



ASEAN Webinar Series

Financing Options for Sustainable Buildings in Cities

Wednesday 3rd June 16:00 SG (09: 00 BST)



Cedric Rimaud,
CFA
Climate Bonds
Initiative

Jenny Calder
WWF

Esther An
City Developments
Limited

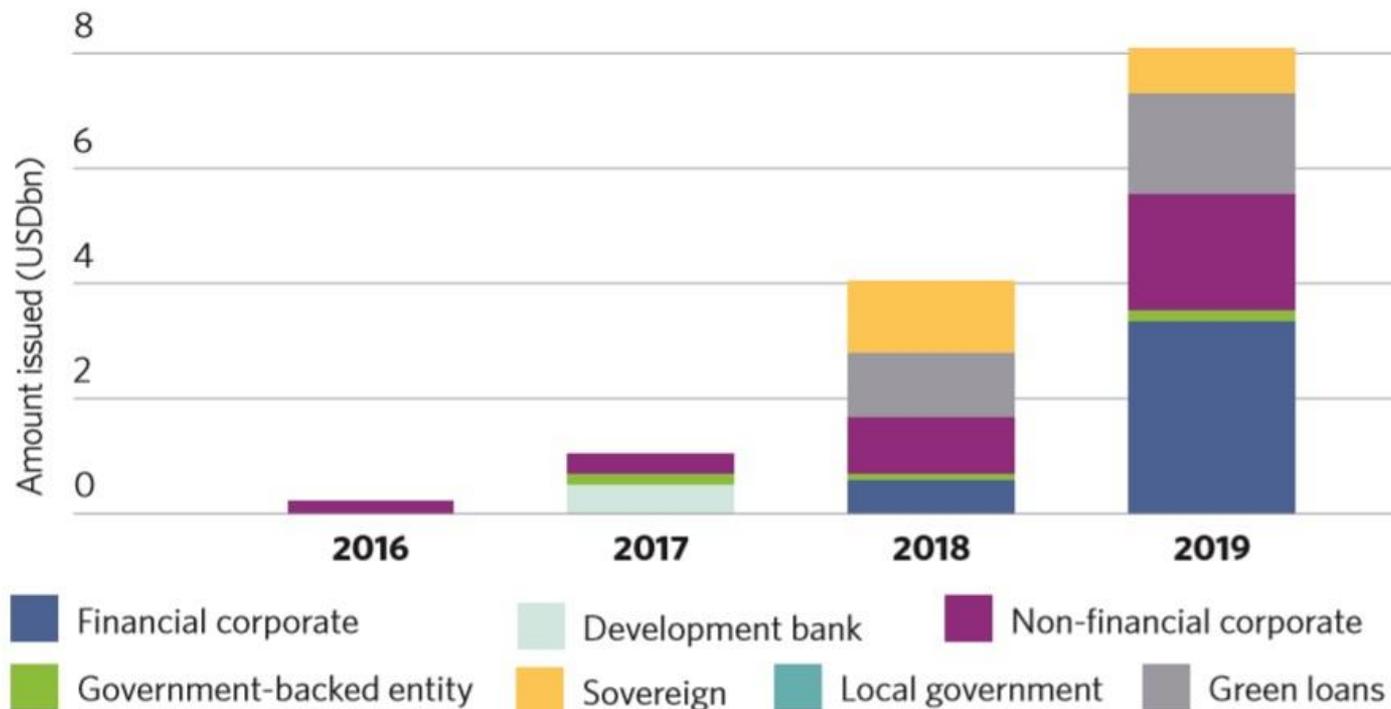
Susanto
PT Siemens
Indonesia

**Soumya
Chaturvedula**
ICLEI

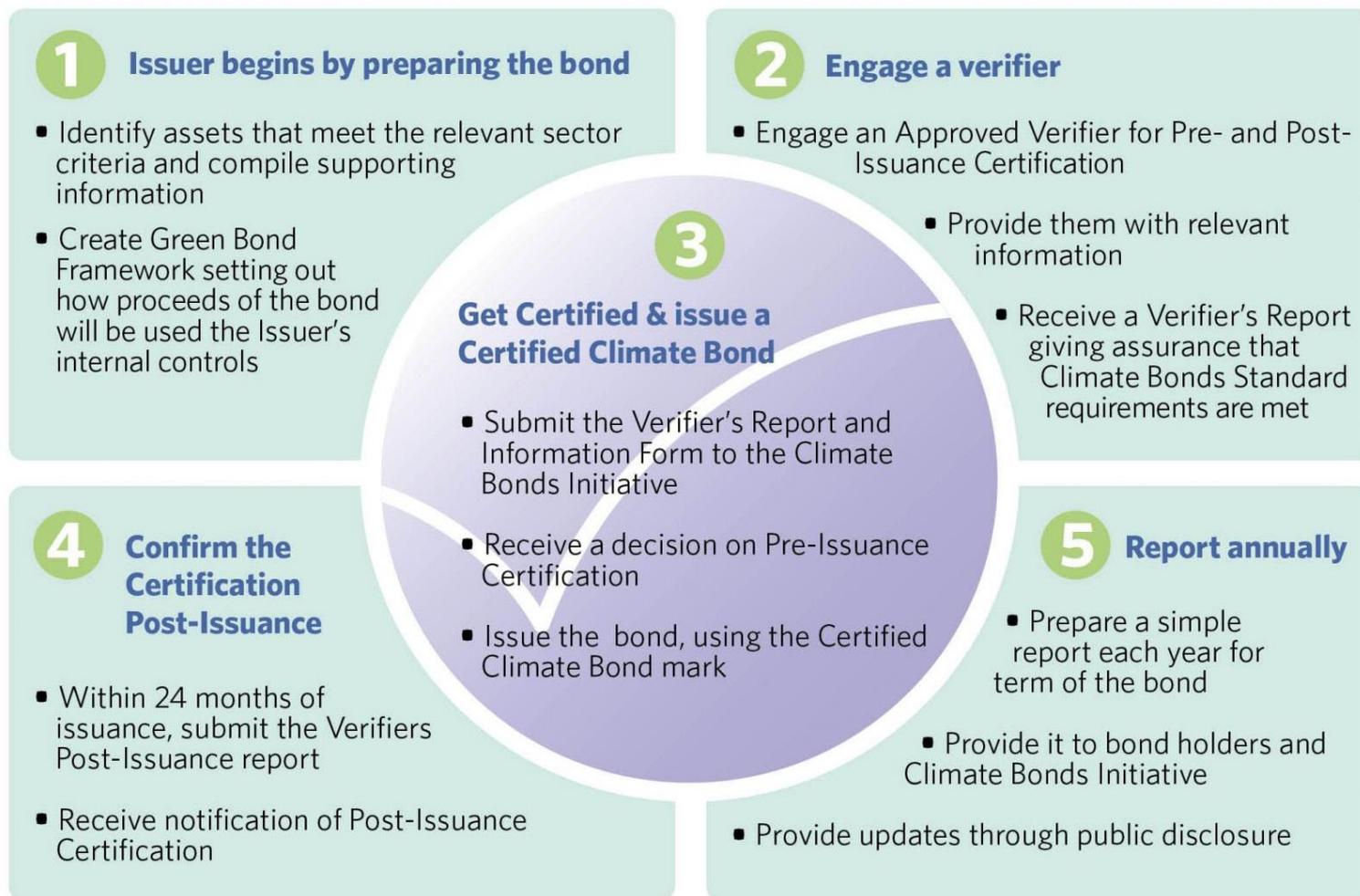
Lau Xin Yi
The Carbon Trust



ASEAN: strong growth dominated by Financial and non-financial issuers



How To Issue Climate Bonds



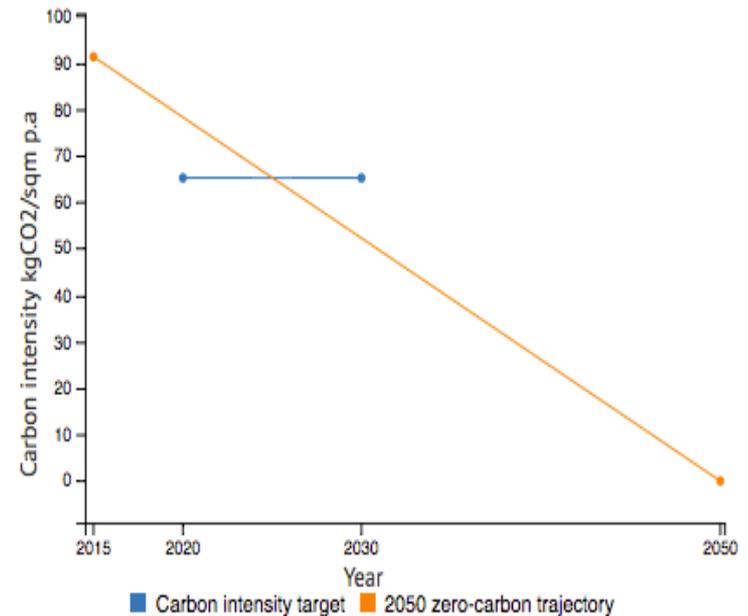
Buildings Criteria: Key Principles



Commercial

Emissions performance trajectories:

- Each building type in a city has an emissions performance trajectory (e.g. office, retail, industrial, hotels)
- Start of trajectory = Top 15% most energy efficient buildings in a city or region
- End of trajectory = Zero emissions in 2050
- Produce emissions thresholds based on the bond issuance date and bond term. Portfolio of buildings must be below the threshold to be eligible. (kgCO₂/sqm NLA)



Siemens has been partnering with Indonesia for 165 years



1847

Werner von Siemens
founded the company



1909

First office in Surabaya



1975

Siemens Factory,
Pulomas, Jakarta



1989

Siemens Factory,
Cilegon, Banten



2014

Welding & NDT
Training Center



1840

1850

1860

1870

1880

1890

1900

1910

1920

1930

1940

1950

1960

1970

1980

1990

2000

2010

2020



1855

Pointer telegraph
installation in Batavia



1921

Branch offices in
Bandung and Batavia



1973

Founding of
PT Siemens Indonesia



1997

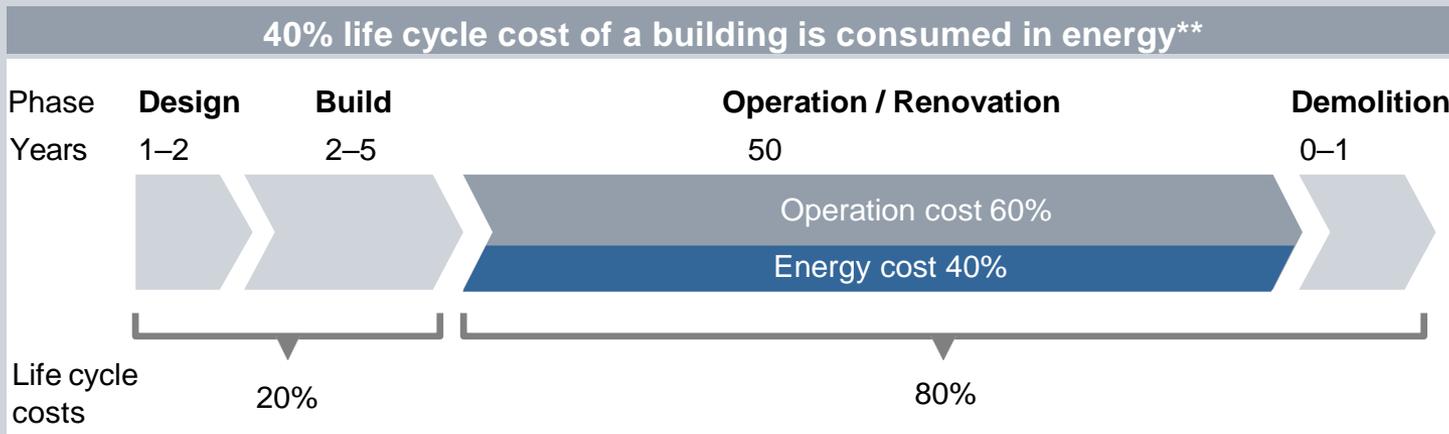
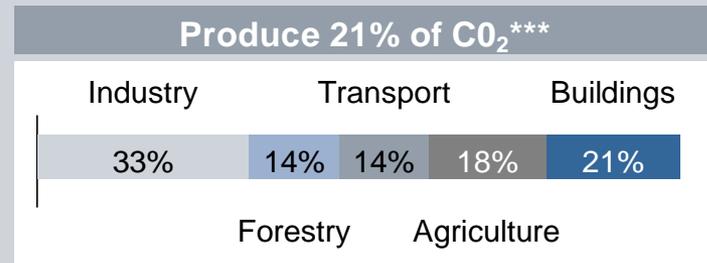
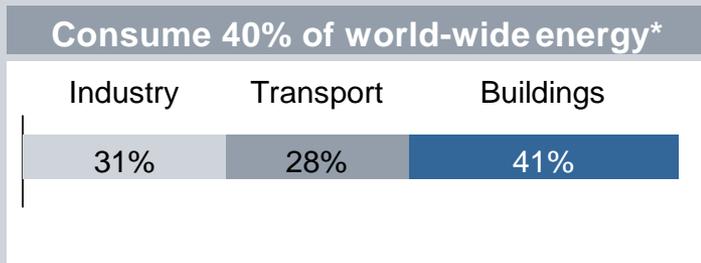
PT Jawa Power
(Paiton II Power Plant)



2001

Dresser-Rand Service
Facility

What we know about buildings?



* International Energy Association, auf weltweiter Basis, im Jahr 2002 / ** Dena Congress, Berlin, 2008 / *** „Global Mapping of Greenhouse Gas Abatement Opportunities up to 2030“, Building Sector deep dive, June 2007, Vattenfall AB, basiert auf Information von IEA, 2002, % der weltweiten Treibhausgasemissionen; Total 40 Gt CO₂

Energy saving potentials in buildings

	Category	Measures	Saving potential [%]	Payback [years]
	Building automation	<ul style="list-style-type: none"> • Installation of energy saving control device and control strategies • Optimization during operation by efficient use of building automation system 	5-30	0-5
	Technical installations	<ul style="list-style-type: none"> • HVAC, refrigeration, lighting • Controls, motors, actuators, • Power generation 	10-60	2-10
	Building envelope	<ul style="list-style-type: none"> • Insulation, windows • Thermal bridges, construction physics 	>50	10-60

Conclusion:

Invest first in building automation and control!
 → Results in highest ROI quickly

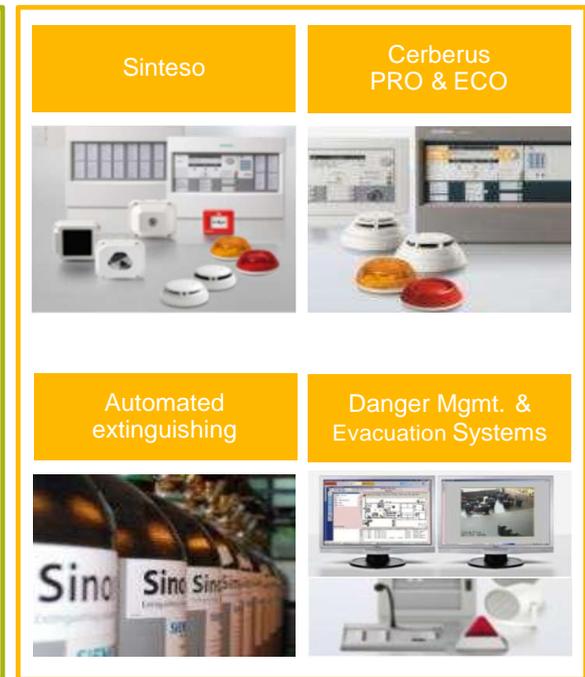
Building Products – Comfort and Fire Safety products and systems



Comfort



Fire Safety





The Carbon Trust works with businesses, financial institutions, governments and the public sector to help them contribute to and benefit from a more sustainable future



- **We cut through uncertainty** to provide insights that support better business decisions
- **We advise** businesses, financial institutions, governments and the public sector on their opportunities and risks in a low carbon world
- **We help develop and deploy** low carbon technologies and solutions
- **We measure and certify** the environmental footprint and impacts of organisations, products and services

Low Carbon Workplace



- The LCW fund buys buildings with the potential to become modern, efficient offices with low energy costs and improved employee well-being and productivity
- We leverage on our expertise to refurbish our acquired buildings
- We also provide ongoing support to our occupiers to minimise their energy costs and carbon emissions

Innovative approaches to unlock financing

- Pilot Auction Facility (PAF) mechanism – preliminary assessment commissioned by the World Bank to understand how to catalyse energy and resource efficiency in the residential building sector
- ASEAN Low Carbon Energy Programme
 - Energy efficiency
 - Green finance





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