

HNS workshop

Session three

LPG - The Industry View

IMO Headquarters, London
26th – 27th April 2018
David Tyler - WLPGA

270+

Member companies

125

Countries

Serving the full LPG value chain



WLPGA Vision & Mission



“The WLPGA promotes the use of LPG worldwide to foster a safer, cleaner, healthier and more prosperous world”



LPG – Propane & Butane

- LPG - a by product from crude refining & NG production
- Used in every country of the world
- Exceptional properties (clean burning, powerful flame)
- Easily stored as a liquid
- Portable - access to non grid areas

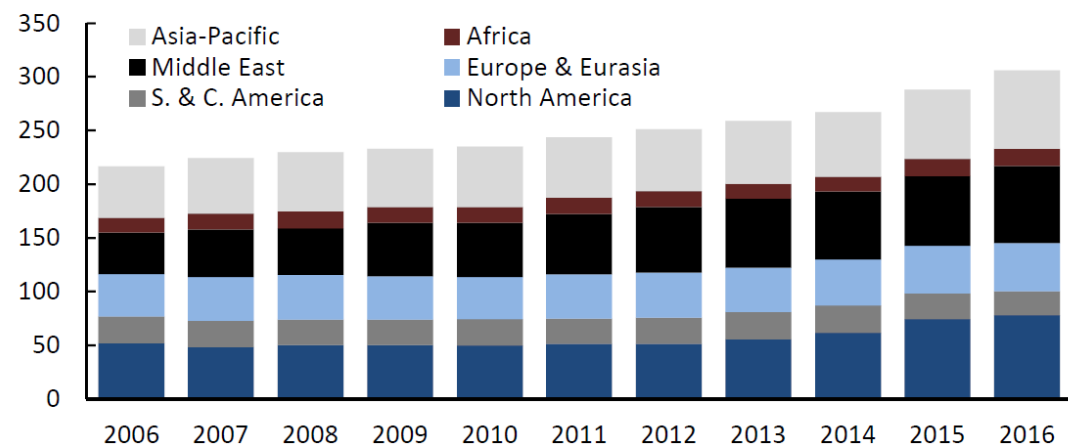


LPG – Propane & Butane

- The LPG industry is supply driven - growing at 6%/year
- 300mn t/year business
- USA is largest exporting country
- Global supply surplus forecast for next 10 years
- Exceptional energy
- ‘Use it or lose it’

LPG production by region

mn t



A photograph showing a group of people, likely in a rural or developing area, carrying large, heavy bundles of firewood on their heads. They are walking away from the camera through a dry, brushy landscape. The people are wearing traditional clothing, including colorful patterned saris. The scene is brightly lit, suggesting daylight. A dark blue rectangular box with white text is overlaid on the bottom left of the image.

**3 billion people have no
access to modern energy**



Children are impacted most

Indoor air pollution is a real killer



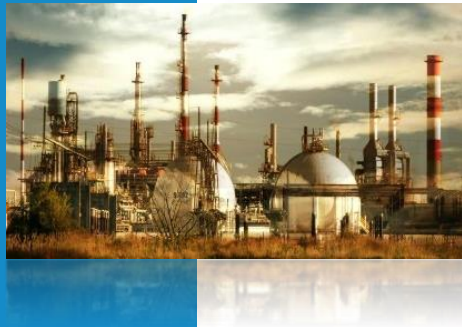
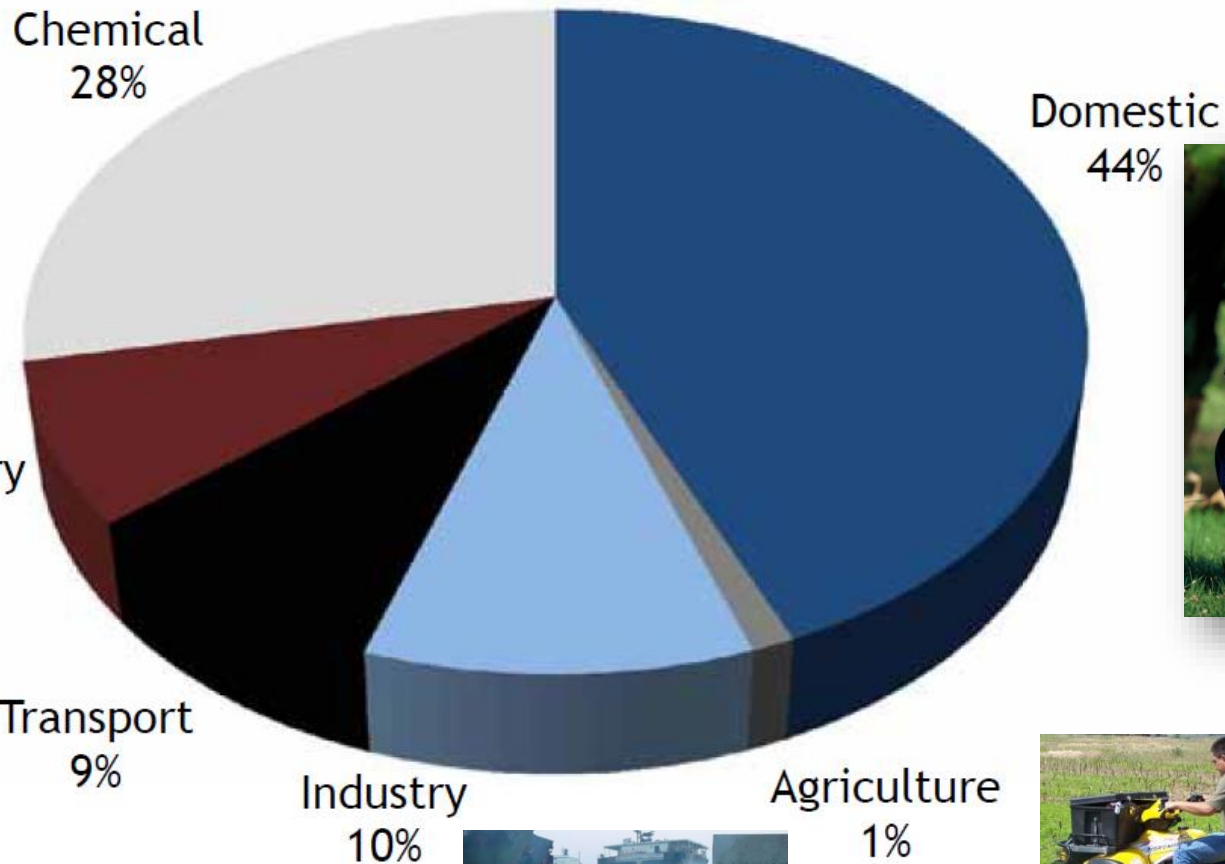


**Outdoor air pollution is
also a serious problem**

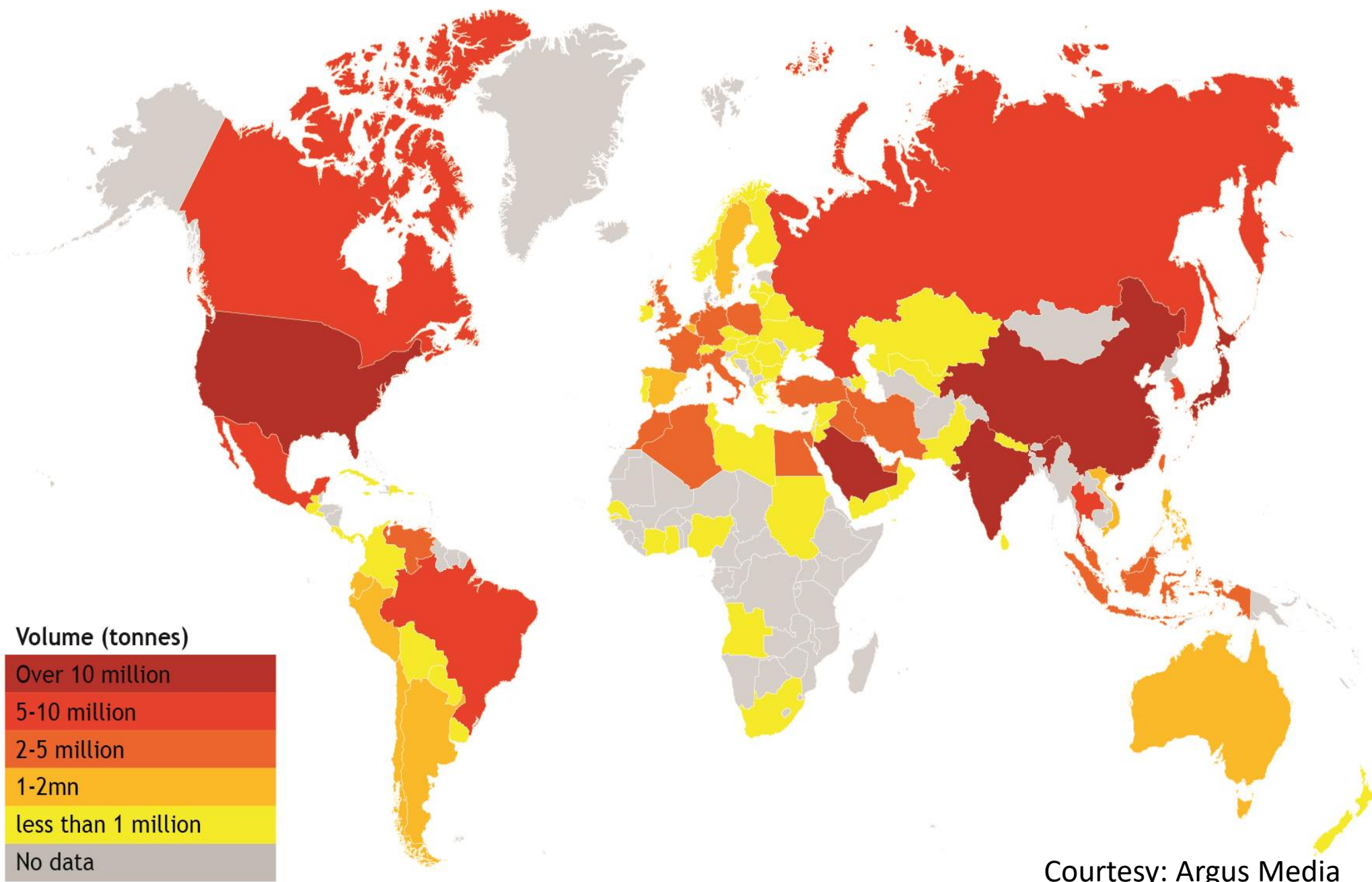
LPG Demand by Sector – 2016 (300mn t)



LPG consumption by sector, 2016

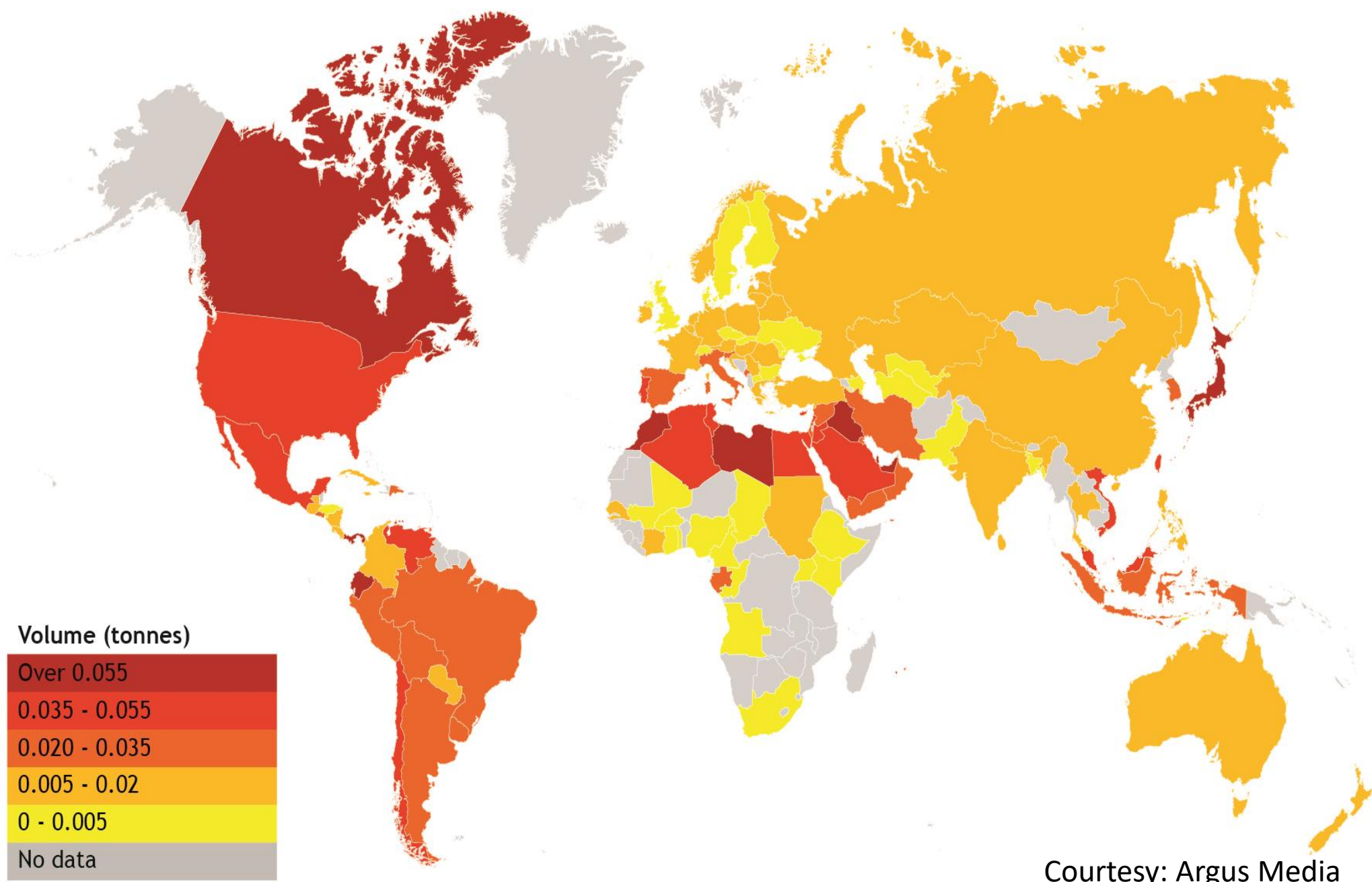


World LPG consumption by volume



Courtesy: Argus Media

World LPG domestic consumption per capita



Courtesy: Argus Media

LPG and shipping

- A third of LPG supplies are moved by sea (100mn t)
- 1,156 LPG vessels in total
- 272 VLGC's

Type	Fleet	Order Book
VLGC	272	38
LGC	23	0
MGC	129	6
HANDY	94	11
8k – 15k cbm	131	5
3.75k – 7.99k cbm	257	12
1k – 3.75k cbm	250	2

One example of a very large gas carrier (VLGC)

BW Aries

Gross Tonnage: **47,342**

Deadweight: **54,561 t**

Length Overall x Breadth Extreme: **225m × 36.63m**

CBM: 84,196

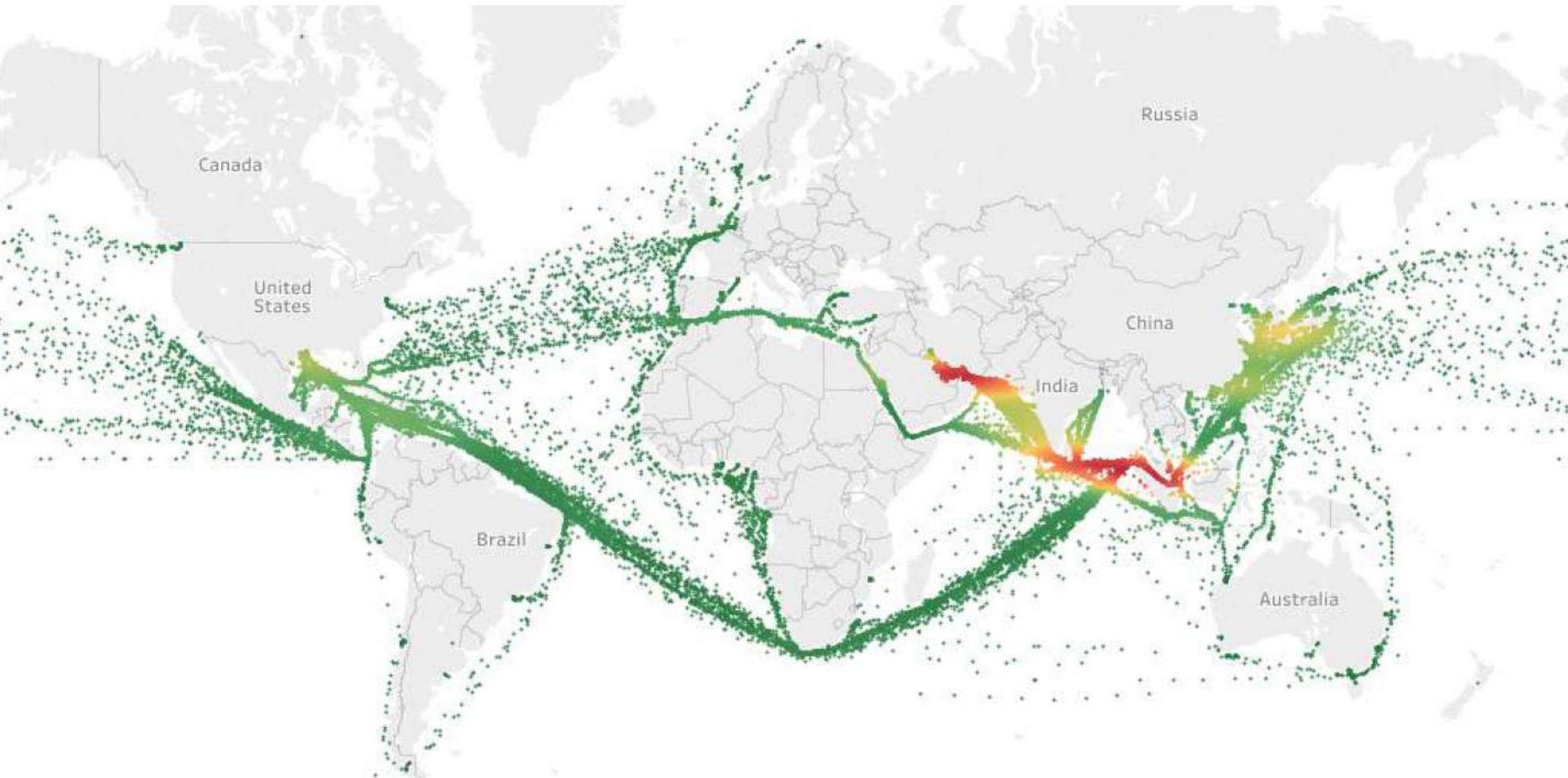
Year Built: **2014**



Courtesy: BWLPG

VLGC Trading Pattern density map (Year 2016)

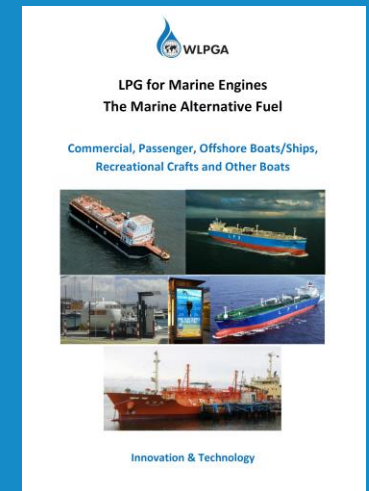
VLGC Trade in 2016 is a lot more driven by US – Far East trades, both via Cape of Good Hope, and increasingly via the Panama Canal



Courtesy: BWLPG

LPG as Marine Bunker Fuel?

- IMO introducing a sulphur cap of 0.5% by 01/01/2020
- LPG is a very good engine fuel (zero sulphur)
- WLPGA 2017 report 'LPG for Marine Engines' #
- Exmar recently ordered two VLGC's with LPG (2020)
- Astomos Energy considering LPG in VLGC's



<https://www.wlpga.org/wp-content/uploads/2018/02/LPG-for-Marine-Engines-2017-.pdf>

LPG Industry position with HNS?

- Long history with shipping industry (>100 years)
- LPG industry focused on safety
- Dependent on safe and sustainable shipping industry
- WLPGA members include shipowners, marketing cos.
- WLPGA been observing HNS Convention for 9 years
- Supportive of a speedy enactment

Join us from 2nd - 4th October 2018
in Houston, USA

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