



# Climate policies impact on cement industry and implications for Vietnam



## “Winning the Blue Sky”

China, Closure of production capacity of over 350 Mio tons (~20%) in 2018 due to environmentally friendly policies is resulting in rapid regional supply/ demand imbalance.



2016: China exported 17 Mt @ FOB USD 28

2018: China exported only 8 Mt @ FOB USD 32

2016: Vietnam exported 10 Mt @ FOB USD 28

2018: Vietnam exports 31 Mt @ FOB USD 40

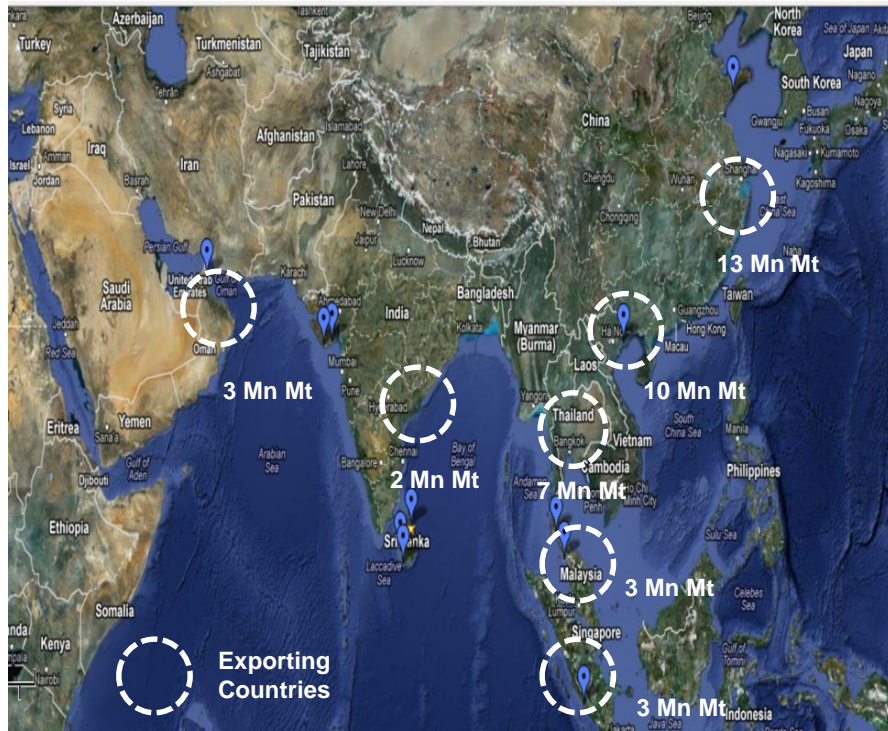
- Cut down production capacity surprised the industry and made China a net importer. Exports reduced by ~50% in 2018. Due to this rapid and drastic change prices surged above 40\$/t.
- The unforeseen demand surge in China resulted in a imbalance of demand and supply in the region , Expected exports from China did not materialize and countries which were holding back on their capacity building will resume production expansion (Philippines, Indonesia etc...)
- Due to logistics advantage and large overcapacity in the North, Vietnam exports surged to 31 Mt in 2018. Y-O-Y a 55% growth and one third of total exports moving to China.
- Potential outcome (and risk) is that Vietnam producers may want to add new capacity focusing on exports.



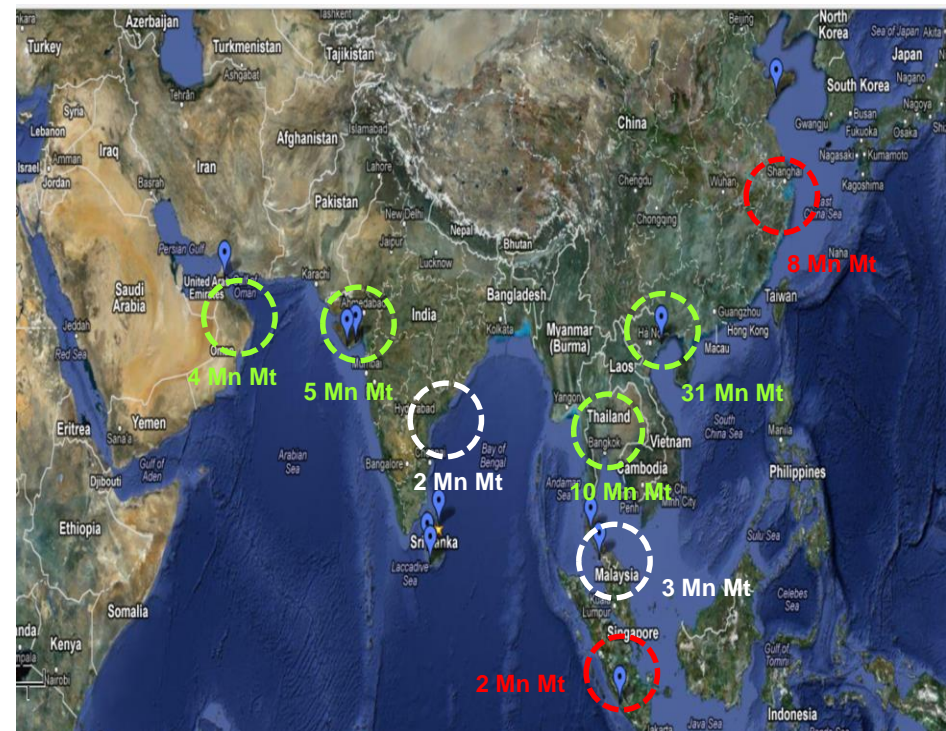
# Regional Clinker Movement

Rapid change in China is creating an imbalance of demand and supply within SEA region

Before 2017

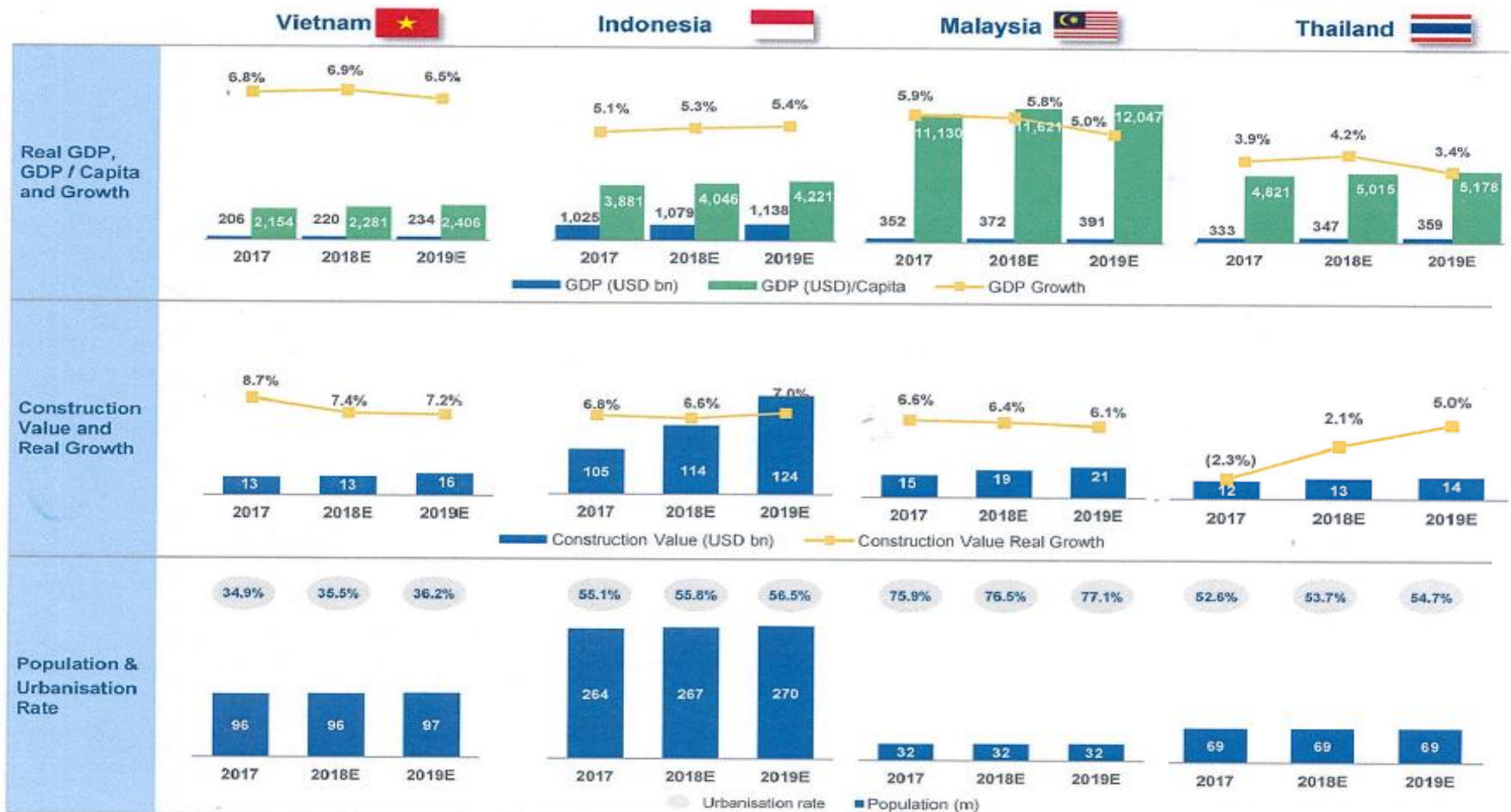


After 2017



- Exports out of Vietnam and Thailand has increased to cover the deficit created by drop in volumes from China
- New exporting countries / markets opening up (I.e. Pakistan) to cater traditional importing countries
- New capacity might be added to meet increased demand

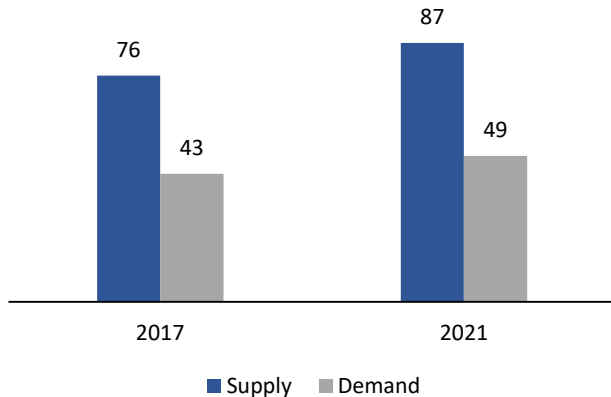
Vietnam is one of the most robust economy in the SEA region. Consistent growth in GDP above 6%, young growing population and urbanization fueling construction



- Construction growth rate is the highest in the region and value in 2019 is estimated to be same as Thailand
- Comparatively low rate of urbanization. Potential for continues growth in the medium term.

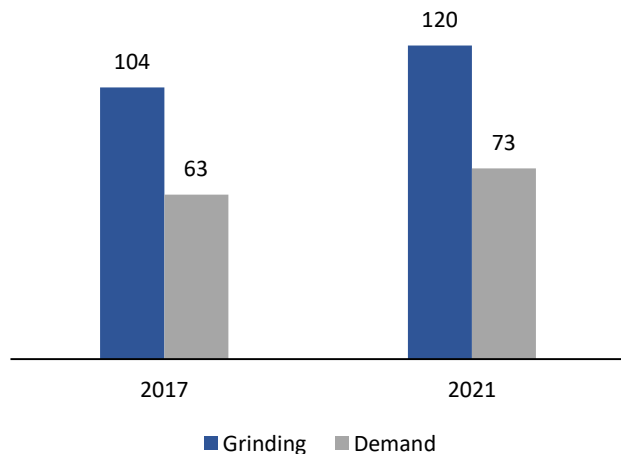
However, Vietnam Government is concerned about the environmental impact and overcapacity which may widen due current surge in exports.

#### Clinker capacity vs. domestic demand (Mn Mt)



- Capacity is almost doubled compared to local demand and imbalance is forecasted to increase due to the export surge.
- Most of the overcapacities are located to the central and Northern region in Ninh Binh, Hai Phong, Cam Pha etc..
- Government is becoming increasingly concerned with the environmental impact and has appointed the MOC to prepare a new plan under the “Reserves 2030”

#### Cement grinding capacity vs. domestic demand (Mn Mt)





# Vietnam Government Response

Vietnam government will most probably enforce stringent regulations to manage natural resources, environmental impact and new capacity enhancements

- MOC, MONRE, VNCA are requested to establish standards and make recommendations under the “reserves 2030 strategy”. INSEE, as a leading manufacturer is supporting the authority to develop internationally accepted standards.

Potential restrictions that Government is working on

- Closure of non environmentally compliant clinker plants
- Drastic and strict limitations on exports
- All new plants will need to comply with very stringent environmental performance criteria
  - Permitted CO<sub>2</sub> emissions levels will be significantly lowered
  - Requirements for energy savings systems and practices
    - Waste heat recovery systems to reduce energy requirements from national grid
    - Standardization of industrial waste usage for replacing thermal energy
    - Renewable energy (solar)
- Cement producers are encouraged to produce blended cement using alternate by- product materials from steel industry and power plants (to reduce carbon footprint).



While Vietnam is promoting FDI, the government is increasing prominence given to environment. Strict regulation will apply for all heavy industries

---

- Change in environmental policies in China has a huge impact on the regional economy in SEA
- In the short term, Vietnam will benefit from the surge in demand for its products. Vietnam is also the main beneficiary of US – China trade war.
- However, Vietnam government is aware of environment impact caused by sudden changes in market dynamics and it's approach in tackling the current situation in cement industry can be extrapolated/ applied to other heavy industries in future
- All new investments will require to comply to high environment performance standards and will implement high penalties for any none compliance
- Vietnam would need support in
  - Defining the regulations and establish standards
  - Knowledge sharing on awareness on available renewable solutions
  - Access to new technologies which supports government aspiration
  - FDI to develop the infrastructure and support the growth in more compliance to environment

# Thank you

## 14 RENEWABLES ON THE RISE

April 1-7, 2019 • www.vir.com.vn

# Green turnaround in Vietnam's cement production

By Thu Thuy

INSEE Vietnam, the largest cement producer in the country is leading the charge in going green, as well as alleviating pressure on the national power grid.

INSEE Vietnam has earned a reputation for delivering commercially superior solutions to customers far and wide, carried out through installing state-of-the-art equipment and implementing processes which ensure the most efficient and green manufacturing, while the utmost attention is being paid to environmental protection.

As scientists and politicians debate the facts surrounding climate change, global warming, and dwindling natural resources, eco-friendly practices not only draw favourable public sentiment and increasingly supportive government policies, but a



**INSEE Vietnam's Hon Chong Cement Plant features waste heat recovery power plant technology**

### Cement manufacturing process

Cement is produced from raw materials like limestone, clay, and sand. These raw materials are quar-

produce cement.

Cement production requires the grinding of three separate types of materials during the process – the

semi-finish grinding with a roller press and ball mill.

INSEE's 20 years of experience in mastering and continually upgrad-

exhaust streams, from the clinker cooler and the kiln pre-heater system, contain thermal energy that can be converted into power. Typically, the clinker coolers release large amounts of heated air at 250-340°C directly into the atmosphere. At the kiln charging side, the 300-400°C kiln gas coming off the pre-heaters is used to dry material in the raw mill and/or the coal mill, and is then sent to bag filter houses to remove dust before finally being vented into the atmosphere.

If the raw mill is down, the exhaust gas is cooled with a water spray or cold air before it entered the dust collectors. Maximising overall kiln process efficiency is paramount for efficient plant operation, while remaining waste heat from the pre-heater exhausts and clinker coolers can be recovered and used to generate power to offset a portion of