

Global Gas Security Review

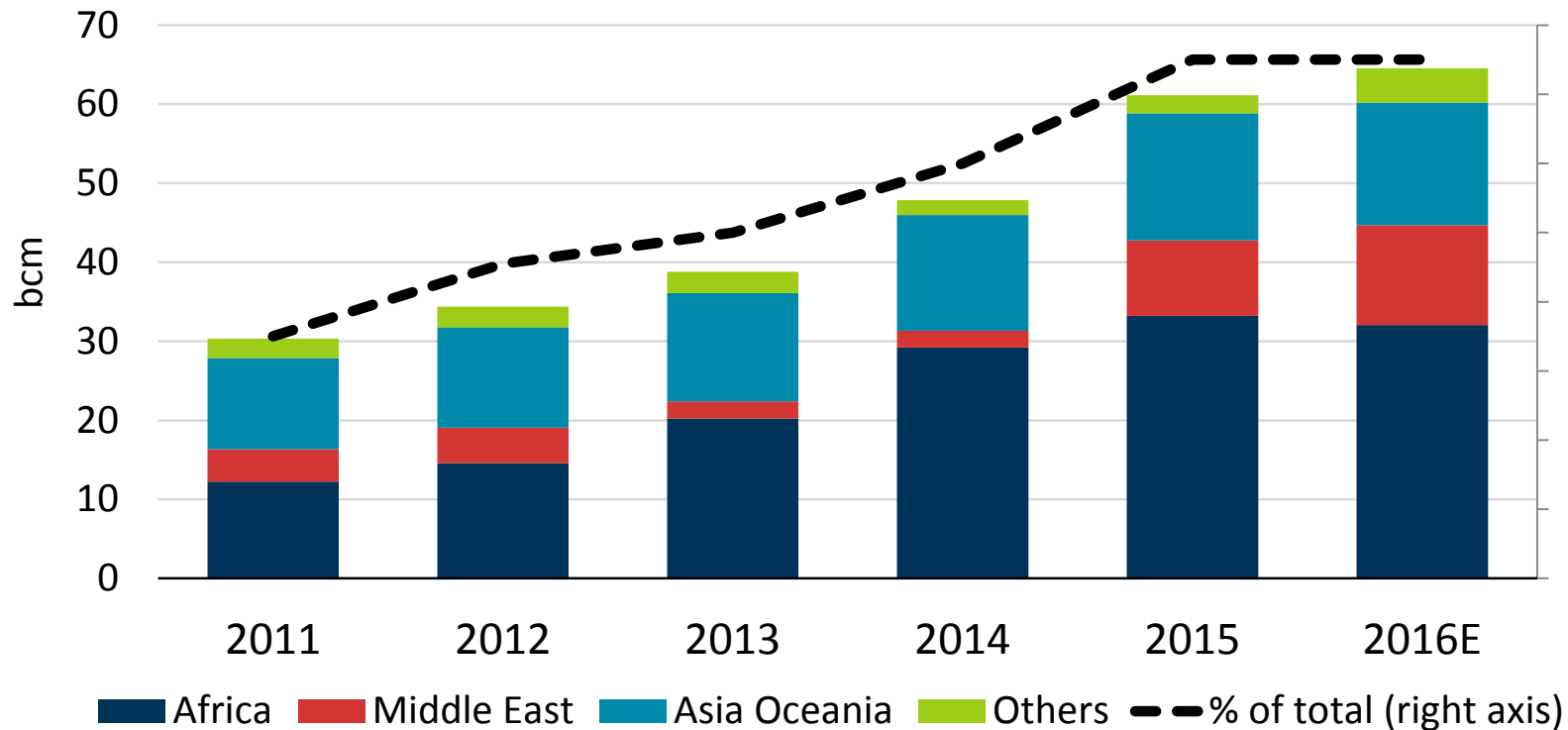
How secure & flexible are LNG markets?

IEA's Global Gas Security Review

- The IEA is broadening its role on energy security to include gas
 - *This follows mandates from 2015 IEA Ministerial & G7 under Japanese Presidency*
- Gas is playing an increasingly important role in the energy mix
- Well supplied markets does not mean gas security can be taken for granted
 - *As markets become more interconnected, shocks in one region can quickly spread*
 - *Disruptions are arising from poor regulation, geopolitical crises & natural disasters*
- IEA will bring data/analysis to market participants to boost transparency, including:
 - *outages by type & region*
 - *flexible & uncontracted LNG volumes*

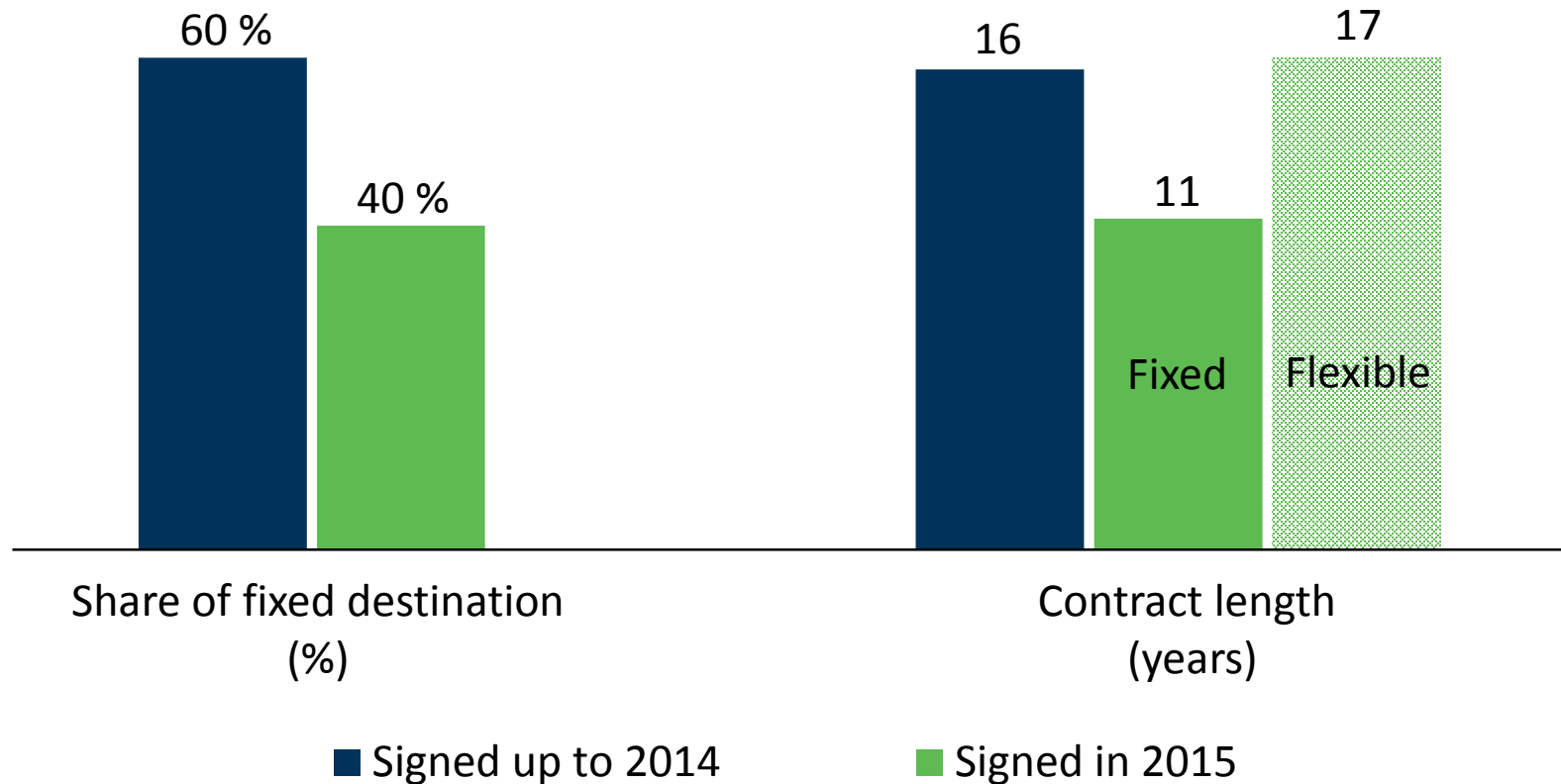
LNG markets have less “surge” capacity than commonly thought

LNG capacity offline by region



LNG capacity out of service has more than doubled over the past five years, highlighting security & investment challenges in key producer countries

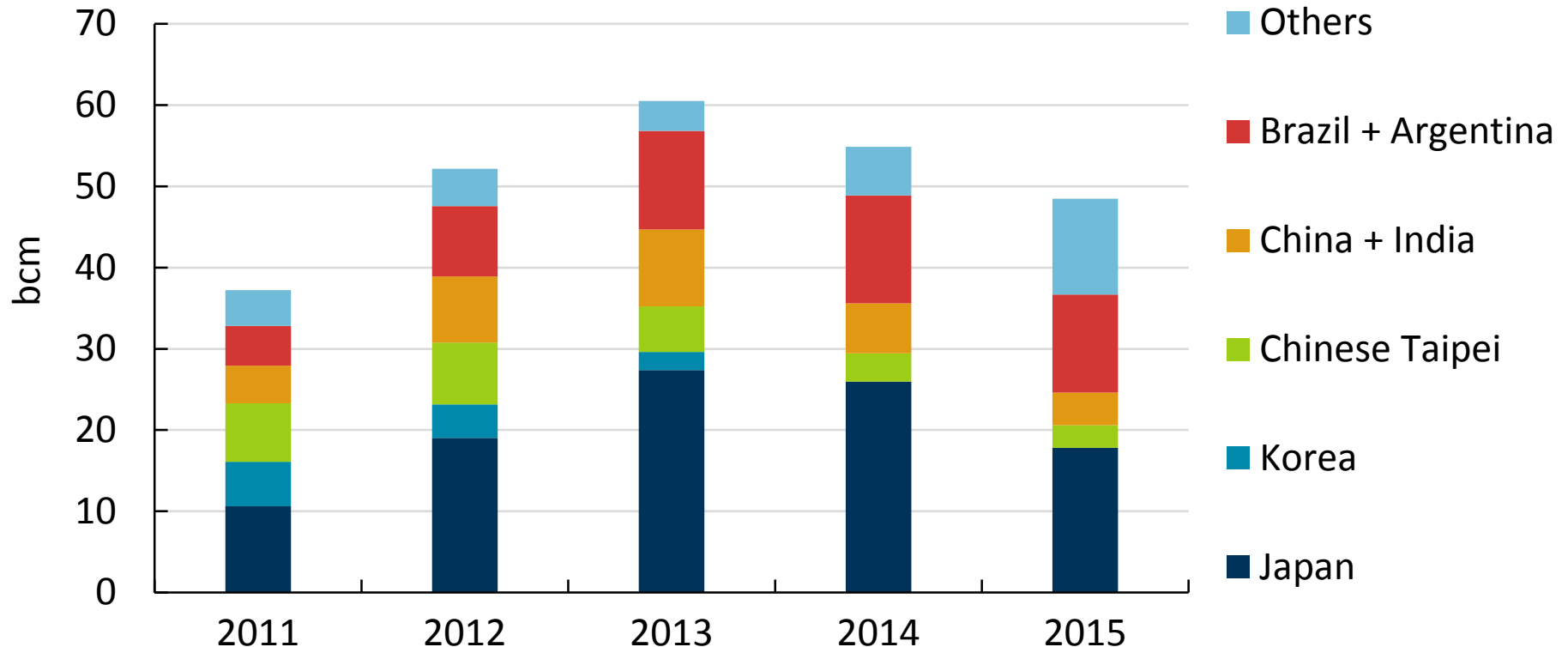
But LNG contract structures are becoming less rigid – increasing market efficiency



Contracts with flexible destinations & shorter terms are becoming more common; buyers will accept longer contracts in exchange for increased destination flexibility

Demand for flexible LNG volumes remains above pre-Fukushima levels

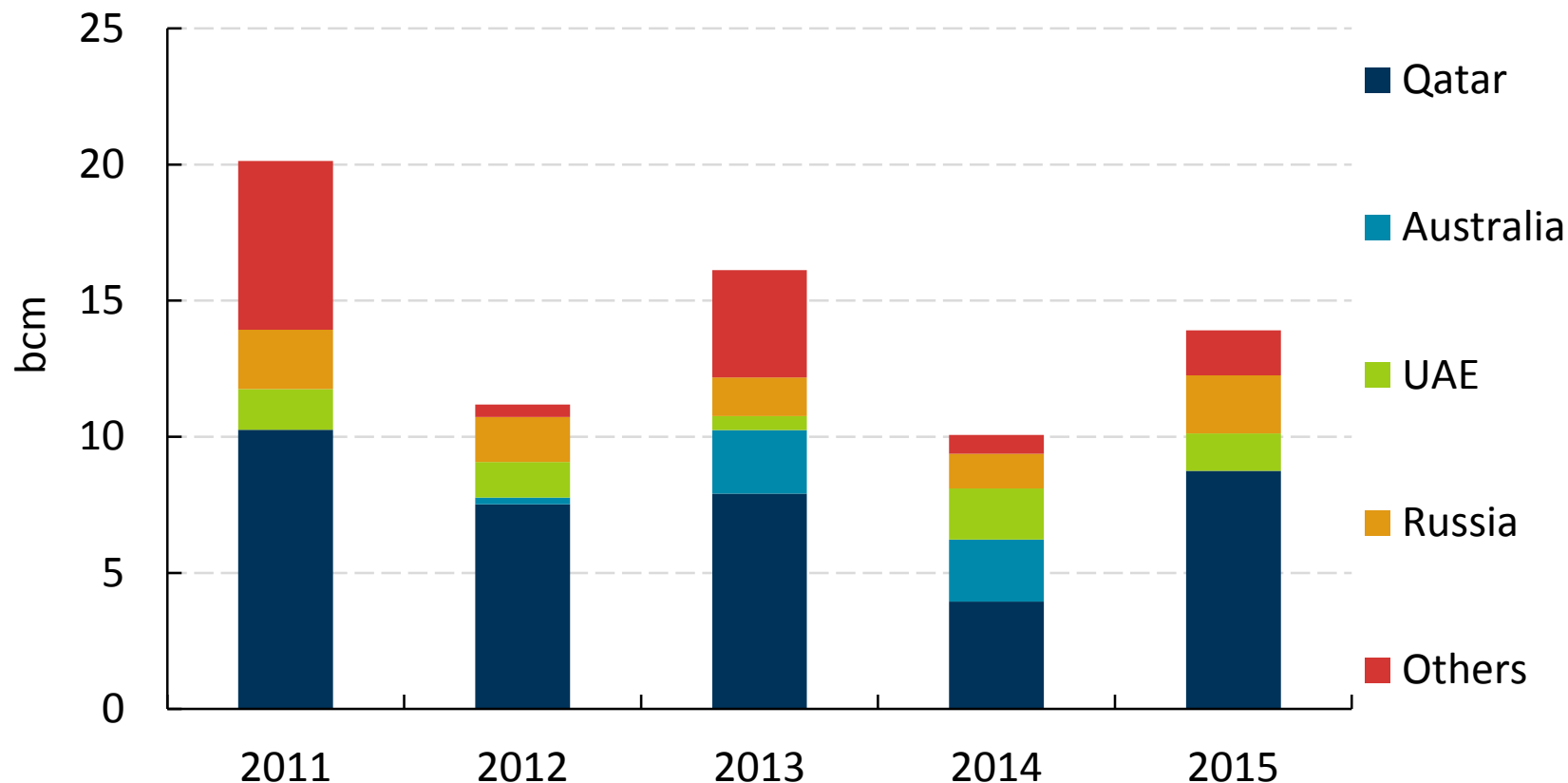
Demand for flexible LNG volumes



Demand for flexible LNG volumes peaked in 2013 at around 20% of global LNG trade; new buyers are offsetting some of the slack left by Japan

Qatar plays a pivotal role in LNG security

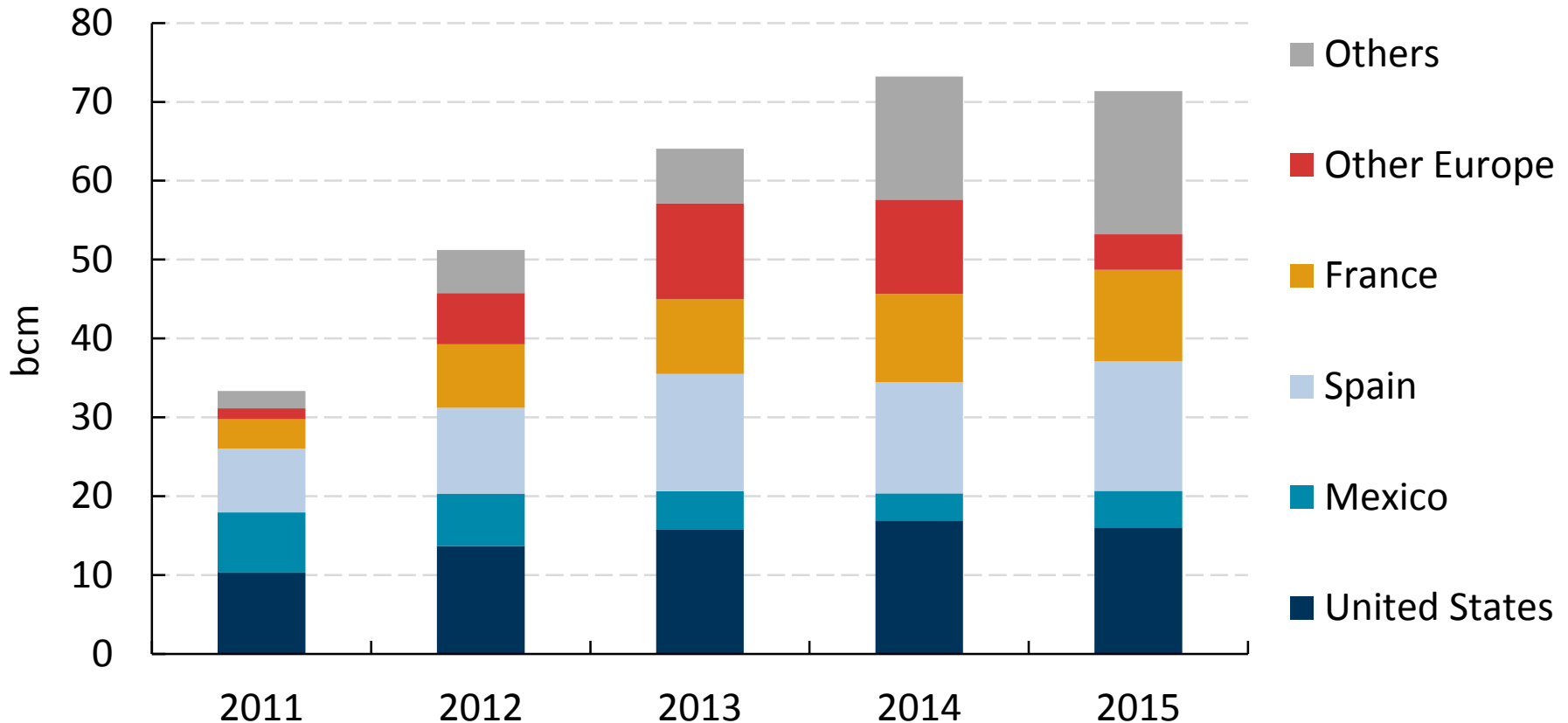
Uncontracted volumes by exporter



Qatar provides more than half of global uncontracted LNG volumes; Flexibility comes from uncontracted LNG, diversions, re-loads & contracts with open destinations

Europe key provider of volume flexibility to the market

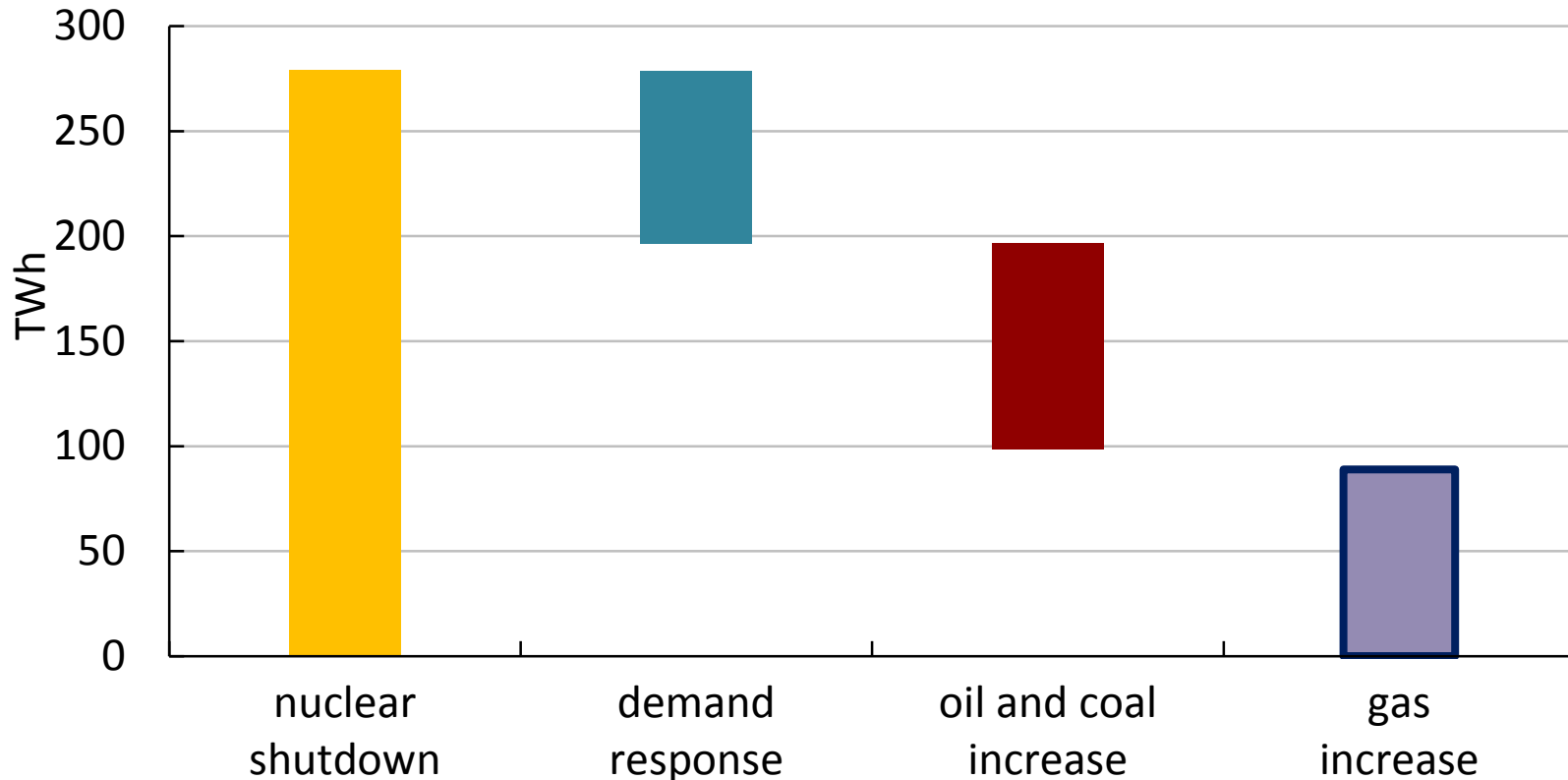
Over-contracted position of LNG importers



Europe and the United States have accounted for much of the flexibility provided by the demand-side over the past 5 years.

Flexible LNG volumes played a role in safeguarding energy security after Fukushima

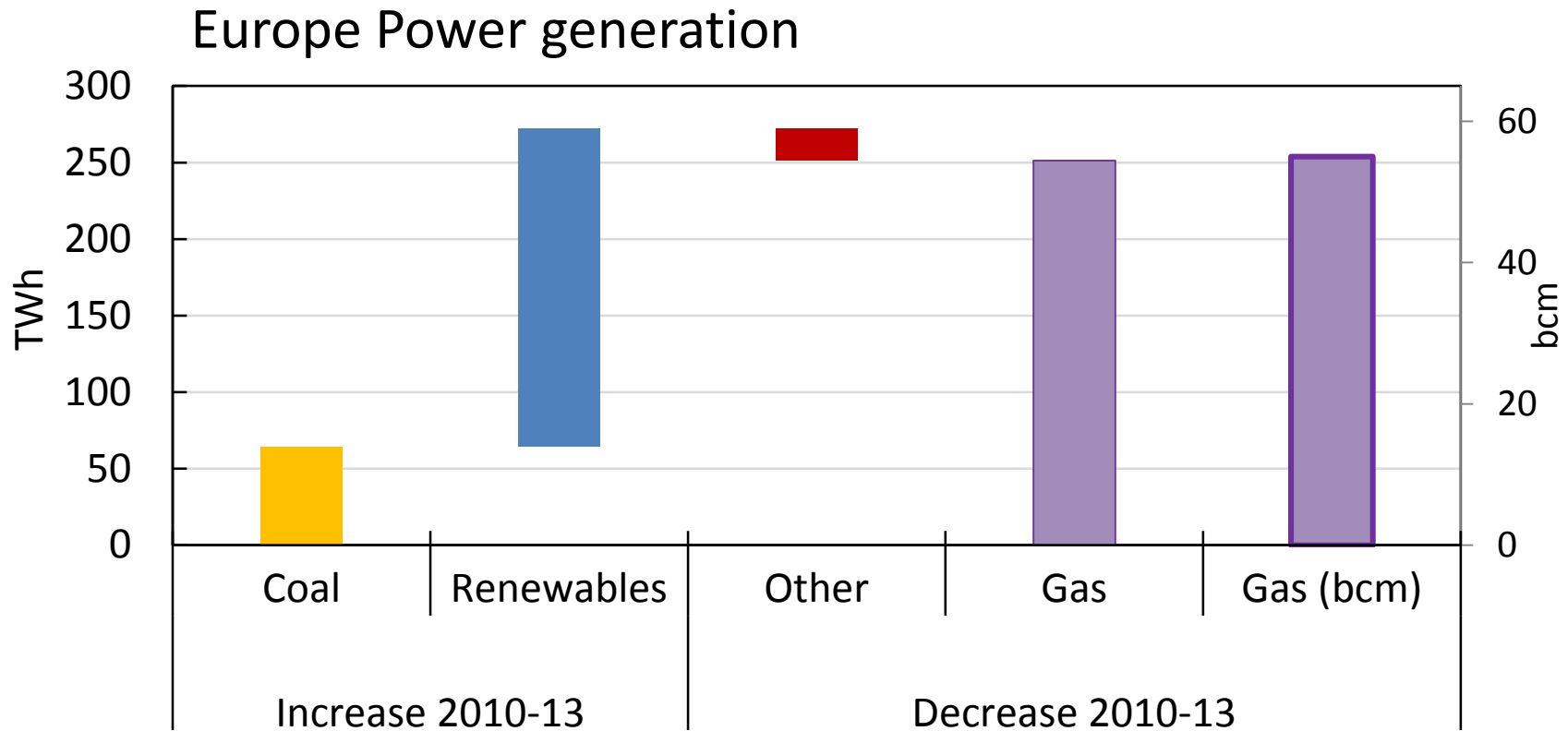
Power system response to Fukushima 2010-13*



*data refers to Japan's Fiscal Year.

Gas replaced one-third of the nuclear loss, similar to the contributions of oil and coal, highlighting the importance of a diversified demand-structure

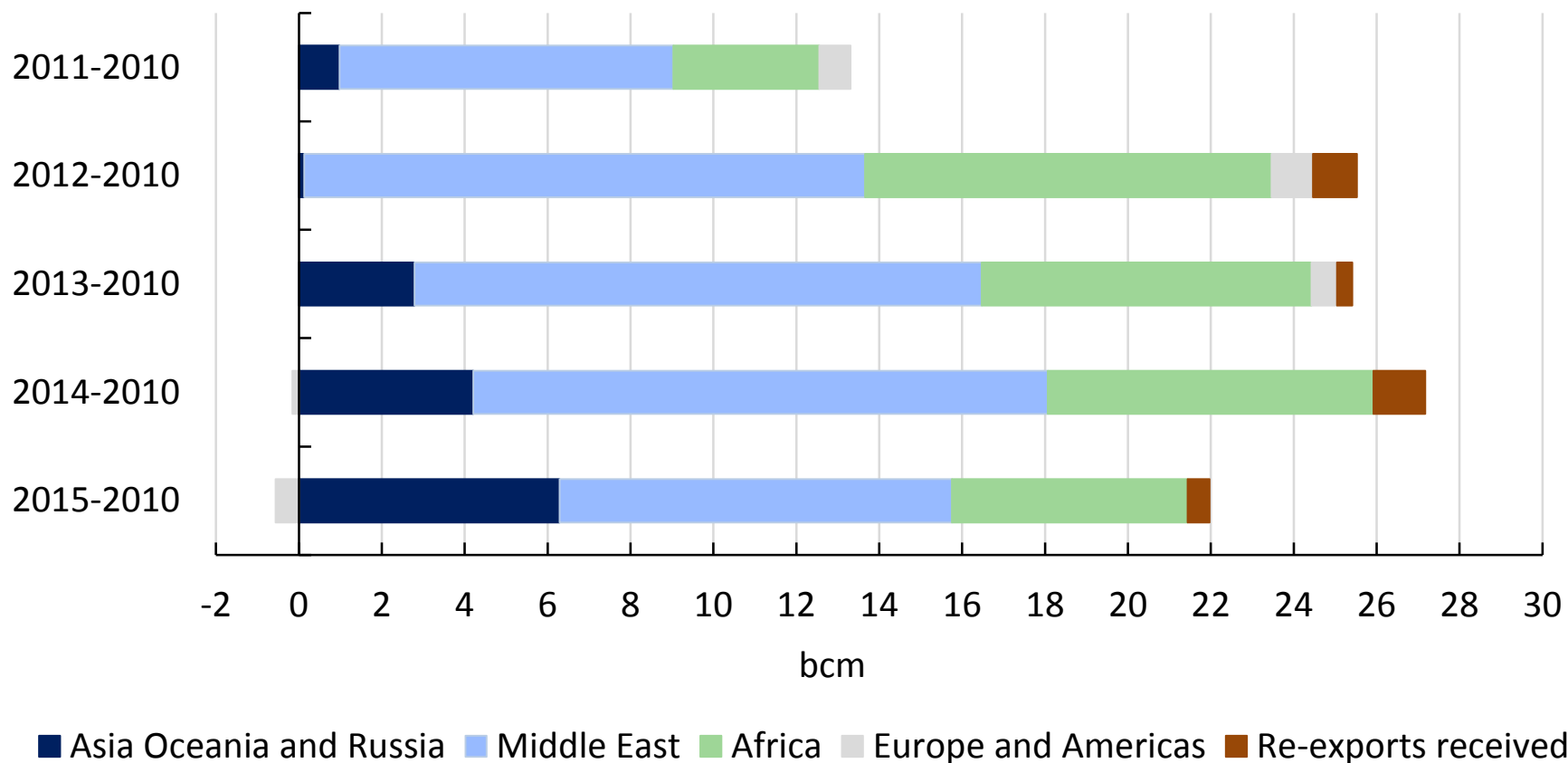
A massive shift in European power demand structure freed LNG for Japan



The Euro crisis, renewables growth and higher reliance of coal squeezed gas demand in power. This response unlikely to be repeatable in the same scale.

Demand for flexible supplies: How was met?

Incremental LNG import volumes of Japan by region, against 2010



- Increased globalization of gas markets requires a ‘broader approach’ to gas security.
- LNG markets have minimal short-term swing production capability
- LNG contribution to gas security comes mainly via the re-allocation of existing supplies. Flexible contracts are key.
- Factors that made possible the response to the Fukushima’s accident cannot be counted on in the future.