Exhibit 8: Facets of climate finance supply continued...

**Sectors.** Energy & Transport garnered nearly 76 per cent of financing flows. Around 49 per cent of all financing flows went into renewables. Within transport, over half of the investments went into EVs and charging infrastructure. Adaptation had a paltry 8 per cent share. 15

**Spatial Dispersion.** Over 75 per cent of climate finance supply was garnered by North America, Western Europe and China. The US, Germany, China, France and the UK had more than a 50 per cent share of the USD 500 billion of green bond issuances in 2021, further reflecting the concentration of climate finance flows by geography. Also, domestic supply accounted for over three-fourths of all financing. Financing from OECD to non-OECD countries was around 12 per cent of all supply. 16

**Financing Sources.** Public and private sources had an equal share in 2020. Among public sources, Development Finance Institutions (DFIs), including MDBs, had a ~71 per cent share. Government budgets had a ~10 per cent share, and the rest was from other state-owned agencies. In 2020, MDBs committed USD75 billion in climate finance.<sup>17</sup>

**Instruments.** Debt dominates. Debt accounted for 63 per cent of financing supply, with equity (32 per cent) and grants (5 per cent) making up the rest in 2020. Green bonds crossed USD500 billion of issuances in 2021, although issuances in H1 2022 fell by 21 per cent to USD218 billion.<sup>18</sup>

Deepening of climate finance sources and instruments, and broad basing of financing flows is critical. Take geographic dispersion for instance. EMDEs (other than China) contribute ~40 per cent of emissions but secured approximately a fifth of climate finance flows. IEA observes that EMDEs, under an as-is scenario, could add 5 gigatons in incremental emissions in the next two decades. <sup>19</sup> By some estimates<sup>20</sup>, annual climate finance flows in EMDEs will need to quadruple by 2030 to make meaningful progress towards NZE. Achieving

this increase without adversely impacting EMDEs' overall credit profile will require:

- i. structural reforms around policy, institutions and financial markets, and
- ii. the developed world making good on the promised but yet-to-be delivered financial support. Actions to unlock private financing and deepen financial markets to tap a wider array of investors with innovative instruments too become critical for wholesome emission reduction impact.

At the same time, there is discernible dynamism in the climate financing ecosystem. An array of financing instruments opens possibilities, and new investor classes are making their presence felt

**Labeled Bonds.** Labelled bonds (also referred to as impact bonds) have specific environmental, social or governance (ESG) or sustainability objectives and fall in the following categories. Overall, labeled debt issuance

grew sharply in recent years, crossing USD1 trillion in 2021. Cumulative issuances stood at USD3.3 trillion as of H1 2022.<sup>21</sup>

<sup>&</sup>lt;sup>15</sup> Global landscape of climate finance – a Decade of Data 2011-2020/ Climate Policy Initiative, 2022/ October 2022

 $<sup>^{16}</sup>$  Global landscape of climate finance – a Decade of Data 2011-2020/ Climate Policy Initiative, 2022/ October 2022

<sup>17</sup> Global landscape of climate finance – a Decade of Data 2011-2020/ Climate Policy Initiative, 2022/ October 2022

<sup>18</sup> Global landscape of climate finance – a Decade of Data 2011-2020/ Climate Policy Initiative, 2022/ October 2022

<sup>19</sup> Financing Clean Energy Transitions in Emerging and Developing Economies/ International Energy Agency (IEA), 2021/ October 2022

<sup>&</sup>lt;sup>20</sup> Achieving Climate and Development Goals: The Financing Question/ World Bank, October 2022/ October 2022

 $<sup>^{21}</sup>$  Green Bond Pricing in the Primary Market H1 2022/ Green Bonds Initiative, 2022/ October 2022

### Exhibit 9: Labeled sustainable bonds - as of 2021

| Characteristics         | Green                    | Social                   | Sustainability             | SLB                         | Transition               |
|-------------------------|--------------------------|--------------------------|----------------------------|-----------------------------|--------------------------|
| Cum. issuances          | USD 1.6 trillion         | USD 520.5 billion        | USD 538.8 billion          | USD 135.0 billion           | USD 9.6 billion          |
| Issuance 2021<br>(YoY%) | USD 522 billion<br>(75%) | USD 220 billion<br>(18%) | USD 192.9 billion<br>(19%) | USD 91.4 billion<br>(10.7x) | USD 4.4 billion<br>(33%) |
| Issuers Nos.            | 2,045                    | 425                      | 861                        | 225                         | 15                       |
| Instruments Nos.        | 9,886                    | 2,323                    | 3,471                      | 317                         | 32                       |
| Countries Nos.          | 80                       | 51                       | 44                         | 37                          | 12                       |
| Currency Nos.           | 47                       | 38                       | 33                         | 16                          | 7                        |

### **Green bonds:**

### Transition to low-carbon economy

- Developed markets' share: 73% | Europe: 50%
- US (USD 304 bn.), China (USD 199 bn.) led cum. issuances
- 81% of issuances in 2021 in USD, EUR, RMB currency
- 63% of issuances had 10-year tenor

### **Sustainability bonds:**

#### Combination of green and social goals

- Supranational issuers share: 35 per cent | World Bank: 25%
- Top four issuers by country: the US, S. Korea, France and the UK
- Over 75% issuances in 2021 in USD, EUR currency

### **Transition bonds:**

### Combination of green and social goals

- Smallest category 13 issuances by 10 issuers in 2021
- EBRD and Inter-American Bank had a 19.9% share

Source: Climate Bonds Initiative

## Social bonds:

### Affordable housing, financing access etc.

- Surged post COVID-19 pandemic
- Grew in all regions in 2021
- France top issuer followed by Supranationals, the US, Korea, Chile
- 89% of issuances 2021 in USD and EUR

### **Sustainability-linked bonds:**

#### Coupon linked to sustainability KPIs.

- Italy, France and China largest issuers
- Over 75% issuances in 2021 in USD, EUR currency

Green bonds are getting broad-based with over 50 EMDEs making issuances till 2021. Green bond issuances have grown sharply past USD1.6 trillion of cumulative issuances and annual issuances crossing USD500 billion in 2021. Although there has been a 27 per cent reduction in green bond issuances in H1 2022 (labeled bond issuances are estimated to decline 16 per cent in 2022 to USD865 billion), medium- to long-term

outlook for labeled issuances is positive. EMDEs saw a 58 per cent growth ex-China to cross USD95 billion of green bond issuances in 2021. Other labeled issuances by EMDEs topped USD64 billion as well. Over 50 EMDEs issued green bonds till 2021. In recent years, India's renewable developers refinance their high-cost debt with proceeds from green bonds, with some reporting having achieved a reduction in costs by over 150 basis points.



## Greenium or pricing benefits from green bonds

A review of 56 Euro and 19 US dollar denominated benchmark sized green bonds with a total value of USD75.9 billion issued between January and June 2021 by Climate Bonds initiative observed that

- (i) On average, green bonds are still attracting more interest from investors than nongreen bonds, while also exhibiting larger spread compression during the book building process,
- (ii) US dollar-denominated green bonds showed particularly strong pricing outcomes, with average oversubscription for this category at 4.7x for green bonds and 2.5x for vanilla equivalents, while spread compression averaged 29.9 basis points for green bonds and 24.8 bps for vanilla bonds. Corresponding average oversubscription for Euro-denominated green bonds was 2.9x, and for vanilla equivalents 2.6x, while spread compression averaged 20.4 bps for green bonds and 19.6 bps for vanilla bonds. Research by ING quoted by S&P Global found savings on green issuance for borrowers between 1 bps and 10 bps on a global basis. India's Reserve Bank of India too notes that pricing differential shows up significantly in USD-denominated green bonds with tenures over 10 years.

Sources: Green bond 'greenium' is evident globally, especially strong for US dollar debt. S&P Global Market Intelligence; Green Finance in India: Progress and challenges. RBI Bulletin January 2021. Reserve Bank of India

Sovereign Climate Bonds are seeing a pick-up in momentum; India expected to enter the fray. In 2021, Sovereign climate bond issuances grew 103 per cent in 2021 with cumulative issuances reported at USD193 billion vis-à-vis the USD95.2 billion raised in 2020<sup>22</sup>. As of mid-2022, over 25 countries have raised USD227 billion of sovereign green bonds.<sup>23</sup> An IMF report points out that although green and catastrophe bonds have gained popularity, they remain nascent. Sovereign green bonds made up just 0.2 percent of all government debt securities in OECD countries. In EMDEs, sovereign green bond issuances account for 12 percent of total green bond issuances (OECD 2021). The sovereign labeled bonds market is likely to expand as more countries enter the fray and existing issuers move from one-off issuances to make sovereign labeled bonds an integral element of their climate resource mobilisation strategy. Apart from resources mobilisation, these issuances could, particularly in EMDEs, engender institutional strengthening and financial sector reforms. The Government of India recently outlined its framework for issuance of sovereign green bonds which spells out its approach to use of proceeds, project evaluation and selection, management of proceeds and reporting. India expects to raise INR16,000 crore (~USD195 billion) during the financial year ending 2023.24

**Equity.** Equity accounted for roughly a third of all financing flows into climate finance and averaged an estimated ~ USD156 billion in 2019/20. While corporates and renewable developers have been the largest class of investors investing in equity in the past, this is changing with non-energy corporates, institutional investors, private equity and venture capital funds joining in the effort

**Institutional investors:** Investment by institutional investors in 2021 was estimated at USD1.2 billion. A recent study (IRENA, Institutional Capital, 2021) estimates that a fifth of institutional investors (including sovereign wealth funds, insurance & pension firms, philanthropic foundations and endowments, with ~USD87 trillion worth assets under management) had invested in renewable focused funds, although only 1 per cent had made investments directly into cleantech projects. India's renewable energy sector, for instance, has attracted investments from several PE firms and sovereign wealth funds. Institutional investors typically favour operational projects or platforms and their participation often facilitates deepening of financing ecosystem by allowing developers with higher risk appetite to monetise and recycle capital.

<sup>&</sup>lt;sup>22</sup> Sustainable Debt: Global State of the Market 2021/ Climate Bonds Initiative/ October 2022

<sup>&</sup>lt;sup>23</sup> Sovereign Green Bonds: What lessons can India draw from other nations/ Business- Standard, October 2022/ October 2022

<sup>&</sup>lt;sup>24</sup> Govt in debut Green Bonds plans to raise Rs 16,000 crore/ Livemint, September 2022/ October 2022

- Venture investments in low carbon hydrogen: Since 2021, venture capital investments in hydrogen and allied areas have seen a surge and accounted for 10 per cent of all early-stage deals in clean energy start-ups. Early-stage deals in hydrogen was up five-fold in 2021 and reached over USD700 million, and this trend continues into 2022. Similarly, later-stage equity investments were upwards of USD3.6 billion, with much of it in the US and Europe.
- Blended finance, impact investment and philanthropic capital: Many areas within climate finance will not provide sufficient returns to attract conventional equity and debt. These projects and programmes will need to be financed innovatively through newer structures and approaches, including blended finance structures to bring together impact investors, philanthropic capital, development finance and public spending. Nevertheless, the scale of such

financing is small in relation to the overall climate finance flows. Programmes financed with blended finance structures were estimated<sup>25</sup> at USD14 billion during 2019 – 2021, while annual global philanthropic flows into climate change are estimated at ~USD5 billion and USD9 billion annually.<sup>26</sup>

**Transition finance.** Transition finance seeks to address the needs to support to high carbon-emitters including coal generation, steel, cement, and chemicals, in financing the transition to decarbonisation. Concerns about greenwashing and efficacy of evolving technologies present barriers to secure financing. Such financing will need to be backed with credible taxonomies, financing instruments and mechanisms to mitigate social impacts. Transition financing is increasingly acquiring momentum and a scale-up of the same will be crucial to facilitate the move towards net zero.



### Illustrative transition finance funds and mechanisms

**Europe – Just Transition Fund:** The European Commission proposed to form a Just Transition Mechanism to achieve climate neutrality in the EU effectively and fairly. The mechanism consists of three pillars: (i) the Just Transition Fund, (ii) a dedicated scheme under the InvestEU programme, and (iii) a public sector loan facility provided by European Investment Bank to mobilise additional investments in the regions concerned.

• The Just Transition Fund, which primarily provides grants, is a new financial instrument of the EU with a budget of EUR17.5 billion for 2021-2027. It aims to provide support to territories facing serious socio-economic challenges arising from the transition towards climate neutrality due to their dependence on fossil fuels (including coal, peat and oil shale) and on GHG-intensive industrial processes. The fund will facilitate the implementation of the European Green Deal, which aims to make the EU climate-neutral by 2050.<sup>27</sup>

Asian Development Bank's Energy Transition Mechanism: The Asian Development Bank, the Governments of Indonesia, and the Philippines have launched a partnership to design and establish an Energy Transition Mechanism (ETM) to pilot transition from coal to clean energy in Southeast Asia, in a just and affordable manner. This pilot will seek to retire or repurpose 5 to 7 coal-fired power plants in the pilot countries in the near term. Repurposed plants will be converted to renewable energy generation or alternative uses. Once it is scaled up, ETM has the potential to be the largest carbon reduction model in the world. /

• For example, retiring 50 per cent of coal power plants over the next 10–15 years in Indonesia, the Philippines, and Vietnam could cut 200 million tons of CO2 emissions per year, the equivalent of taking 61 million cars off the road<sup>28</sup>.

<sup>&</sup>lt;sup>25</sup> Grants for Climate Change/Inside Philanthropy/ October 2022

<sup>&</sup>lt;sup>26</sup> Global Hydrogen Review 2022/ International Energy Agency (IEA), 2022/ October 2022

<sup>&</sup>lt;sup>27</sup> The Just Transition Mechanism: making sure no one is left behind/ European Commission/ October 2022

<sup>&</sup>lt;sup>28</sup> Smoothing a Green and Just Energy Transition in the Asia and the Pacific/ ADB, September 2022/ October 2022

**Carbon markets and pricing.** Conceptually, carbon pricing involves placing a price on emissions, thereby creating a financial incentive to accelerate emission reduction. By bringing the externality of emissions into commercial decision making, carbon pricing can potentially help create monetisable resources that can be securitised to drive climate friendly investment. **Direct carbon pricing** involves applying a price incentive directly proportional to emissions generated, primarily through a carbon tax or an emissions trading system (ETS) and seeks to ensure consistent cost-effective abatement incentive. **Indirect carbon pricing** refers to instruments that change price of products associated with carbon emissions and include fuel and commodity taxes, and fuel subsidies affecting energy consumers.

The World Bank notes that as of 2021, 68 carbon pricing instruments (CPIs), including taxes and ETSs, were operational and three more were scheduled for implementation. However, these mechanisms cover only ~23 per cent of emissions.

Annual voluntary carbon market value exceeded USD1 billion in 2021 for the first time, driven by corporate commitments. While carbon prices have recently been on an upswing in many markets, including Europe, California, S. Korea and New Zealand, they fall well short of levels needed to meet the Paris climate goals. And while a variety of policy options are available, delivering a greater impact calls for political commitment globally to broaden the scope of emissions covered, price levels and expand the availability of abatement opportunities.



### The opportunity cost of fossil fuel subsidies.

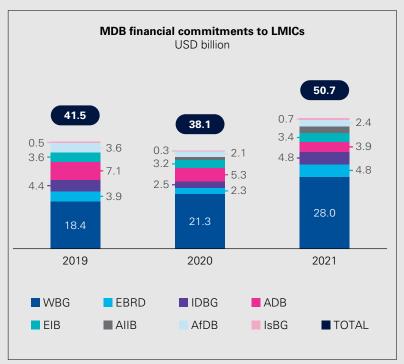
The IMF estimates global fossil fuel subsidies at USD5.9 trillion or 6.8 percent of GDP in 2020 and projects this to increase to 7.4 per cent of GDP in 2025 as the share of fuel consumption in EMDEs (with higher price gaps) increases. While 8 per cent of 2020 subsidy estimate reflects undercharging for supply costs (explicit), 92 per cent is undercharging for environmental costs and foregone consumption taxes (implicit). Even explicit fuel subsidies are expected to have ballooned to USD700 billion in 2021 after a drop in 2020 and are continuing to rise. The Ukraine war and recent rise in energy costs are only making the critical task of dealing with global fuel subsidies harder. The intractable and spiraling fossil fuel subsidy is at odds with the challenge of finding resources to finance the Net Zero imperative.

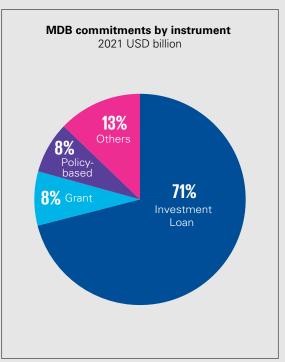
**Development finance and role of MDBs.** Given the challenges in scaling climate finance, MDBs have a very important role to play, especially in EMDEs. In 2021, total financial commitment made by MDBs was ~USD82 billion, of which ~USD51 billion was towards low- and middle- income countries (LMICs). Within the commitment made for LMICs, 65 per cent went

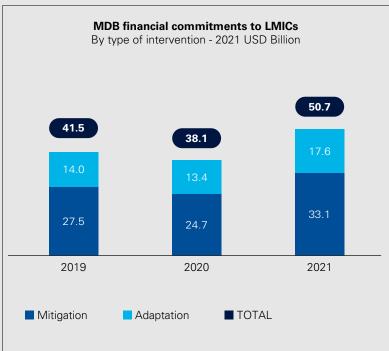
towards mitigation and the rest towards adaptation. About a fourth of the commitment or ~USD10 billion was to private recipients. This was supported by cofinancing of USD44 billion, 70 per cent of which came from public sources and the rest from private sources. By instrument, investment loans had a 71 per cent share of all financing to LMICs, followed by grants (9 per cent share).<sup>29</sup>

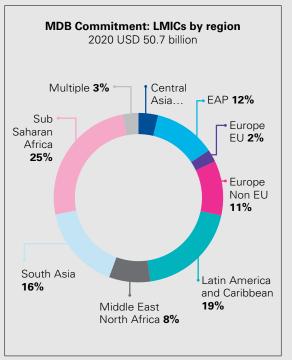
<sup>&</sup>lt;sup>29</sup> 2021 MDB's Joints Report on Climate Finance/ MDB's, October 2022/ October 2022

### Exhibit 10 Trends in MDB financing to low- and middle-income countries<sup>30</sup>









Source: Climate Finance. 2021 Joint Report of MDBs. October 2022

 $<sup>^{\</sup>rm 30}$  Climate Finance. 2021 Joint Report of MDBs/ MDB's, 2021/ October 2022

# **Barriers to scale climate finance flows**

Summing up, a scale-up of climate finance is constrained by both demand- and supply-side factors. These can be broadly traced to the following:

First, a diversity in financing needs, coupled with limited pipeline of bankable opportunities, limits a scale-up of conventional financing. From a demand standpoint, the climate agenda, barring a few segments, is not amenable to market-based commercial financing yet. Barring sectors like renewables, pathways and technologies for several high emission hard-to-abate sectors continue to evolve and present elevated risks for conventional financing to be scaled up meaningfully.

Second, policy inadequacies, fiscal limitations, institutional & regulatory weaknesses, and shallow financial markets, especially in EMDEs, stymie access to capital. These upstream challenges compound problem of affordability (EMDEs ex-China have nearly 40 per cent of share of emissions but limited internal resources) and often hinder programmatic response. At aggregate, EMDEs continue to face constraints in translating Net Zero intent, even where committed, into enabling policy, coherent long-term climate strategies and effective programmes to drive implementation.

Third, the socio-political challenges in phasing out regressive subsidies and in creating broad-based carbon pricing frameworks add to the resource crunch. Explicit subsidies around fossil fuels, agriculture and fisheries globally add to nearly USD1.3 trillion annually (including ~USD300 billion for fossil fuels and ~USD635 billion for agriculture).<sup>31</sup> IMF estimated global fossil fuel subsidies at 6.8 per cent of GDP in 2020 and projected this to climb to 7.4 percent of GDP by 2025 with increase in fuel consumption in EMDEs. This level of subsidies is clearly unsustainable. Coverage of carbon markets remains narrow and carbon pricing (even where they are functional) is inadequate for incentivising financing flows into low-carbon transition.

Fourth, information architecture to support climate action, including information, disclosures and taxonomies, remain work-in-progress and evolving. Mechanisms to capture, aggregate, report information around climate trends, emissions and impact of actions undertaken, and related variables needs improvement by an order of magnitude. Even though frameworks

for disclosure and ESG taxonomies are improving in several regions, they continue to be constrained by weak standards, audits and mandatory disclosure requirements. COP 26 saw the establishment of the International Sustainability Standards Board (ISSB) to develop a baseline of sustainability disclosures for capital markets. The ISSB has launched general sustainability-related and climate-related disclosure requirements. A rapid adoption of harmonised standards, especially in the EMDEs will be important.

Fifth, cross-border flows from developed economies into EMDEs remain inadequate. Despite a reiteration of commitment by different countries, the promise of USD100 billion of climate finance flows to the developing world remains unfulfilled. Climate finance from developed countries reached only USD83.3 billion in 2021, and even this figure is contested by developing countries in terms of not being 'additional'. Even as the USD100 billion is well below the levels of international support needed, missing to even reach there makes the task doubly difficult for the developing world. And while other forms of support hold promise, little is getting translated into actual flows. For instance, although annual philanthropic spending increased in 2019, only less than 2 per cent (or USD6 billion to USD10 billion) went into climate change mitigation agenda.32

Finally, near-term headwinds, including inflation, currency volatility, debt overhang and rising interest rates are adversely impacting resourcing and elevating risk profiles of EMDEs. The twin shocks of the COVID-19 pandemic and the ensuing Ukraine crisis have left EMDEs reeling under pressure and exacerbated their vulnerabilities. The public debt overhang restricts a meaningful scale-up of public financing which is so vital to crowd-in private financing. At the same time, inflationary pressures and rising interest rates increase investment risks and dent cost competitiveness, even in segments like renewables which had seen a surge in cross-border FDI and green bond flows. These near-term challenges, if not tackled and resolved expeditiously, could have adverse ramifications and knock-on effects on the medium-term climate financing trajectory.

<sup>&</sup>lt;sup>31</sup> Achieving Climate and Development Goals: The Financing Question, 2022/IMF and World Bank, 2022/October 2022

<sup>32</sup> Top Climate Change Funders/ Inside Philanthropy/ October 2022

# **Transformation pivots**

Bridging the climate financing gap is among the pressing development imperatives of this decade. Tackling this will call for action on five pivots.

Sharper prioritisation and configuring differentiated financing pathways. Given the diversity of the climate agenda and financing limitations, a sharper prioritisation based on the impact potential and distance to commercial viability will be crucial to configure appropriate and differentiated financing pathways.

Renewables are tuned for a sharp scale-up of private investment. On the other hand, low carbon hydrogen, electric vehicles and storage will require policy thrust, incentives, viability support and risk sharing mechanisms to usher in private capital. R&D spending needs to be incentivised as well. By some estimates<sup>33</sup>, a third of emission reduction targets for 2050 are contingent on

technologies in prototype or demonstration stages. With over USD200 billion invested in climate-related technology firms between 2013 and 2021, venture capital flows have been promising, but still short. Adaptation will require higher levels of public spending and blended finance flows. Varied resourcing pathways are needed to deal with the heterogeneity of financing demand. Categorising high-impact initiatives based on their financing readiness could enable better matching of financing demand-supply and in configuring appropriate financing pathways in terms of sources, instruments, scale and timing. Refer Exhibit 11 for a high-level generic illustration of this point.

### Exhibit 11: A possible segmentation to configure differentiated financing pathways

## Mature technology – Developer ecosystem – Largely bankable, reaching commercial viability

**Renewables:** Renewable energy programmes are amenable to commercial private financing. There is a wealth of experience globally on the know-how around conceptualising and delivering renewable energy programmes at scale. Critical ingredients to spawn financing flows include stable energy policy, institutional & regulatory strengthening (credit worthy discoms, committed offtake, cost reflective tariff), and building technical foundations (including grid stability, hybrids and storage to deal with intermittency).

**Electric vehicles:** Despite their relative infancy, EVs especially light passenger vehicles meet pre-requisite conditions for private financing. True, viability gaps and supply chain challenges (resources for batteries and charging infrastructure) remain, but there is evidence especially from China and Europe that pro-active regulation, together with incentives and private sector ingenuity, can spur productivity spike, scale economies and commercial viability.

**Source and instruments:** Private (developers, institutional investors). Mature financing ecosystem in place with equity, debt & green bonds and mezzanine structures.

#### Source and instruments:

Predominantly private (developers, institutional investors) with subsidies / incentives to tackle early-stage viability gaps. Incentives to boost technology and R&D spending will also be crucial.

<sup>33</sup> Energy Technology Perspectives 2020/ International Energy Agency (IEA), 2020/ October 2022

### Exhibit 11: A possible segmentation to configure differentiated financing pathways (Contd...)

## **Evolving technology, value chain – Potentially bankable but elevated risks, viability gaps at present**

### Low carbon hydrogen, industrial decarbonisation, CCUS:

These segments will require proactive, and in some cases interventionist policy, including through imposing mandatory regulations to spur anchor users/target industries into action, sizable dedicated public financing through viability gap grants, tax breaks and investment incentives to support R&D and rapid build-out of capacities to drive economies of scale, wider adoption and non-linear reduction in costs.

Source and instruments: Collaborative (public, private, venture funding, impact investment, philanthropic capital) will call for diverse instruments. Early stage – grants and funding for early-stage R&D, tax break, incentives and benefits for start-ups, venture financing / high risk capital flows. Scaling mature technologies will require effective structuring, including demand aggregation and offtake commitments, complemented with strong public financing / MDB financing in the form of concessional loans, viability gap support, guarantees / credit enhancements, and pricing, securing and monetising future carbon benefits.

## Mature technology but poor revenue models and bankability

**Public transport and adaptation measures:** These segments will need a large step-up in tax-funded public financing, including through better designed and functioning carbon markets. These markets may not be amenable for large-scale private financing. Strong public institutions and ring-fenced budgetary outlays will be crucial.

**Source and instruments:** Largely public finance and multi-lateral financing. Ringfencing taxes, securing, monetising carbon benefits.

clarity, institutional readiness and threshold level of public finance: Governments have a very central role to play in crowding-in financing into climate agenda. Critical items on the agenda include

- Well-conceived programmes to translate Net-Zero intent to deliver visible impact at scale
- Nurturing capable, well-funded public institutions that can conceptualise and deliver programmes at scale, to translate policy intent into action, will be particularly critical
- Clear trajectory for phase-out of regressive inefficient subsidies
- 4. Climate-centric reporting and disclosures, and
- Clear public financing strategy, including tapping sovereign green bond route and MDB financing.

Governments need to commit a sizable increase in budgetary outlays from the current levels, including earmarking a certain minimum threshold with a portion of that dedicated to adaptation measures. Despite a public debt overhang, finding adequate public outlays will be critical in view of evolving nature of technologies, subscale capacities and higher credit risk profile of climate risk investments in relative terms. This is also crucial to crowd-in private financing at scale.

### Structural reforms to deepen financial

markets. Sustained efforts to deepen financial markets while concurrently strengthening risk management mechanisms will be crucial. The proliferation of an array of financing instruments including green bonds, sustainability-linked structures, and risk sharing / credit enhancement facilities holds promise and needs policy facilitation for wider adoption. An expanding investor base that includes pension and insurance funds, private equity and sovereign wealth funds, philanthropic capital and impact investors, offers cause for cautious optimism as well. The imperative to scale cost-competitive capital flows will need to be balanced with putting in place effective risk management mechanisms. Governments and regulators will be challenged to stay ahead of the curve.

Functioning carbon markets and harmonised ESG taxonomy and disclosures. A wider coverage of well-designed carbon market instruments

is essential to create, monetise emission reductions that can be securitised to raise financing for climate initiatives. The implicit and explicit cost of global fossil fuel subsidies contradicts the challenges in tapping climate finance and needs to be dealt with squarely and expeditiously. Concomitantly, reporting and disclosures centered around clear ESG frameworks will help build higher order assurance among investors and stakeholders.

Co-opting EMDEs into climate agenda.
EMDEs account for two-thirds of emissions but receive a tiny fraction of climate finance flows. They

will require not only sizable financial commitments, but technology transfers, transition financing and handholding support to strengthen policy and institutional enablers. Developed countries need to translate their commitments into tangible actions on the above fronts. Multilateral agencies need to play a catalytical role in co-creating programmes, helping governments build capacity to deliver emission reduction programmes at scale and tailor innovative financing instruments to multiply private financing.

# **Abbreviations**

C40: Cities Leadership Group

CAGR: Compounded Annual Growth Rate

CESL: Convergence Energy Services Limited

CO2: Carbon Dioxide

COP: Conference of the Parties

CPI: Carbon Pricing Instruments

CPI: Climate Policy Initiative

EBRD: European Bank for Reconstruction and Development

EMDE: Emerging Markets and Developing Economies

ETM: Energy Transition Mechanism

ETS: Emissions Trading System

ESG: Environmental, Social and Governance

EU: European Union

**FV**: Flectric Vehicle

FDI: Foreign Direct Investment

**GDP: Gross Domestic Product** 

GFANZ: Glasgow Financial Alliance for Net Zero

GHG: Greenhouse Gases

**GW: Giga Watt** 

IEA: International Energy Agency

IMF: International Monetary Fund

IRA: Inflation Reduction Act

IRENA: International Renewable Energy Agency

ITF: International Transport Workers' Federation

JERA: Japanese Energy for a New Era

JSW: Jindal SouthWest

LMIC: Low- and Middle-Income Countries

M&A: Mergers and Acquisitions

MDB: Multilateral Development Banks

MNC: Multinational Corporation

MT: Million Tonnes

**NEV: New Electric Vehicle** 

OECD: Organisation for Economic Co-operation and Development

PE: Private Equity

R&D: Research and Development

**REC:** Rural Electrification Corporation

SECI: Solar Energy Corporation of India

SCF: Standing Committee on Finance

UNFCCC: United Nations Framework Convention on Climate Change

**UK: United Kingdom** 

**US: United States** 

USD: United States Dollar

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# **Acknowledgments**

Anand Madhavan

Anish De

Anvesha Thakker

Mridul Grover

Shubham Raizada

Versha Chauhan

Vikas Gaba

Vishal Sridhar

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