Accelerating Actions to Deliver on the New Climate Economy: A Roadmap for the G20

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** This presentation is based on the 2018 Report of the Global Commission on the Economy and Climate, "Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times," the GDP/BU-Brookings paper, "Aligning G20 Infrastructure Investments with Climate Goals & the 2030 Agenda," and joint work with Professor Nicholas Stern over the past several years.*

B | Global Economy and Development at BROOKINGS

THE NEW CLIMATE ECONOMY
The Global Commission on the Economy and Climate

BU Global Development Policy Center

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Structure

- **New Climate Economy: Urgency, Scale, and Opportunity**
- **Centrality of Quality and Sustainable Infrastructure**
- **G20 Leadership on Climate Action and Quality Infrastructure**
- **Accelerating Change**

The science of climate change is clear; the impacts of failure could be devastating; difference between 1.5°C and 2°C strongly significant

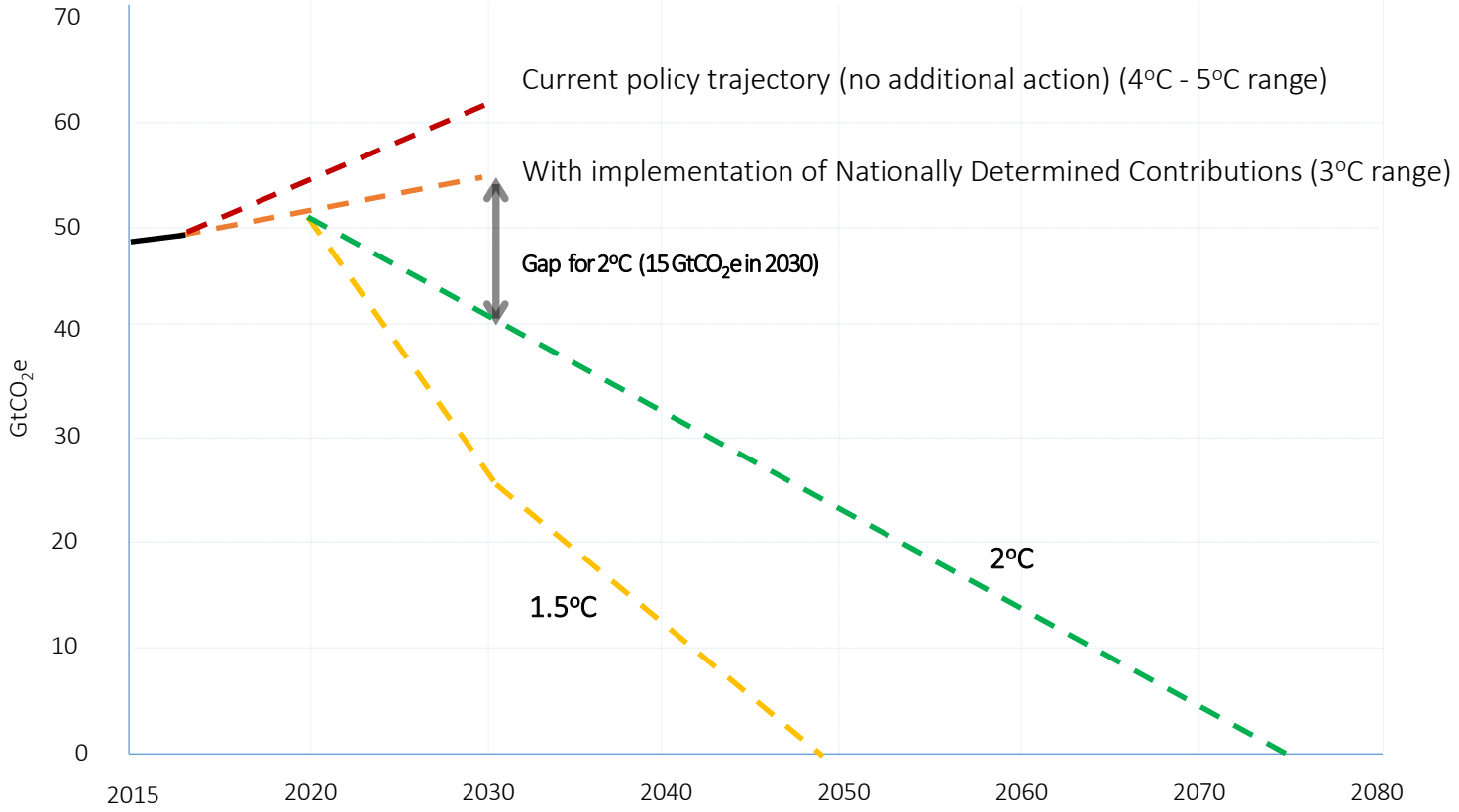
	1.5°C	2°C
Extreme Heat (Global pop. exposed to severe heat at least once every 5 years)	14%	37%
Frequency of rainfall extremes (land)	17%	36%
Average drought length (months)	2	4

Source: IPCC (2018) and WRI (2018)

Differences between 1.5°C and 2°C are major. Differences from 2°C to 2.5°C, and then to 3°C likely still bigger. Current Paris COP21 plans for 2030 look like paths headed for 3°C and above over the next century or so.

Have not seen temperatures above 3°C for around 3 million years; hundreds of millions, perhaps billions, would have to move. Risks of severe and extended conflict. Note that 3 million years ago CO_2 concentrations were similar levels to now, and sea levels were 10 – 20m higher (Foster et al., 2017).

The current path is far from sustainable



Source: Stern (2019); UNEP (2018)

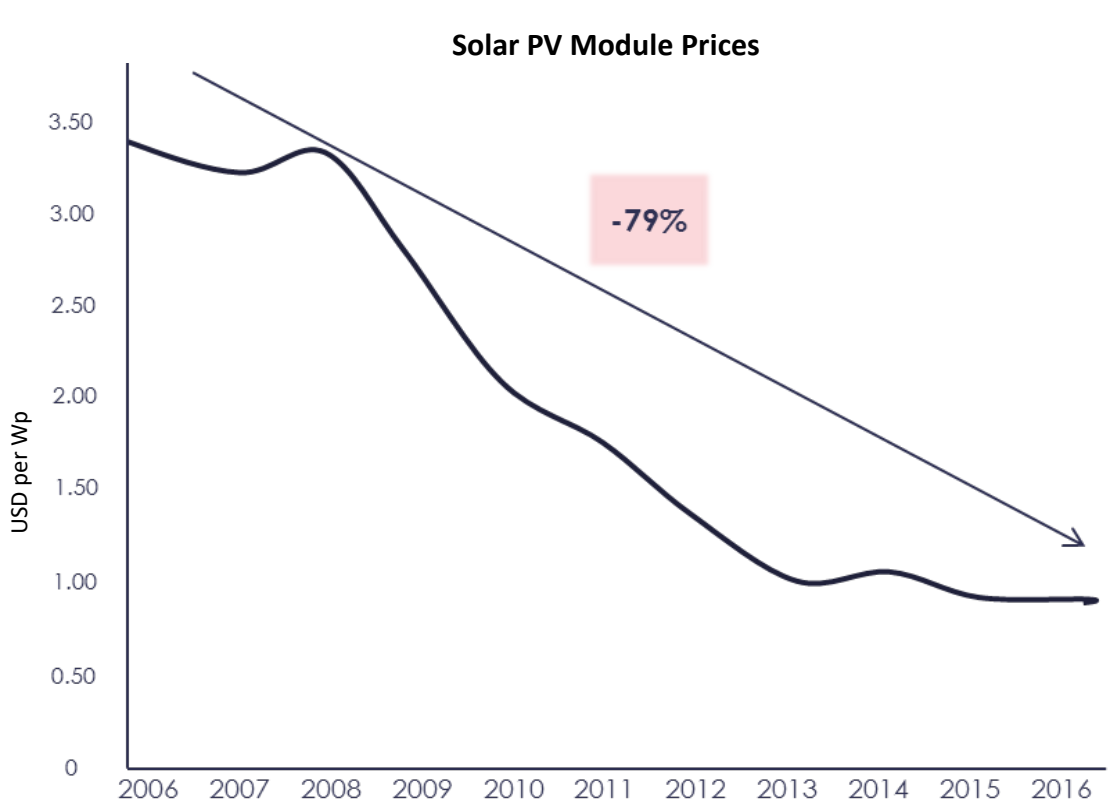
- On the basis of the current NDC commitments, global temperatures are projected to increase by 3°C or more by 2100.
- To limit global warming to 1.5°C, the ambitions of the NDCs need to be sharply raised before the next submissions in 2020.

Climate change is an immense risk, decisions made now are critical in establishing low-carbon development, growth and poverty reduction

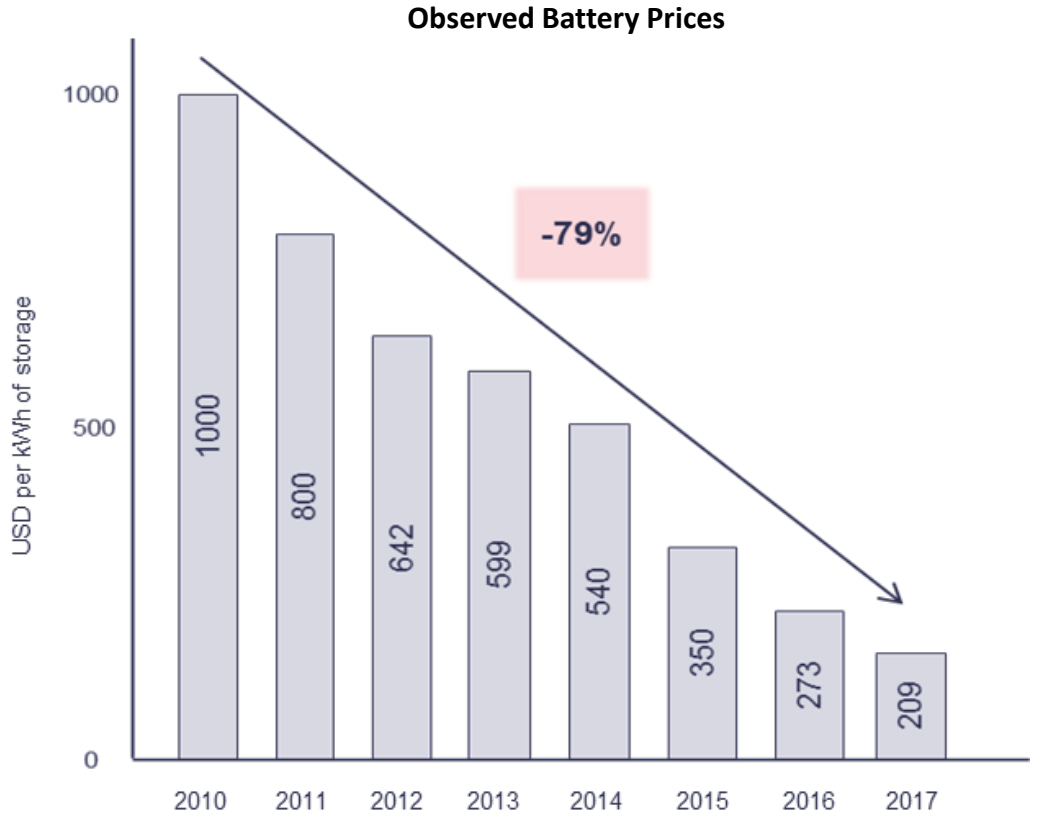
Change in the next decades						At the same time (to meet Paris targets)		
15 years	Infrastructure		↑	2x	Investment of approximately US$ 90 trillion.	1.5°C	↓ ~50%	Decrease GHG emissions from ~50 to ~ 25 Gt CO_2e by 2030
20 years	GDP		↑	2x	Growth of approximately 3% per annum. Led by emerging and developing countries.		or	
40 years	Urban Population		↑	2x	Urban population will double in 40 years, Towns and cities shaped in the next 20.	2°C	↓ ~20%	Decrease GHG emissions from ~50 to ~40 Gt CO_2e by 2030

The next decade is critical. Choices made on infrastructure and capital now will either lock us in to high emissions, or set us on a low-carbon growth path which can be sustainable and inclusive.

The notion “costs of action” is being transformed by rapid technological advances and cost reductions



Source: EIA, 2017



Source: Bloomberg New Energy Finance, 2017

Renewables with storage now competitive in many parts of the world.
Capital costs for renewables continue to fall much faster than those for conventional technologies.

The growth story of the 21st century: strong, sustainable, inclusive

5 - 10 years		Investment in sustainable infrastructure can boost shorter-run demand and growth, sharpen supply, reduce poverty and support sustainable development.
5 - 10 years		Investment in sustainable infrastructure and human capital can foster health and well-being for all.
>10 years		Spur innovation, creativity and growth in the medium term, unleash new waves of innovation and discovery.
>20 years		Low-carbon is the only feasible longer-run growth on offer; high carbon growth self destructs.

How the zero-carbon transition is managed will be central to building the consensus for strong, sustainable action

Life-long learning	Support local skills and investment	Re-locate public sector services	Social protection measures
Offer education and training to support life-long learning	Support new skills and entrepreneurship through finance. Collaboration between local government, universities, business	Locate public services/activities in affected areas to boost local economies (shift government employment hubs)	Boost social protection measures for the most vulnerable members of society (lump sum transfers, welfare support, housing subsidies…)

Carbon pricing revenues should play a key role to support the transition. Potential to utilise a mix of options to promote policy goals and objectives (R&D, budgets of poor households, international climate funds…), including the just transition.

A 'just transition' is about more than managing a zero-carbon transition. There are other large changes in economic structures: shift to services, labour-saving technologies, globalisation… all have to be managed together.
The global financial crisis has made these problems more severe. The zero-carbon transition has real employment opportunities.

Structure

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Sustainable infrastructure is key to growth, development, and climate

Source: Bhattacharya et al. (2016)

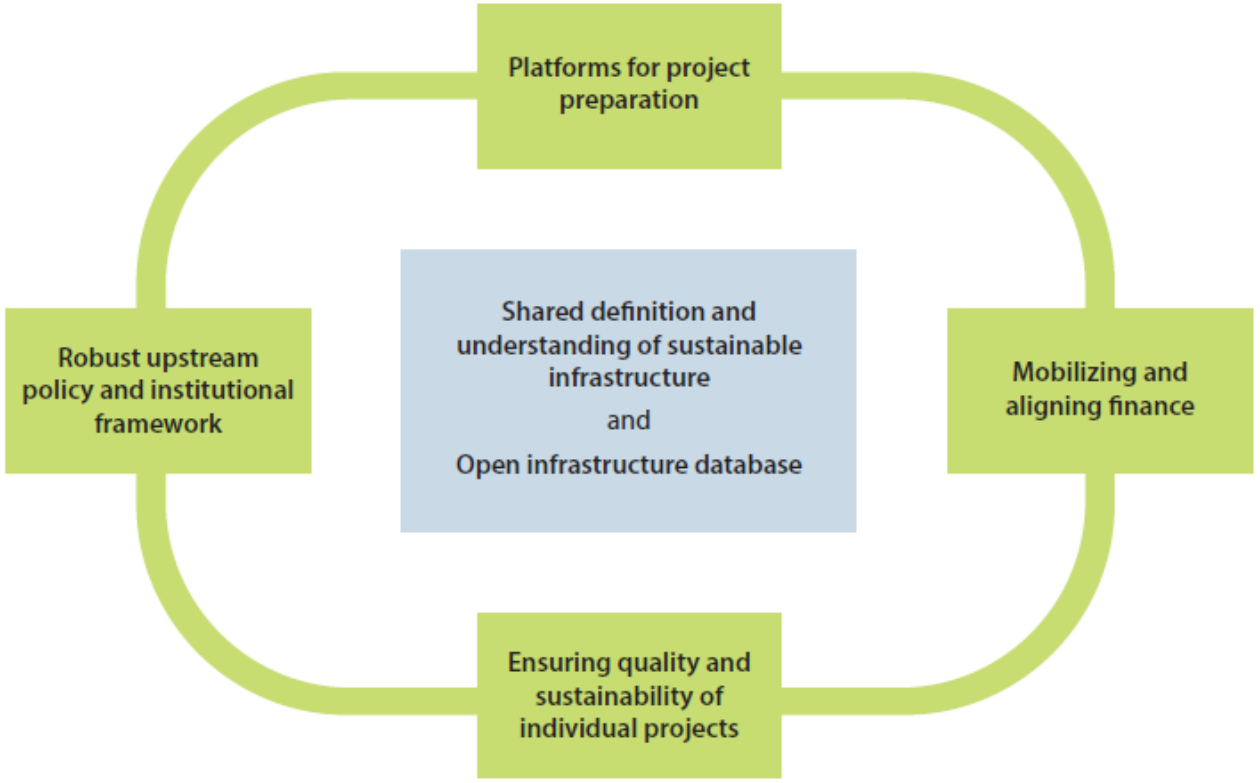
The nature of infrastructure investment and the urgent challenge require an integrated approach to quality and sustainable infrastructure

Complex nature of infrastructure investment

- Long-term and large upfront investments
- Spillovers and externalities
- Complex decision making process and policy-induced risks

Urgent challenge to cut carbon emissions

- Requires transformative changes in key economic systems
- Both new infrastructure and existing infrastructure must be low-carbon and climate-resilient



Source: Bhattacharya et al. (forthcoming)

Changes are needed across key systems

Energy	• Raising revenue by pricing carbon and eliminating fossil fuel subsidies • Saving energy through greater energy productivity • Supporting energy access through distributed renewable energy
Cities	• Well managed densification to revitalise cities • Sustainable and affordable housing for urban poor • Shared, electric, low carbon transport
Food and land use	• Avoiding deforestation and degradation of forests • Scaling up landscape restoration • Implementing climate-smart agricultural approaches • Supporting better food consumption patterns and reducing waste
Water	• Sustainable and equitable water allocation • Target investment in resilient water and sanitation infrastructure
Industry, Innovation and Transport	• Focus on energy efficiency, resource efficiency, and decarbonisation in heavy industry • Reduce emissions from the plastics value chain • Develop low-carbon solutions for heavy-duty transport • Increased support for innovation and deployment

Source: New Climate Economy, 2018

By 2030

Generate over
65 million
additional low-carbon jobs

Make available
US$ 2.8 trillion
from carbon pricing revenues and removing fossil fuel subsidies

Avoid
700,000
premature deaths from air pollution

Seen remarkable progress in technology in last dozen years (renewables, EV, digital management, materials…); momentum is building but rapid acceleration needed.

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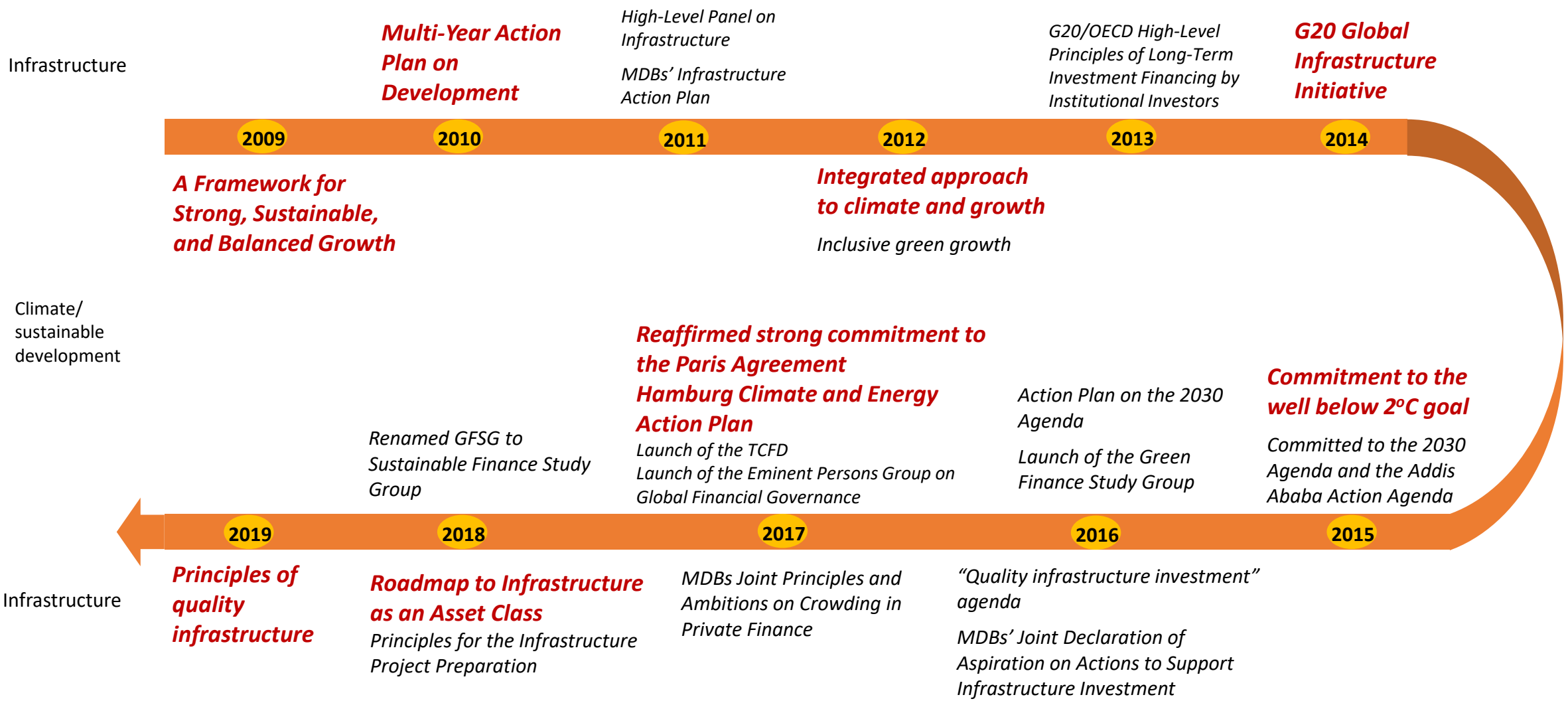
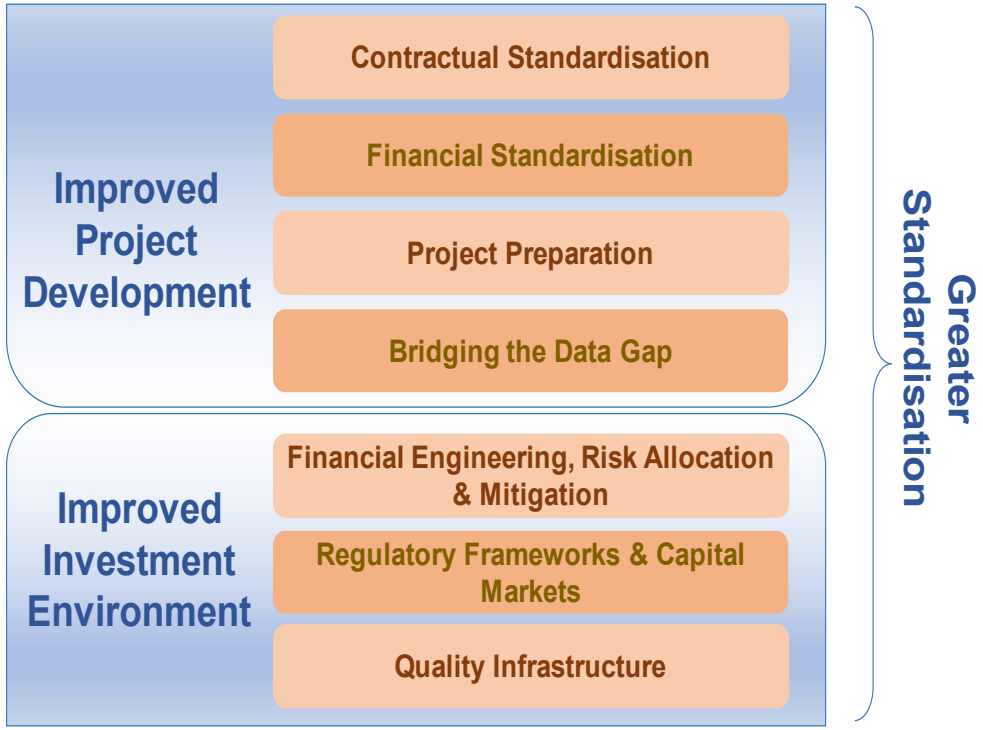
The G20's agenda on climate and infrastructure



The G20 is proposing a set of principles for quality infrastructure investment under the Japan presidency

Roadmap to Infrastructure as an asset class (2018)



Source: G20 (2018)

Proposed Principles for Quality Infrastructure Investment (2019)

- Maximize positive impact of infrastructure to achieve sustainable growth and development while preserving fiscal sustainability
- Raise economic efficiency with the focus on life-cycle cost
- Build resilience given increased vulnerability to natural disasters and other risks
- Integrate environmental considerations over the entire life-cycle
- Emphasize social considerations and ensure open access including for women
- Strengthen governance including enhanced transparency and strong integrity

Sustainable development and climate outcomes need be better linked to the quality infrastructure agenda

The recommendations of the T20 TF 4:
Economic Effect on Infrastructure Investment and its Financing

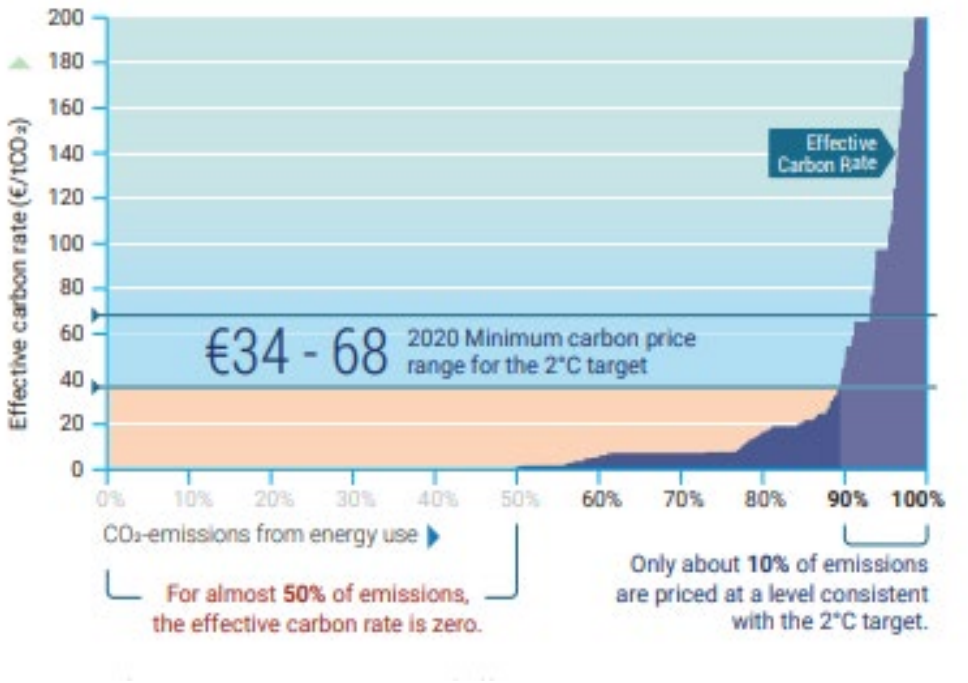
Maximize the Impact of quality infrastructure investment	Boost quality infrastructure development by integrating impactful environmental solutions	Develop strategies for enhancing resilient infrastructure development
• Develop an integrated approach to quality infrastructure (including upstream policy and institutional foundations, high quality standards for projects, project preparation platforms, and financing) • Create viable revenue models by tapping spillover effects • Strengthen collaboration between the MDBs as well as other development partners	• Promote upstream planning for quality infrastructure that fully incorporates social and environmental risks and costs • Establish common financing principles, standards and frameworks that minimize ecological footprints • Promote research, policies, and commitments that advance deforestation-free development models and restoration of landscapes	• Incorporate spatial vulnerability and impact of climate change into infrastructure planning and design • Accelerate policies for low-carbon and climate resilient growth • Develop and share national and urban strategies for promoting resilience

- The G20 principles provide an important opportunity on the quality infrastructure agenda, but special emphasis must be given to climate impact and resilience and natural capital.
- Need to build a broad-based partnership for accelerated learning and implementation of sustainable infrastructure agenda.

Source: T20 Summit Communique (2019)

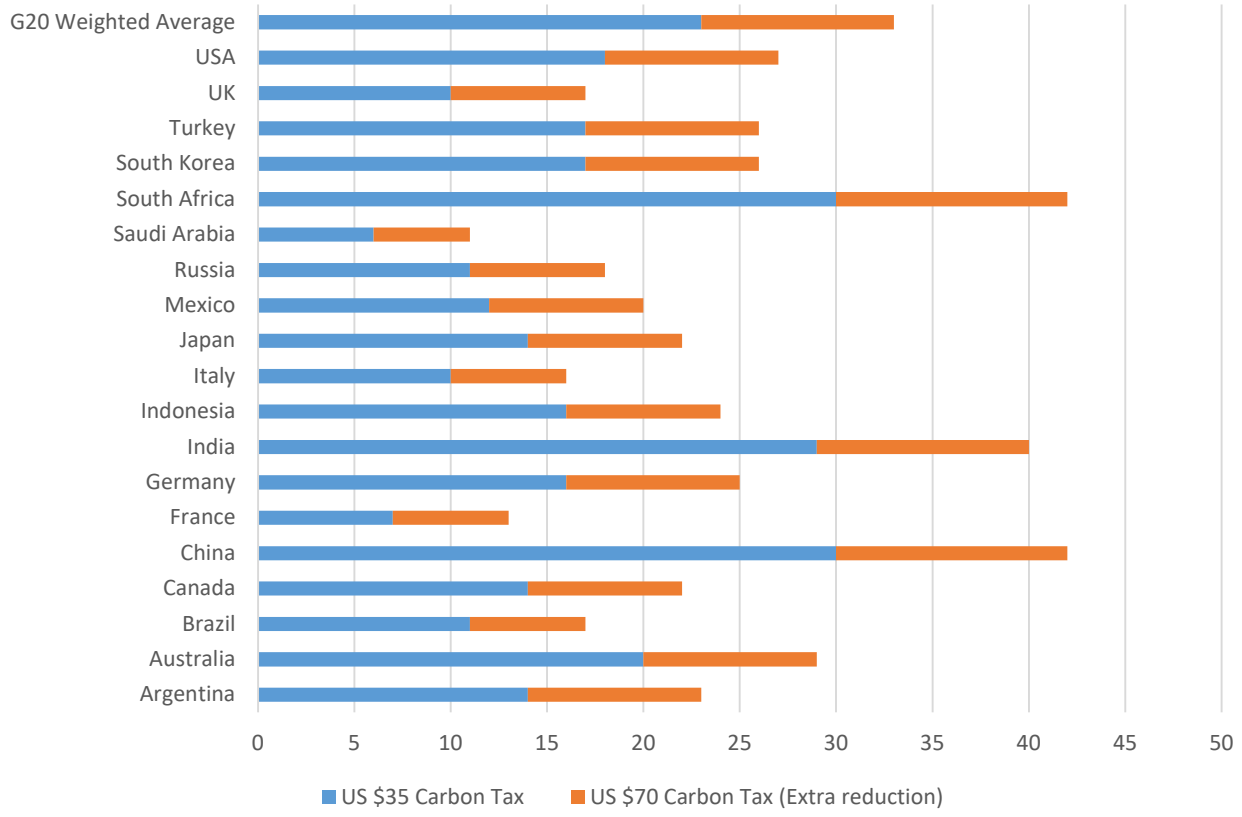
G20 countries need ambitious carbon pricing targets to meet the goals of the Paris Agreement

Effective carbon rates on energy use across 42 OECD and G20 countries and the minimum carbon price range needed in 2020 for the 2°C target.



Source: UNEP (2018)

CO_2 reduction from comprehensive carbon pricing in G20 countries



Source: IMF (2019)

Role of G20 in development finance

Development Finance Flows for Sustainable Infrastructure, 2011-2017

	Total (USD billion)	Annual (USD billion)	Share of EMDs need	Share of Global Need
MDBs	180	25.7	1.2%	0.3%
NDBs	621	88.8	4.2%	1.2%
FDI	282	40.3	1.9%	0.5%
Total	1,083	154.8	7.4%	2.0%

Note: Authors calculations based on IDFC 2014, 2018; World Bank 2018a; FDI Intelligence, 2019

DFIs could potentially mobilize up USD 2.5 trillion per year for sustainable infrastructure if they shift their balance sheets toward sustainable infrastructure, maximize their lending headroom, and leverage private sector finance, and if the MDBs receive adequate capital increases.

Many DFIs lack transparent and accessible tracking of sustainable infrastructure financing. MDBs provide comprehensive data but often lack detailed project information.

Source: Bhattacharya, A., Gallagher, K.P., Muñoz Cabré, M., Jeong, M., & Ma, X. (2019) Aligning G20 Infrastructure Investments with Climate Goals and the 2030 Agenda, Foundations 20 Platform, a report to the G20 Summit 2019.

G20 countries need to accelerate the shift to sustainable finance

Disclosure and Reporting

- Make reporting against the Task Force on Climate-related Financial Disclosure's framework mandatory.
- Pension trustees need to be required to incorporate climate risk criteria into their fiduciary responsibilities.

Regulatory Frameworks

- Mandate central banks and other financial supervisory bodies to incorporate climate risk into prudential and risk assessment frameworks.
- Adjust regulatory regimes (Solvency and Basel) to remove the bias against sustainable infrastructure finance.

From Green to Sustainable Finance

- Encourage financial institutions to operate on sustainable principles and build their sustainable development programs.
- Accelerate the growth of green and sustainable bond markets, and develop taxonomy and standards for sustainable finance

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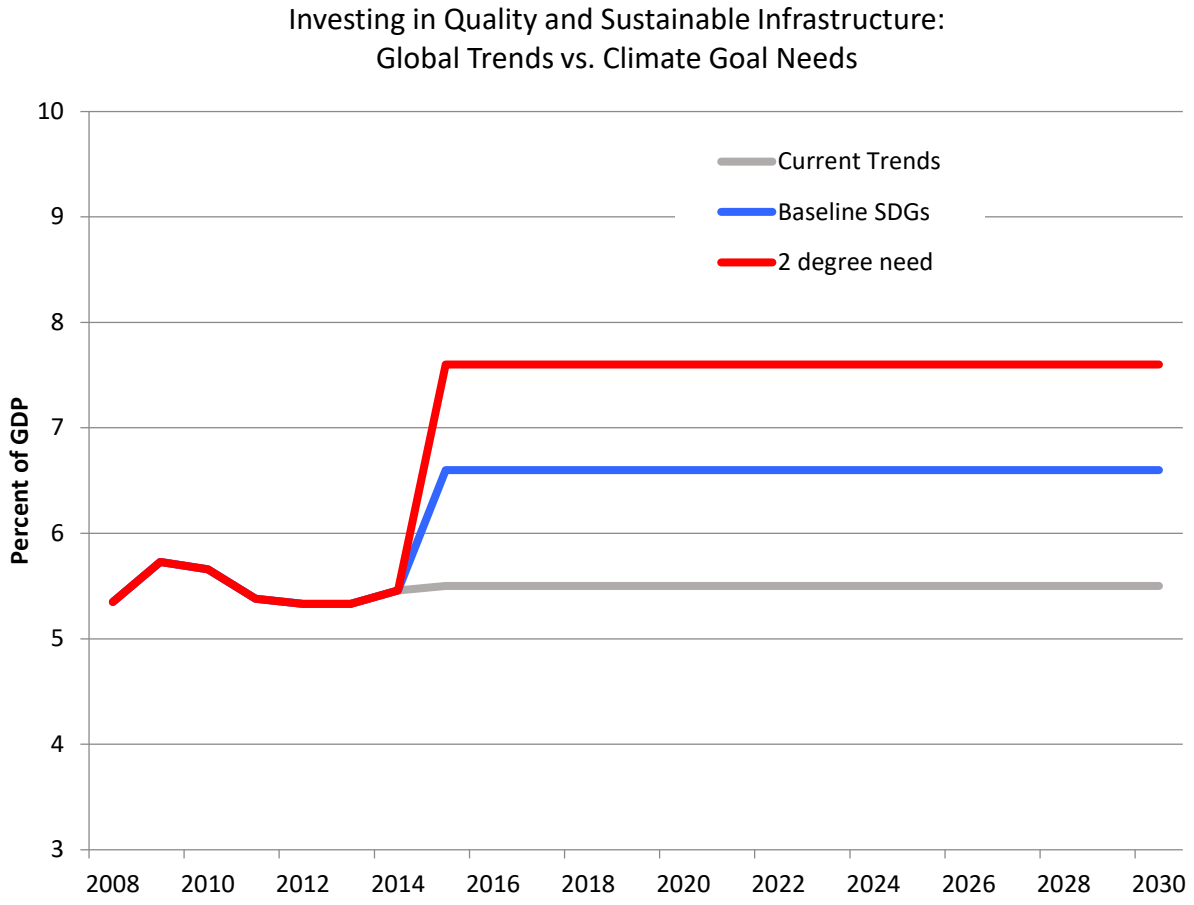
The GDP-Brookings paper found that the global community is not on pace to meet even the upper bound 2°C Paris scenario

- Sustainable infrastructure investments are falling short of investment needs by USD 3.2 trillion per year.
- MDBs are currently providing around USD 50 billion per year in financing for sustainable infrastructure or just 1.5 percent of the prospective needs of EMDCs.
- National development banks and other development finance institutions play a larger role in sustainable infrastructure, at roughly USD 88 billion per year, but are dominated by major players.
- Private capital flows from G20 countries into sustainable infrastructure is also very small, just 0.5 percent of the total global need.



Note: Shaded area represents unknown infrastructure investment needs for reaching 1.5 °C and full SDGs.
Source: authors calculations based on Oxford Economics, 2019; OECD, 2017; McKinsey, 2016; Bhattacharya *et al.*, 2016, and NCE 2014.

Build a strong coalition of G20 countries that are strongly committed to the scale and urgency of action needed

Leadership

- *G20 leadership in support of ambitious outcomes on the delivery of the Paris Agreement and the SDGs (including their own pathways to achieve these goals).*
- *Engage G20 and IFI economic decision makers on climate and SDG action.*

Scaling up investment

- *Unlock investments at scale in quality and sustainable infrastructure.*

Measurement and monitoring

- Measurement, monitoring, and evaluation of investment and finance for sustainable infrastructure for transparency and accountability

Policy

- *Mainstream carbon pricing and eliminate fossil fuel subsidies.*
- *Phase out coal and set timelines for general phase out of all fossil fuels.*

Finance

- *Mobilize financing at scale to deliver on the SDGs and the 1.5 °C target.*
- *Revamp development finance institutions.*
- *Align finance with sustainability and 1.5 °C target.*