

Climate finance

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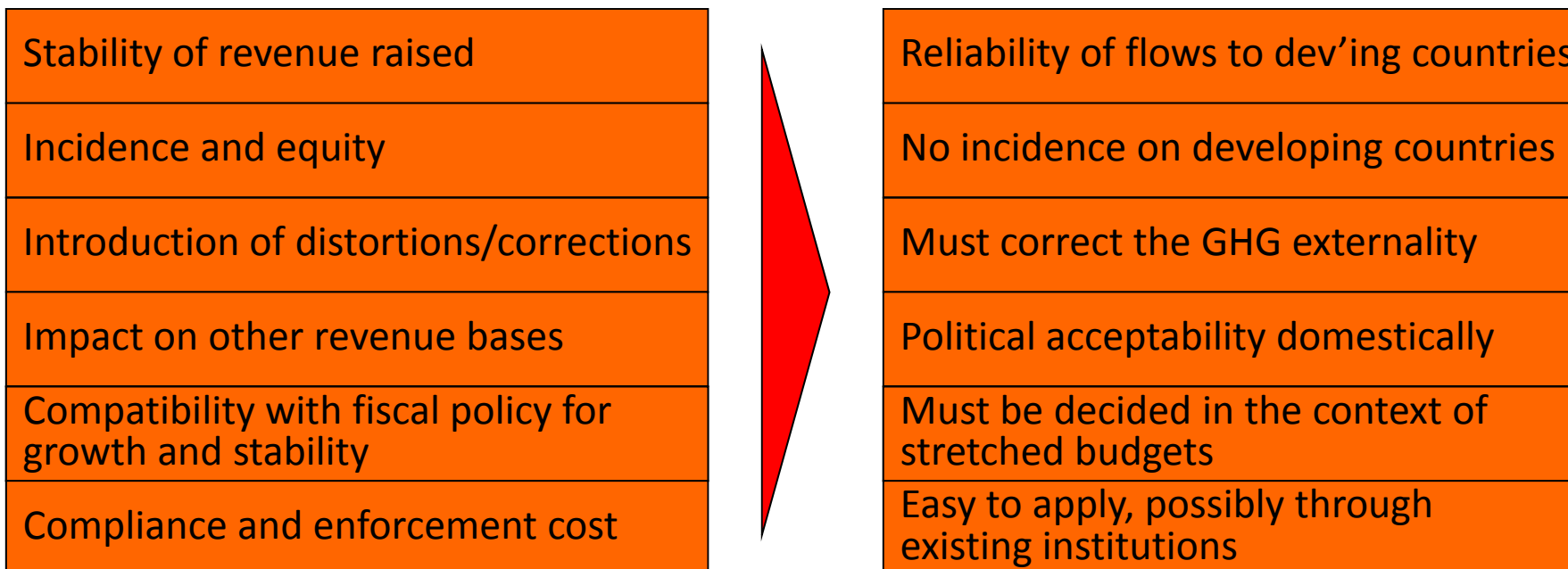
- Section 1: Scale of the challenge and guiding principles
- Section 2: A simple storyline for climate finance
- Section 3: Matching sources and uses: an example from Ethiopia
- Section 4: Conclusions

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Scale of the challenge: to meet climate finance needs in developing countries ODA needs to double

- \$150-400b p.a. for total capital investment requirement by 2020 in developing countries (both adaptation and mitigation)
- \$100-200b p.a. for incremental cost
- As a comparison, total ODA in 2009 was approximately \$120b

Guiding principles are derived from the theory of public finance, but their application is shaped by climate politics



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The potential for raising climate finance in developed countries is large

Carbon pricing

GHG emissions in dev.ed countries by 2020 =
15-20bn CO2e

X

Potential explicit/
implicit price for carbon
\$20 tonne/CO2e

=

\$300-400b p.a.

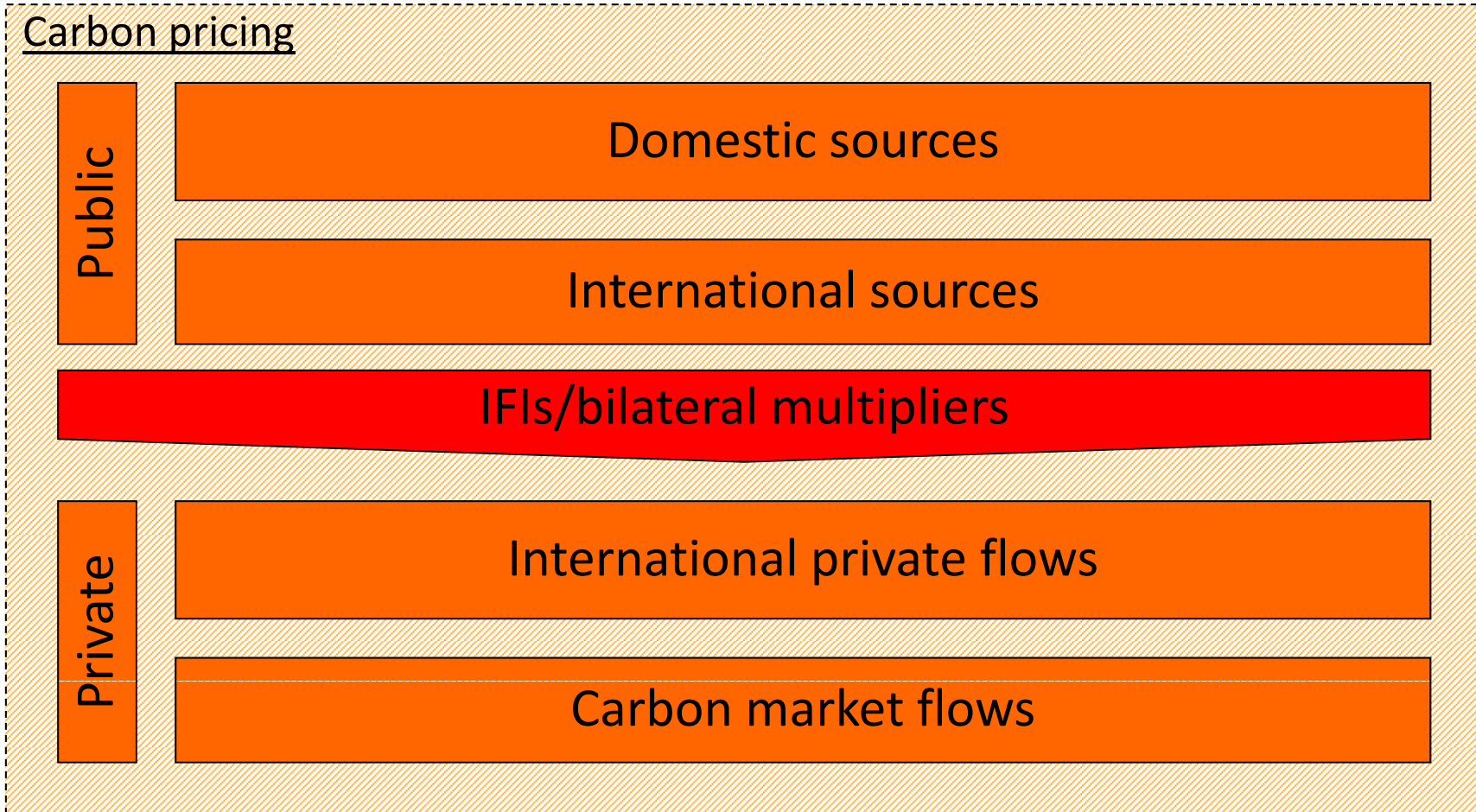
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Earmarking for inter-
national climate action=
10-20% of total rev

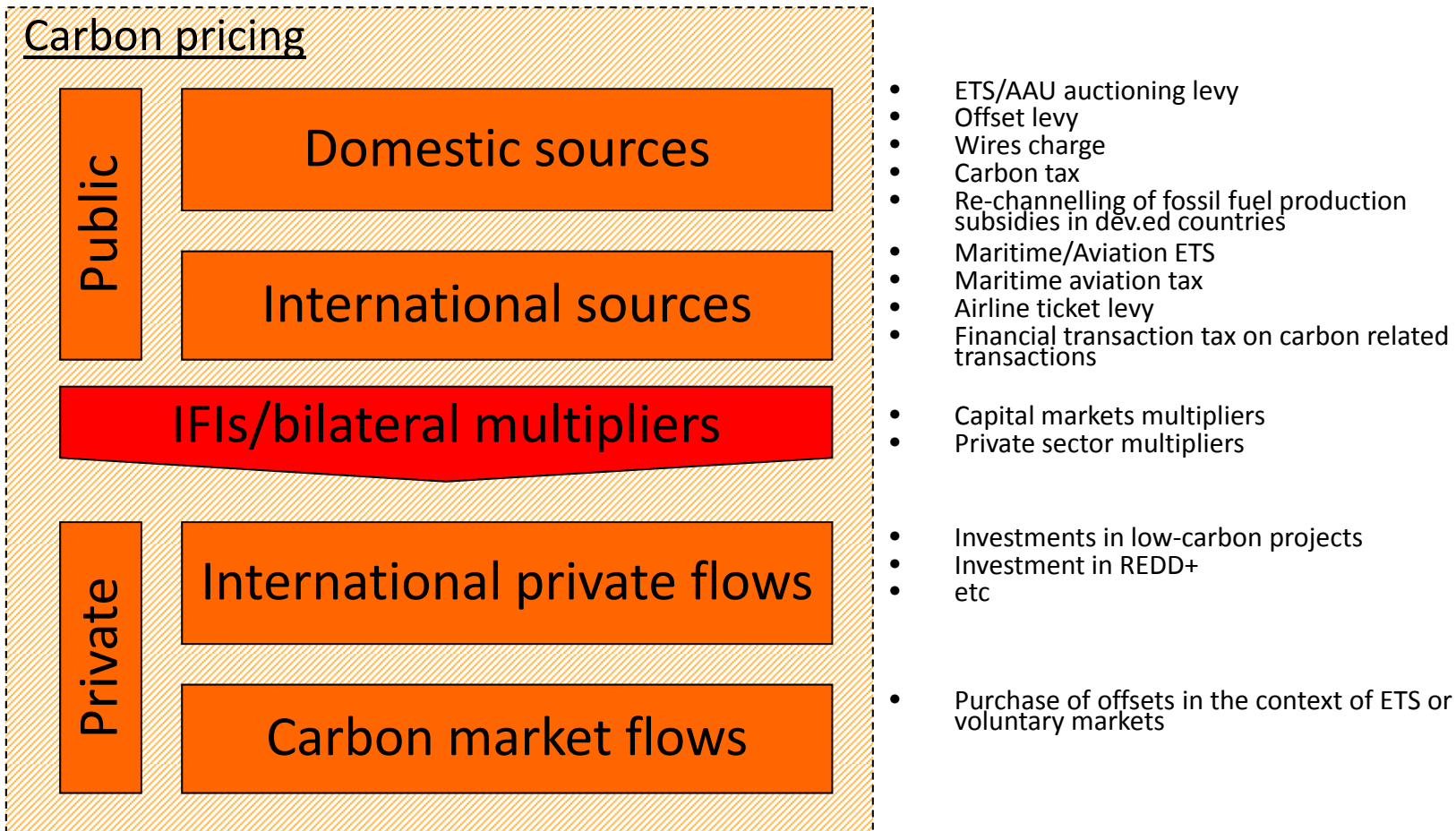
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\$30-80b p.a.

Carbon pricing is the cornerstone of the climate finance system



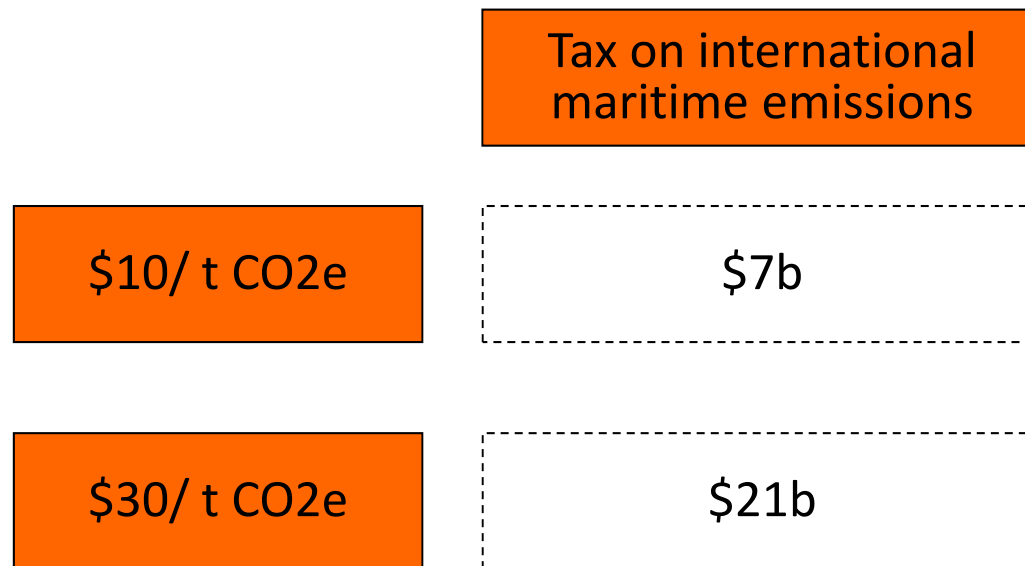
Carbon pricing is the cornerstone of the climate finance system



Domestic sources of finance are very sensitive to carbon pricing

	ETS/AAU auction levy 10%	Offset levy 10%
\$10/ t CO ₂ e	\$5b	\$0.5b
\$30/ t CO ₂ e	\$45b	\$6b

International sources of finance are also very sensitive to carbon pricing

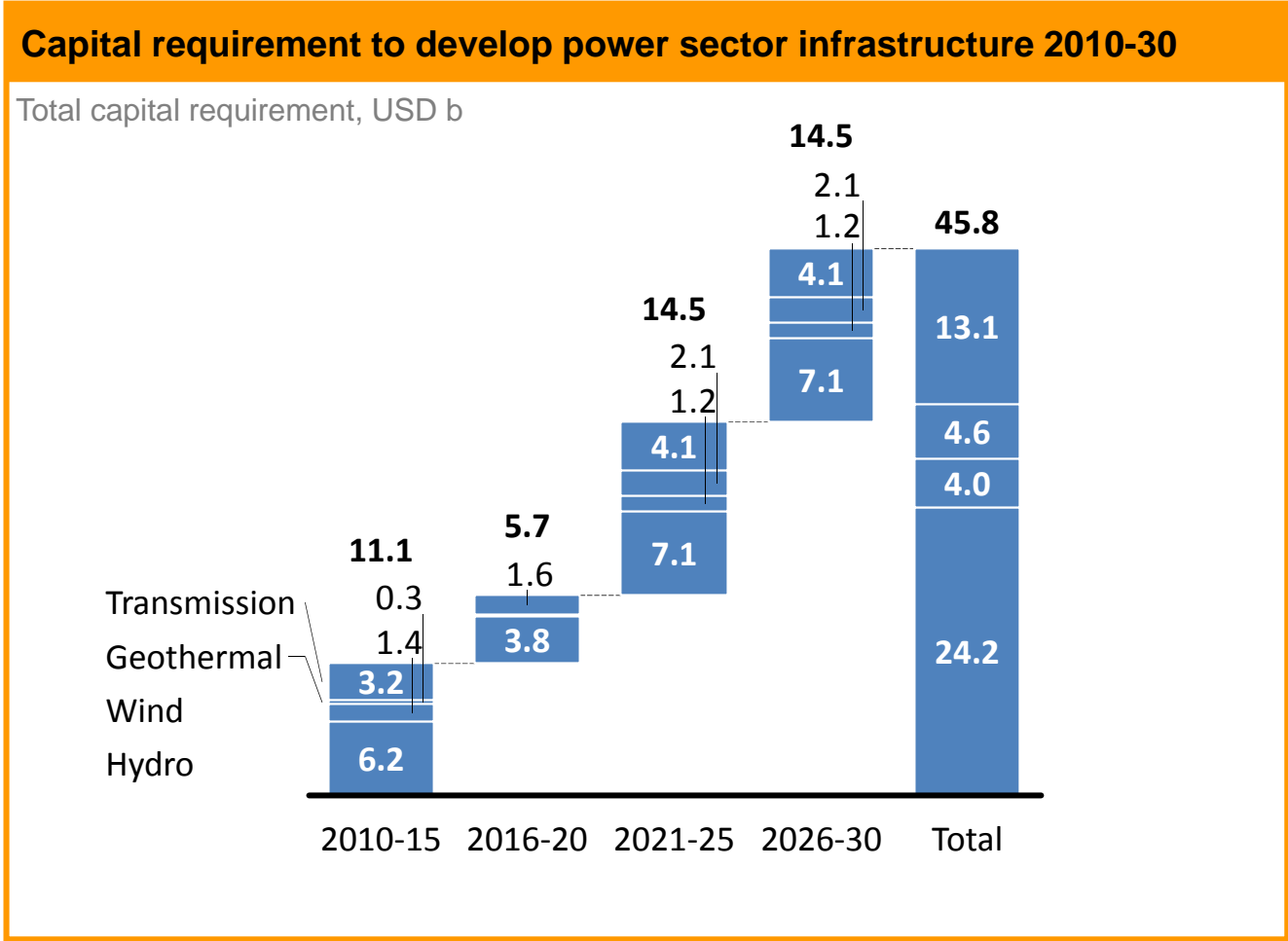


Avoiding inefficiency in the system

- Avoid double taxation of the same base (ex: raising revenues through EU-ETS auctioning levy and a wires-tax on power)
- Ensure homogeneous taxation across the economy (if domestic emissions are taxed in an economy, so should international emissions between such economies)
- Avoid trade distortions (e.g. avoid different implicit carbon prices for the same good produced in different locations)
- Avoid complex tax collection/tax enforcement cost

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Ethiopia will require almost \$50b in investment in the power sector over the next 20 years



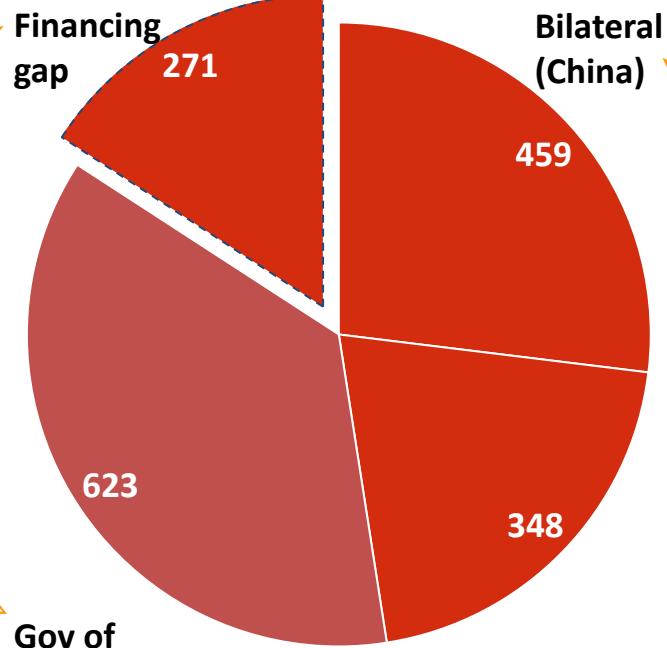
Current financing based on traditional infrast. investment is incompatible with aspirations

Gilgel Gibe III financing structure

USD m, total = 1,700

Local currency Foreign currency

Government of Ethiopia expected to fill foreign currency financing gap of \$271m through foreign reserves (estimated)



Industrial and Commercial Bank of China (ICBC) providing \$459m loan
Chinese Dongfang Electric Corporation (DEC) will carry out the hydro-mechanical and electro mechanical part of the project
Loan term estimated to be 2-3% interest rate with 10-12 year payback period

GoE is the main source of finance to the project through EEPCo as equity
GoE will finance the local currency portion of the project's cost, which is equivalent to €448m (\$623m)

Italian government providing €250m (\$348m) loan to fund construction by Italian firm Salini Costruttori
Loan term estimated to be 2-3% interest rate with 10-12 year payback period

No funding from multilateral development banks, commercial lenders or private investors has been secured

Conclusions

- There are enough resources to support developing countries for their climate related needs
- Internalizing the externality through pricing carbon is the cornerstone of climate finance system and will determine the scale of resources available
- Principles of public finance should guide the application of taxes/levies to avoid inefficiencies
- Narrative, economics and project finance of infrastructural investment in developing countries will need to change in order to benefit from new financing opportunities