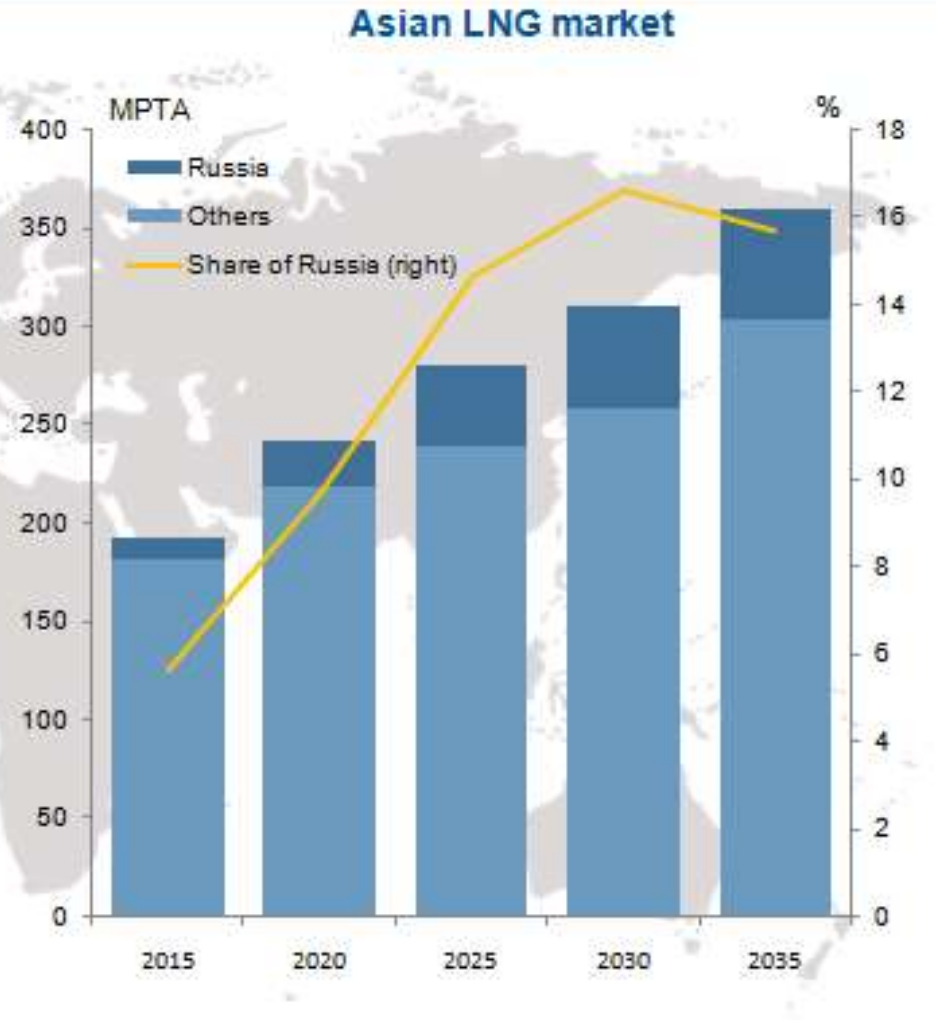
High scenario



Source: FIEF

Targets for Russian LNG in the Global LNG Market and Asia-Pacific LNG Market





Source: FIEF

Russian LNG projects (1)

№	Project	Participants	Project capacity, MTPA	Resource base	Commissioning	Challenges
			Current			
1	**Sakhalin LNG**	Gazprom, Shell, Mitsui, Mitsubishi	10 -11 (≥5×2)	Piltun-Astokhskoye, Lunskoye fields	2009	No
			Under construction			
2	**Yamal LNG**	NOVATEK, Total, CNPC, Silk Road Fund	16,5 (5,5×3)	South Tambey field	1st phase - 2017 2st phase - 2018 3st phase - 2019	No
			Planned			
3	**Sakhalin LNG (3rd train)**	Gazprom, Shell, Mitsui, Mitsubishi	5-5,5	Sakhalin-2	≥ 2021 (FID – 2018)	• competition with pipeline supplies for limited resource base
4	**Baltic LNG**	Gazprom (+Shell?)	10	Yamal region fields	≥ 2021	• EU market orientation
5	**Far East LNG**	Rosneft, ExxonMobil, Sodeco, ONGC	5-10	Sakhalin-1	≥ 2023	• it's possible to sell pipeline gas to Gazprom
6	**Arctic LNG - 2**	NOVATEK	16,5 (5,5×3)	Utrenneye and Geofizicheskoye fields	≥ 2025	• access to technologies • unclear production cost

Source: projects operators, FIEF

Russian LNG Projects (2)

№	Project	Participants	Project capacity, MTPA	Resource base	Commissioning	Challenges
			Low expected			
7	**Yamal LNG (4rd train)**	NOVATEK, Total, CNPC, Silk Road Fund	5,5	South Tambey field	≥ 2022	• limited resource base
8	**Pechora LNG**	Rosneft, ALLTECH	4,3	Kumzhinskoye, Korovinskoye fields	≥ 2020	• no right to export • small resource base
9	**Vladivostok LNG (Sakhalin-1)**	Gazprom	10	'Power of Siberia'	≥ 2022	• low priority project • high cost of pipeline transportation
10	**Yamal LNG - 2**	Gazprom, NOVATEK	≤33	Tambey gas fields group	≥ 2025	• low commercial interest for Gazprom
11	**Sakhalin LNG (4rd train)**	Gazprom	5-5,5	Sakhalin-3	≥ 2025	• uncertainty of resource base
12	**Shtokman LNG**	Gazprom	≥7,5	Shtokman field	≥ 2028	• high production cost • access to technologies

Source: projects operators, FIEF

Key conclusions

- A rapid worldwide expansion of LNG helps to support global gas consumption
- Key new global LNG market drivers are:
  - floating storage regasification units (FSRU)
  - small scale LNG and transport
  - shorter-term contracts
  - lower volume contracts
  - contracts with greater degrees of flexibility
- Expected LNG overproduction crisis in 2018-2023 is temporary and does not defining for the long-term strategies of exporting countries, inc. Russia
- The era of large-scale pipeline construction projects in Eurasia will be completed by mid 2020-ies. Almost all of the new Russian gas export volumes after this period will be in the form of LNG.
- Russian export gas strategy since 2025 is completely LNG-oriented