



Global Asset Management
BlueBay Asset Management

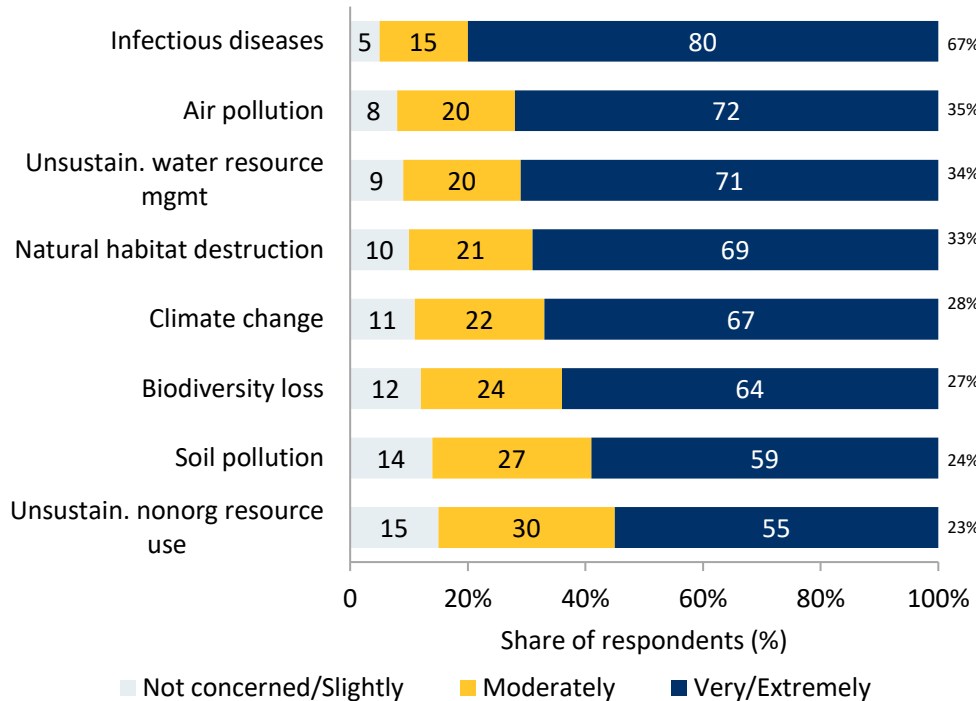
Green Infrastructure

Private and Public Pensions Summit 2021

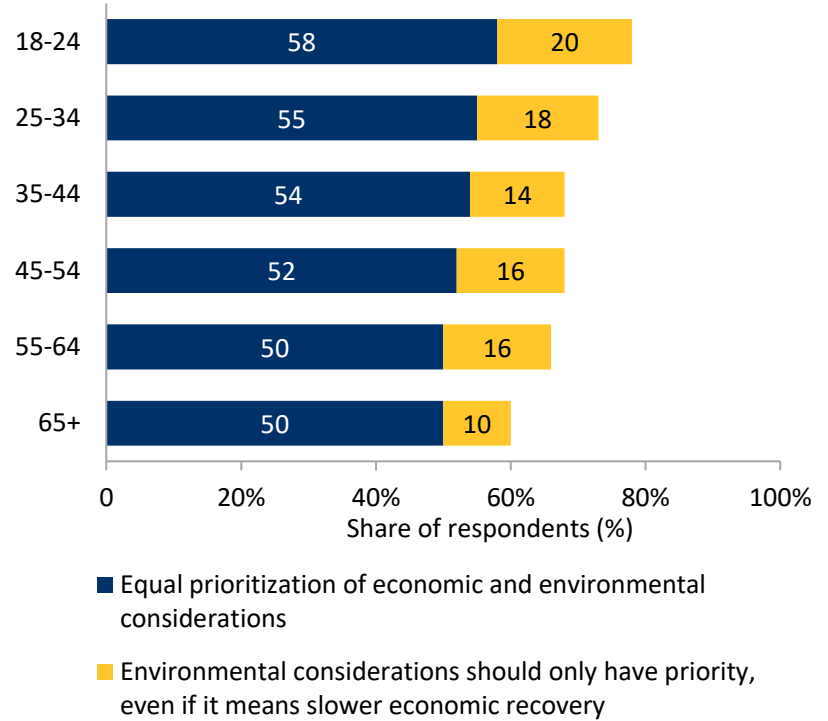
Zeena Dahdaleh, Portfolio Manager, RBC Global Asset
Management (UK) Limited

What are the drivers?

% of people concerned with various health and environmental issues; % who say their concern increased with the COVID-19 crisis (on far right)



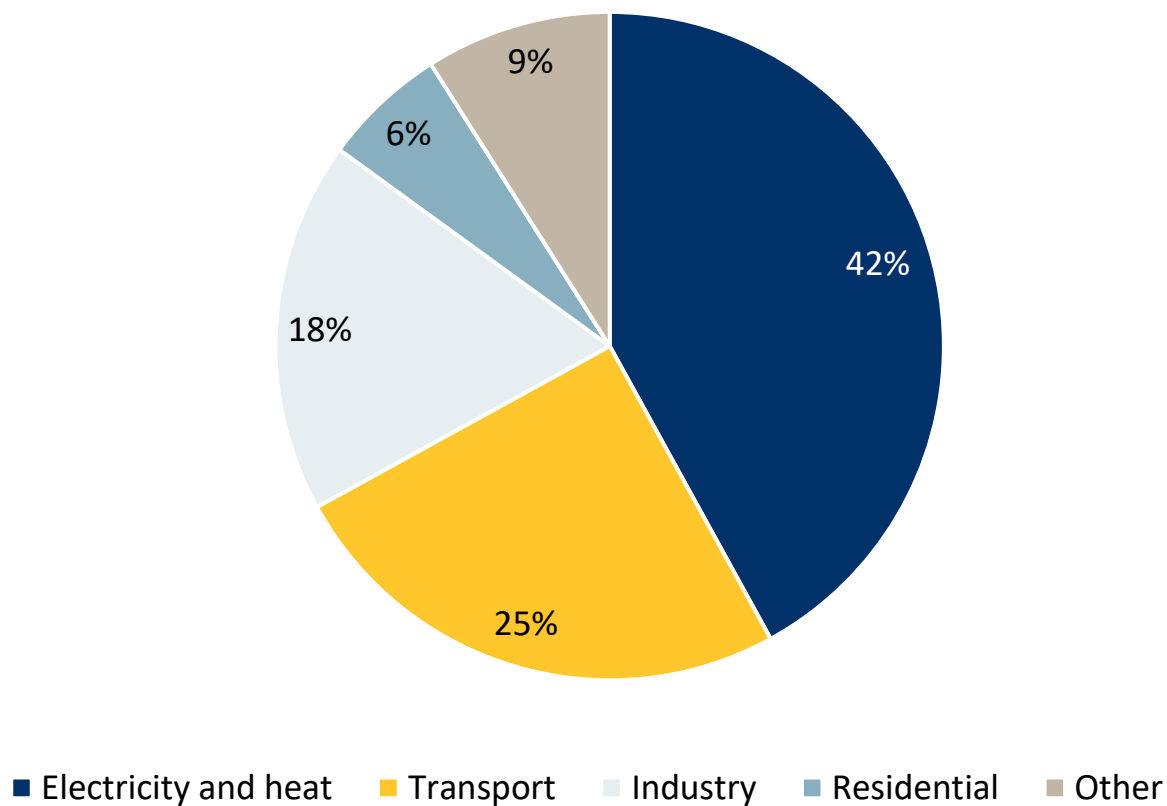
Belief that environmental issues are at least as important as economic issues (%) by age group



Source: BCG Note: Conducted May 20-29, 2020

Ways to play the theme

Global CO² emissions by sector, 2018



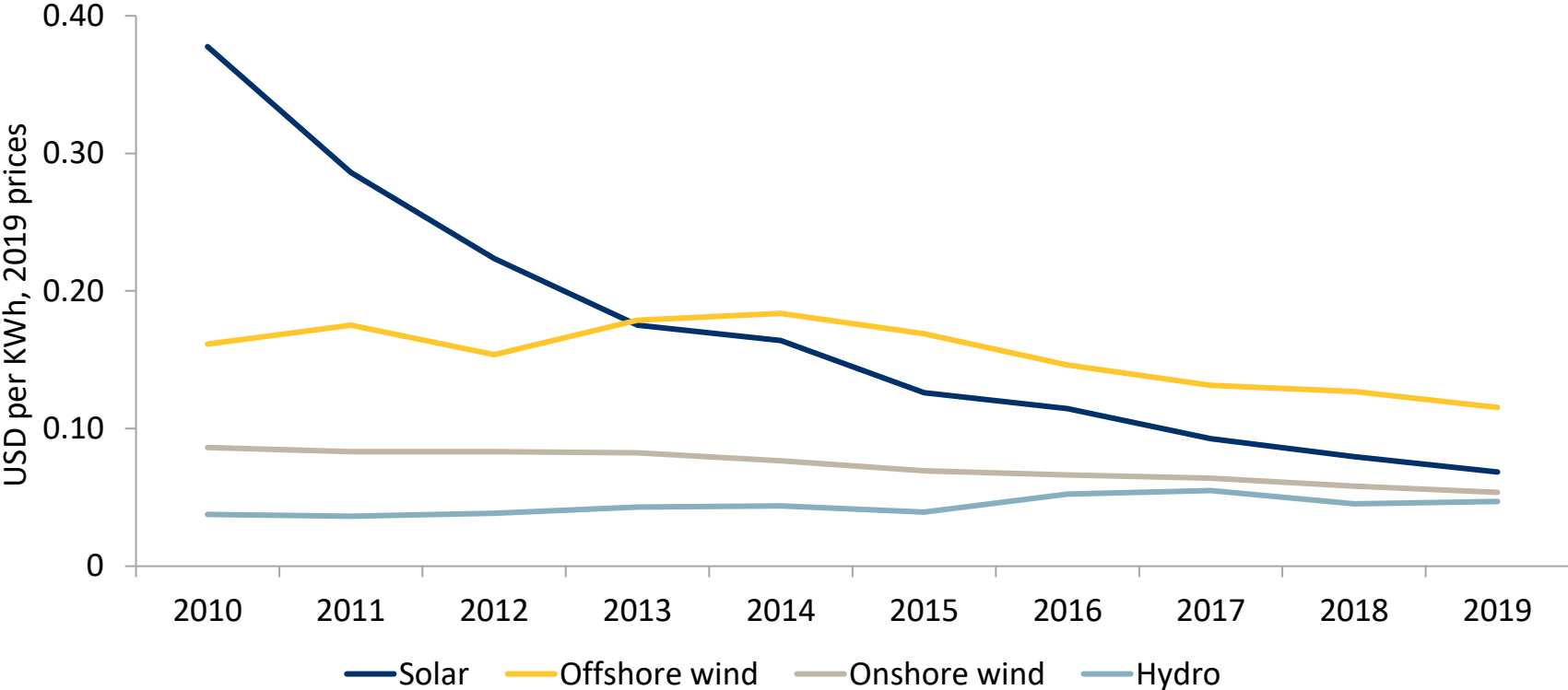
Source: IEA World Energy Database, BofA Global Research, 2020



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1. Renewable energy a) Solar

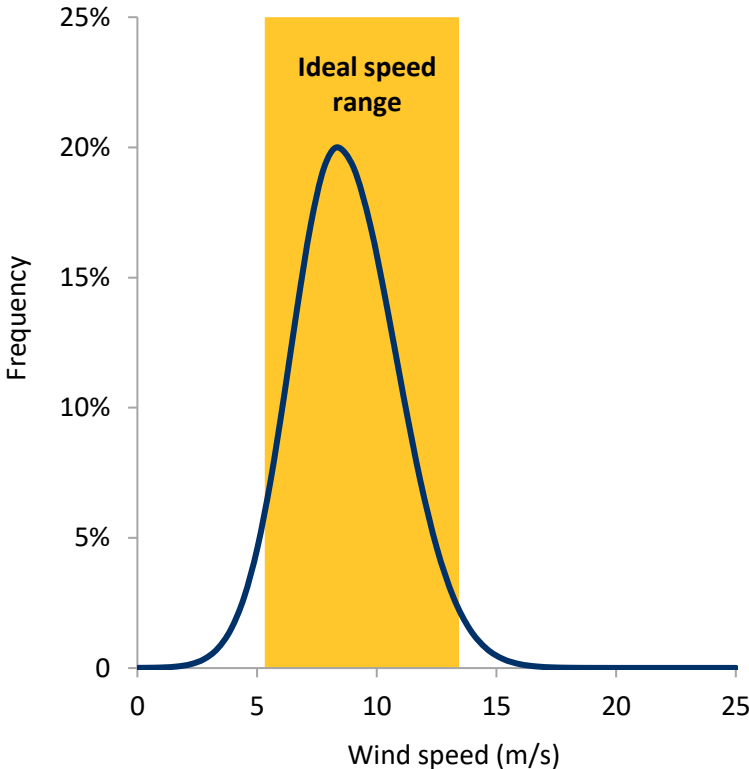
Levelised cost of energy



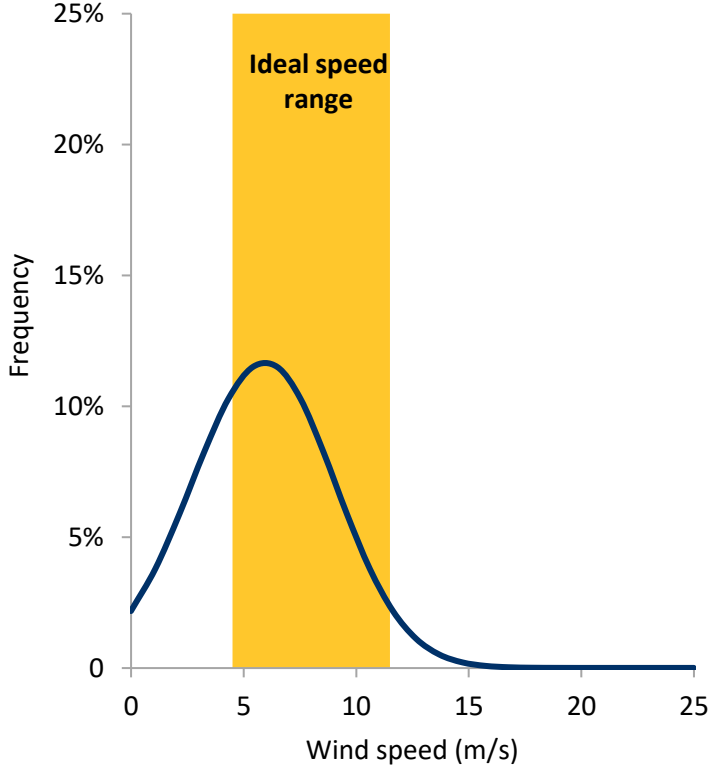
Source: International Renewable Energy Agency, FT, January 2020

1. Renewable energy b) Wind

Brazil



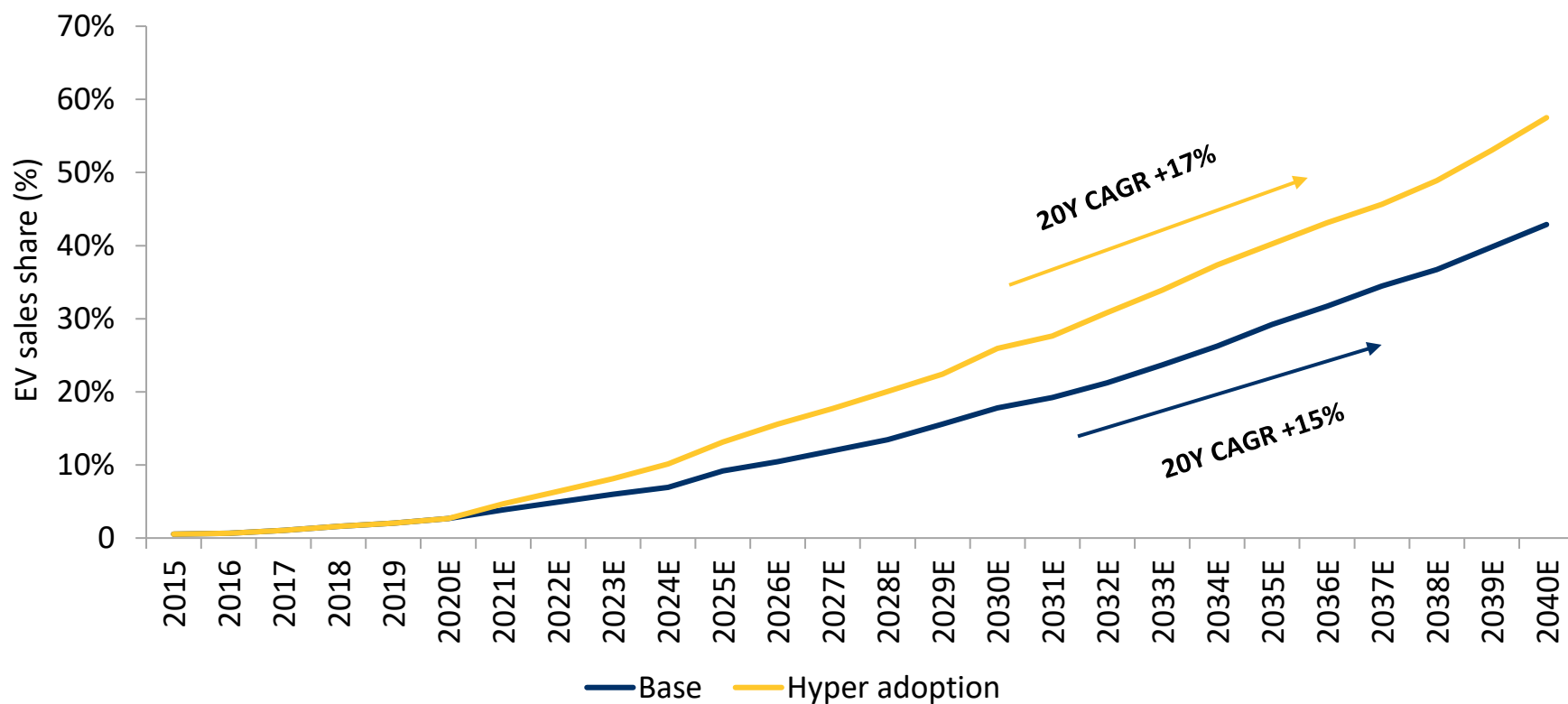
US



Source: Wood Mackenzie, EPE and BTG Pactual, 2020

2. Electric vehicles (EV)

EV sales as a % of total global vehicle sales



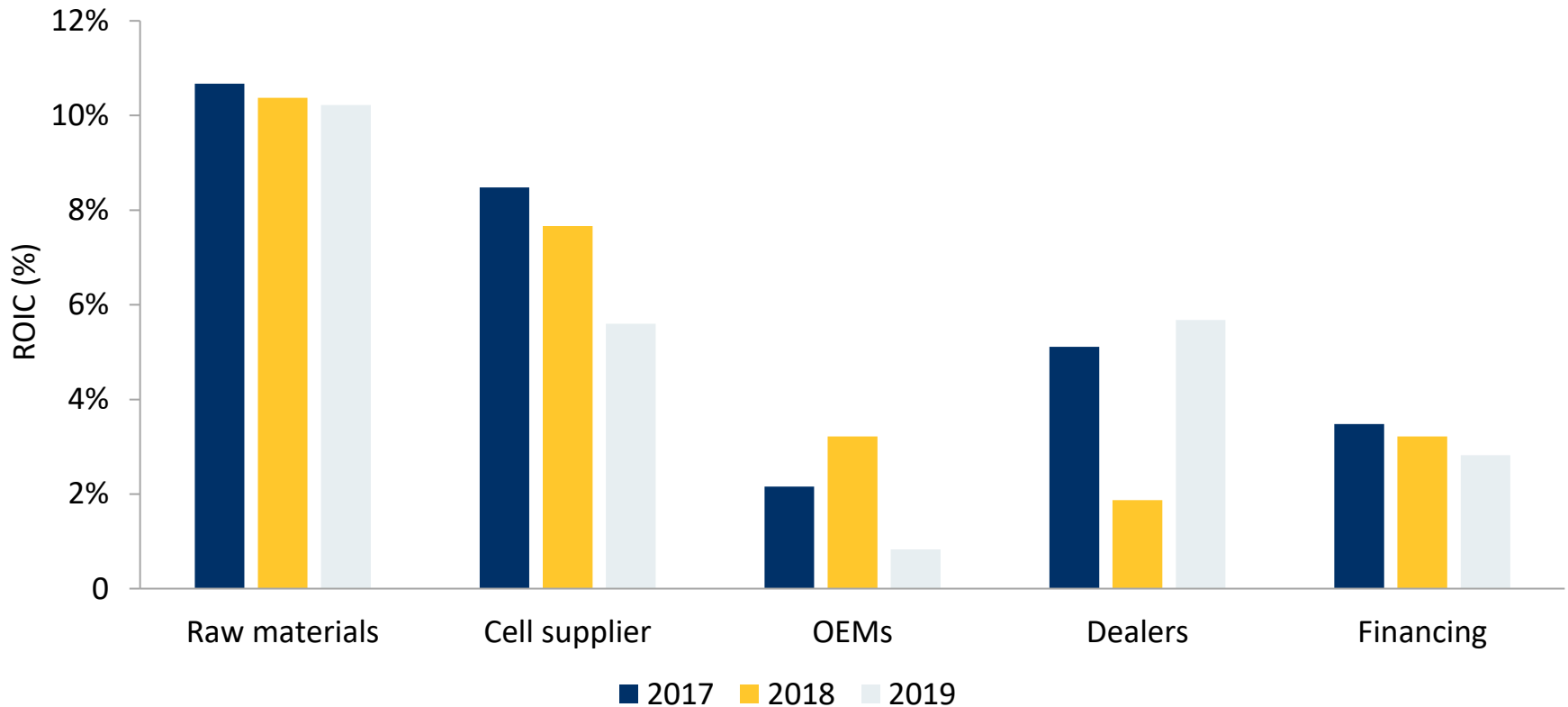
Source: Goldman Sachs Global Investment Research, December 2020



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2. EV a) Auto manufacturers

EV value chain - ROIC



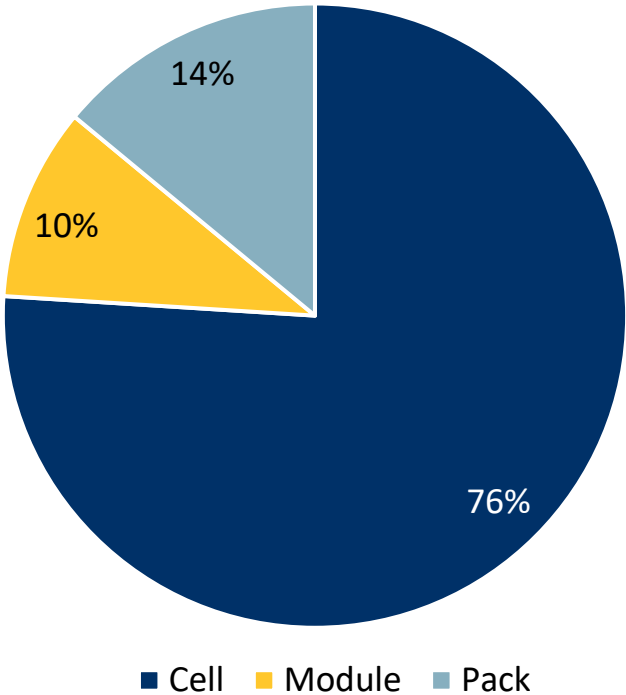
Source: Citi Research, company reports, Datastream, December 2020



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2. EV b) Battery cells

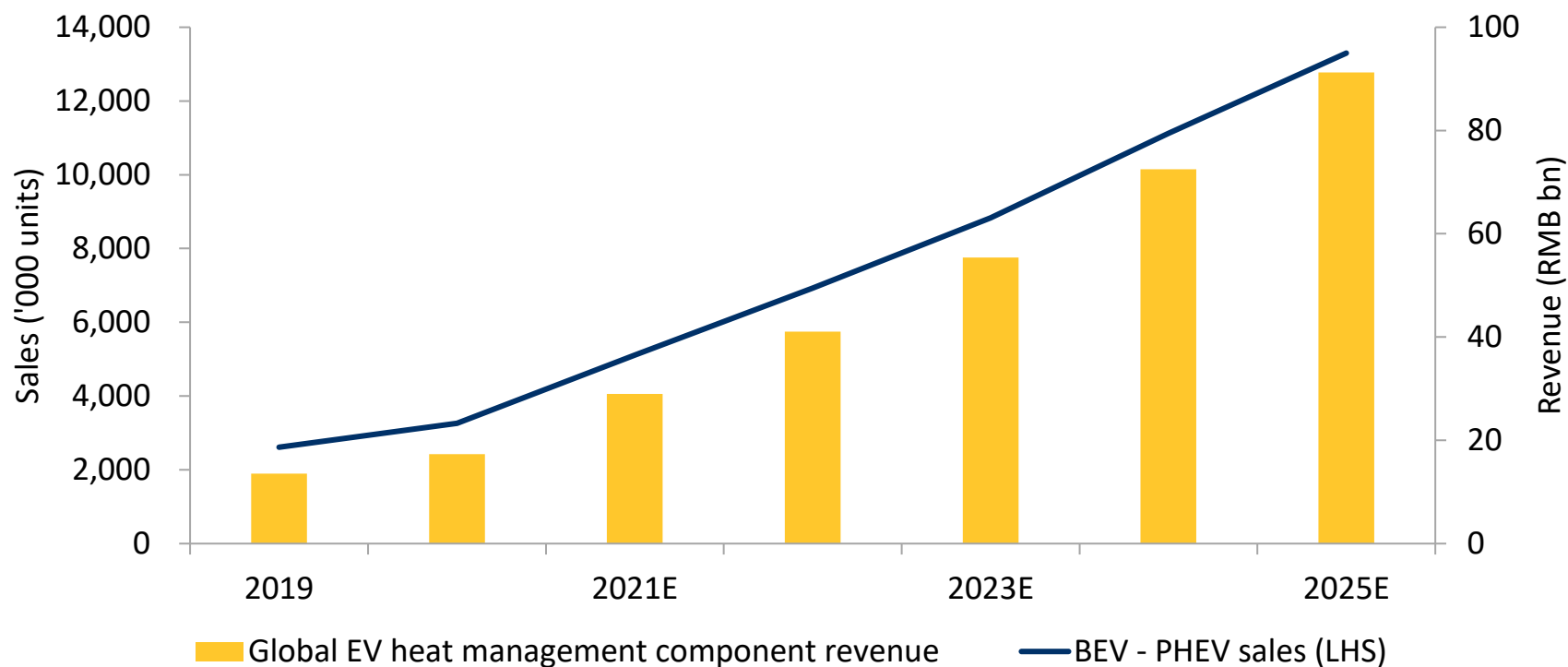
EV battery pack cost analysis



Source: BofA Global Research, 2020

2. EV c) Auto component manufacturers

EV heat management: market revenue to rise at a 37% CAGR in 2019-25E



Source: Company data, Bloomberg, HSBC Global Research estimates, HSBC Global Securities estimates, 2020

3. Transition materials

Applications helping to decarbonise the economy and the commodities required: Metals Important for Future Technologies (MIFTs)

	Wind	“Power applications Solar photovoltaic”	Energy storage	“Automotive BEV and FCEV”*	“Others Electric motors”	Carbon capture and storage	Light emitting diodes
Aluminium	X	X	X		X	X	X
Chromium	X					X	X
Cobalt			X	X		X	
Copper	X	X		X	X	X	X
Indium		X				X	X
Lead	X	X					X
Lithium				X			
Molybdenum	X	X				X	X
Neodymium (proxy for rare earths)	X			X			
Nickel	X	X	X	X		X	X
Platinum			X	X			
Silver		X		X			X
Steel	X						
Zinc		X					X

Source: World Bank, The Growing Role of Minerals and Metals for a Low Carbon Future, BofA Global Research, May 2021

*BEV – Battery electric vehicles; FCEV – Fossil cell electric vehicles

Note: Several raw materials are needed to replace fossil fuel energy to decarbonise. Cobalt could be in shortage by 2023.



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