Renewable Energy in Developing Countries: Moving from GET FiT to GET FiT Plus

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http://www.dbcca.com/research

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Private sector equity return expectations

- Will vary with country risk premium
- Social Investors 5-10% required returns
- Corporate and Institutional investors look for 8% - 10% returns plus country risk premium. This can lead to a range of 15-25% in the developing world.
- This is in hard currency (US$, Euro)

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What do investors want from policy?

Investors essentially look for 3 key drivers in policy:

Transparency
Longevity
Certainty and Consistency

In assessing the potential success of policies, these factors should be taken into account.

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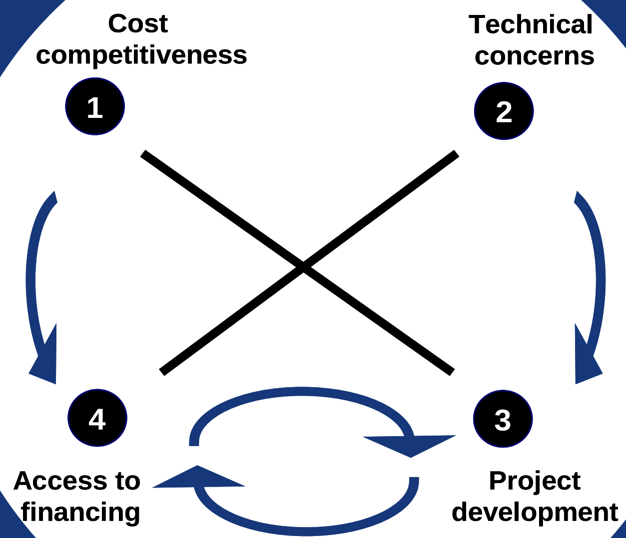
Obstacles to capital deployment require strategies to overcome renewable energy barriers

- Direct financial incentives, such as FiTs, grants and guarantees, to level the playing field with conventional generation providing IPPs with sufficient returns

- Proving techno-economic feasibility through pilots
  - Technical assistance for local market players and for local government to analyze renewable potential
    - Incentives for utilities to provide high quality grid data as a basis for renewable energy project development



- Stable and transparent policies that provide financiers with Transparency, Longevity, and Certainty, such as FiTs
- Risk mitigating instruments: guarantees to mitigate counterparty risks, political risk guarantees and currency hedging instruments
- Capacity building for local banks

- Grant funding/financial support for feasibility studies
- “Streamlined” process for projects approvals by government agencies and utilities

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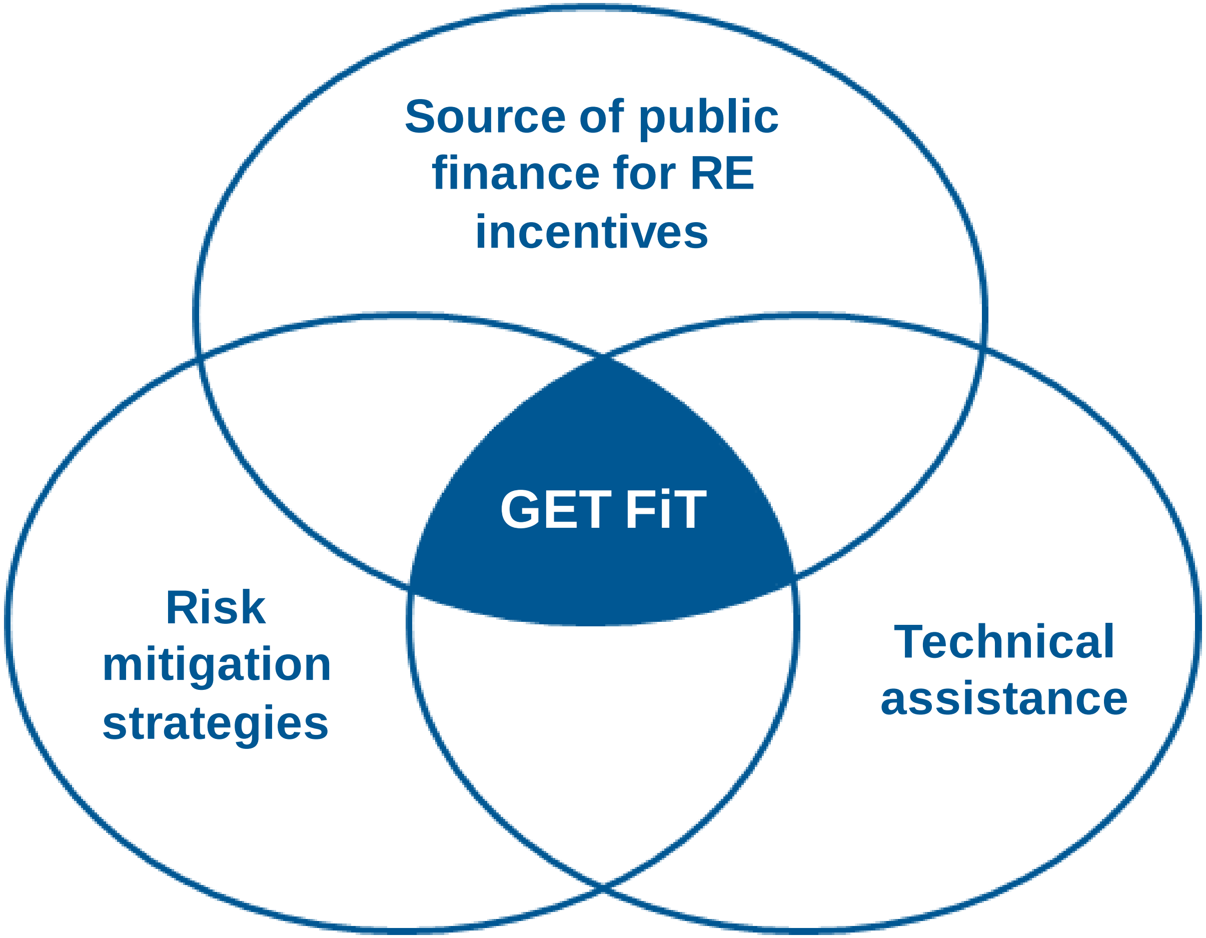
Three pillars of the GET FiT program



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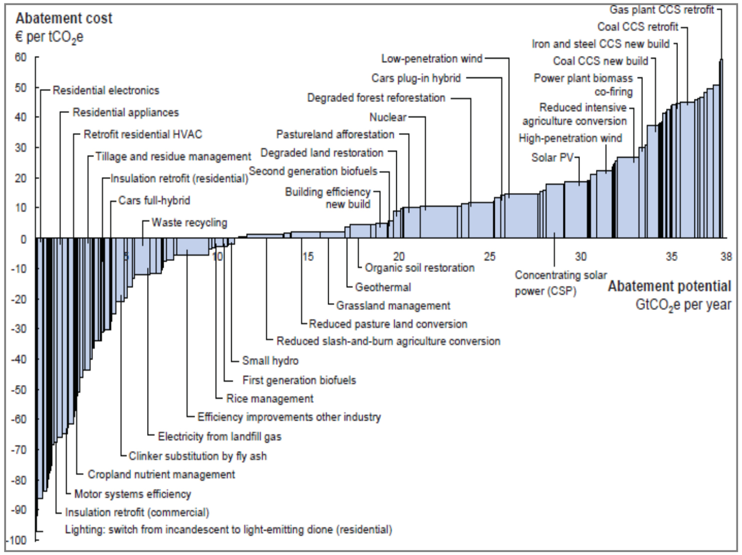
Technical assistance to create a market-enabled environment

UNDP proposes a four-step approach, tailored to the national context:

I. DEFINE PRIORITY RENEWABLE ACTIVITIES



II. IDENTIFY BARRIERS

- Financial barriers
- Institutional barriers
- Social barriers
- Technical barriers
- Etc.

III. SELECT APPROPRIATE MIX AND SEQUENCE OF SUPPORT POLICIES

- Capacity development and information based instruments
- Regulations
- Tax-based mechanisms
- Early market-based development mechanisms
- Debt and equity –based mechanisms
- Market-based mechanisms

IV. SELECT FUNDING OPTIONS

	INTERNATIONAL	NATIONAL & SUB-NATIONAL
Public Funds		
Private Funds		
Innovative / hybrid sources of finance		

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Project types addressed under GET FiT

Targeted GET FiT Support	GET FiT Solution
Advanced Feed-in Tariffs	Provide supporting payments for above-market premiums for renewably produced energy through advanced feed-in tariff designs that target on-grid, commercialized, renewable resources.
Lighthouse Power Purchase Agreements (PPAs)	Use power purchase agreements as a pre-FiT regulatory mechanism in countries that face grid integration constraints, or for technologies that have a limited in-country track record.
Mini-grids for Off-grid Applications	Adapt FiT design principles to create performance-based incentives for decentralized multi-user energy generation, especially mini-grids, in rural areas with limited grid infrastructure.

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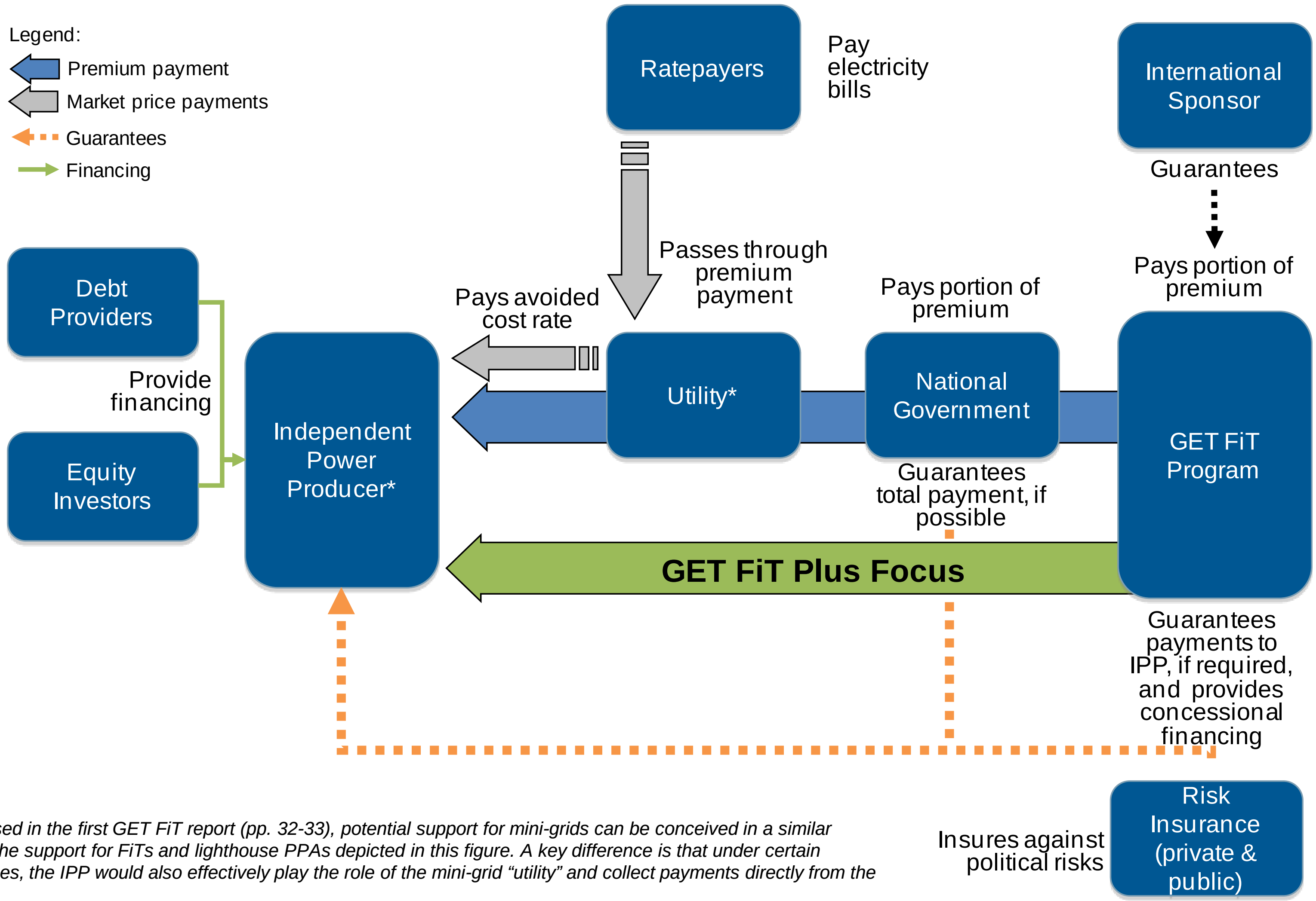
Updated GET FiT incentive structure



** As discussed in the first GET FiT report (pp. 32-33), potential support for mini-grids can be conceived in a similar manner as the support for FiTs and lighthouse PPAs depicted in this figure. A key difference is that under certain circumstances, the IPP would also effectively play the role of the mini-grid "utility" and collect payments directly from the ratepayer*

Financing stream added

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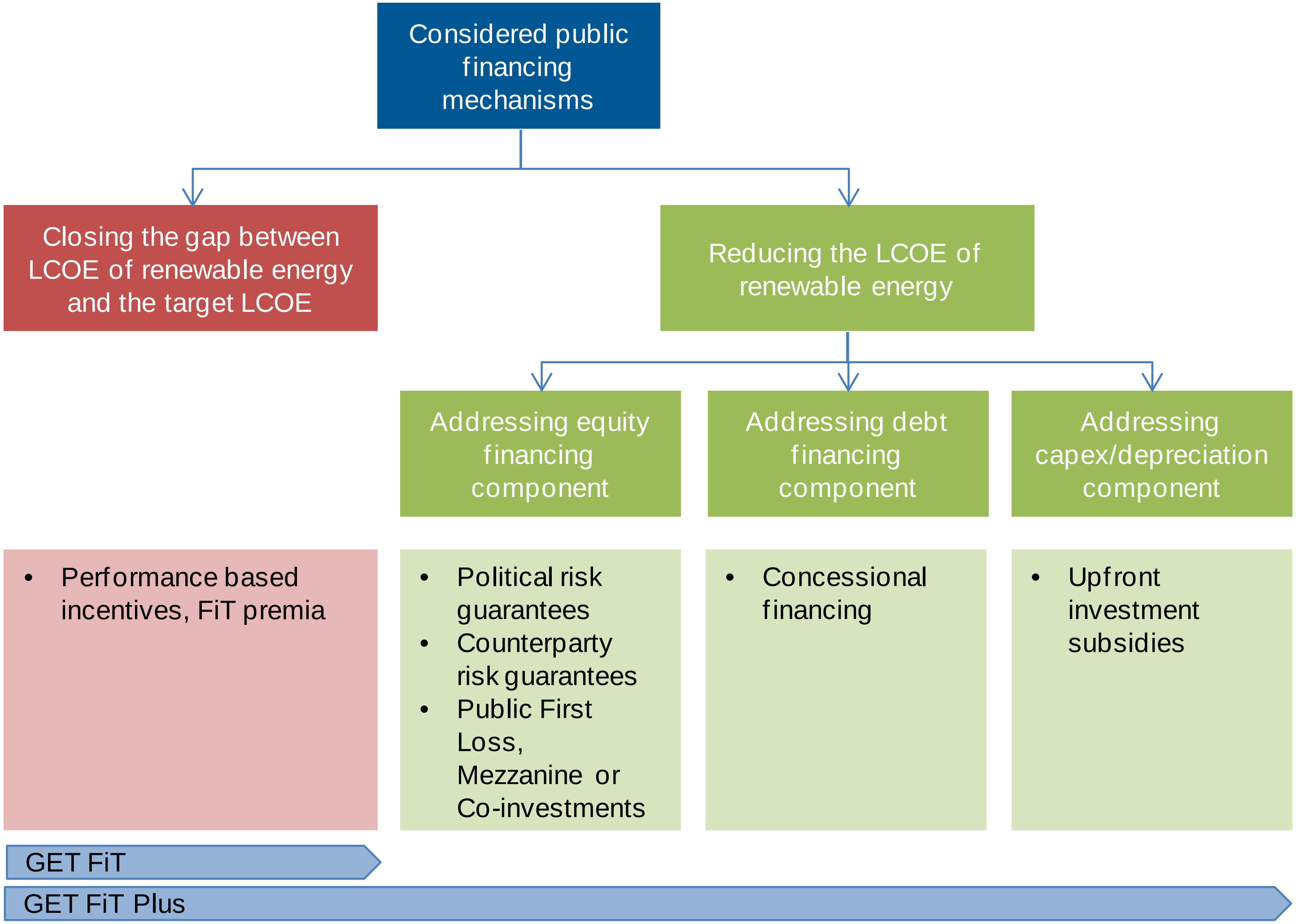
GET FiT Plus considers more public finance mechanisms



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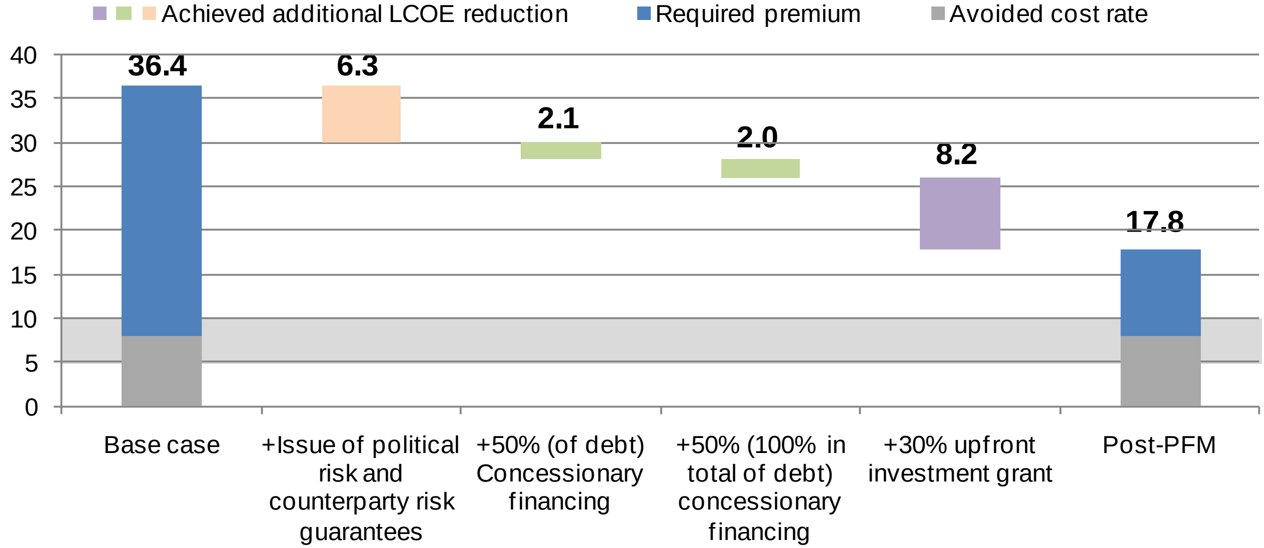
Potential public sector hybrid scenarios: PV test case

LCOE development



Required financing for 1 GW of PV capacity

Political risk guarantee volume (1)		USD1.2 bn	USD1.2 bn	USD1.2 bn	USD0.8 bn
Concessionary financing volume			USD1.4 bn	USD2.7 bn	USD1.8 bn
Upfront investment grant (3)					USD1.3 bn
Premium to be funded above avoided cost rate (2)					
Upper end	USD 5.5 bn	USD 4.2 bn	USD 3.7 bn	USD 3.3 bn	ZSD 1.6 bn
Lower end	USD 6.3 bn	USD 5.0 bn	USD 4.5 bn	USD 4.1 bn	USD 2.4 bn

(1) Counterparty risk guarantee volume not shown as maximum exposure not meaningful
(2) LCOE target range of 6 -10 USDc/kWh, NPV of required FiT premium payments discounted at 6%
(3) Debt/equity split kept stable at 70/30 in upfront investment grant scenario

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Advantages and constraints of public funds for renewable energy

Source	Advantages	Feasibility and constraints
Multilateral funds	• Offers substantial leverage • Builds on significant MDB experience	• Requires allocation of additional funding from national budgets, increased headroom at MDBs, or reallocation of existing funds • Administrative rules may need amendments to allow funds to flow • Tenor may be limited • Concentration risk will limit exposure to any one country
Bilateral funds and government support schemes	• Allows rapid implementation within a simplified political structure • Builds on existing institutional experience and capacity	• Requires allocation of additional funding from national budgets • Administrative rules may need to evolve to allow funds to flow • Tenor may be limited due to budget forecasting horizon • Concentration risk will limit exposure to any one country or technology (especially frontier markets and emerging technologies)
In-country fiscal support	• Builds buy-in from the host country • Allows for relatively rapid implementation	• Political acceptability will vary by geography • Tenor may be limited due to budget forecasting horizon • Administrative rules may need to evolve to allow funds to flow
Public-private funds	• Can offer substantial leverage • Can combine the capacity of the MDBs with commercial discipline from private sector • Builds on experience	• Requires increased public-private partnership and trust • Concentration risk may limit exposure to any one country
Green bonds	• Promotes access to capital markets, facilitating debt finance	• Cannot fund grant-based components • Requires guarantees/credit upgrades from AAA-rated entity
CDM reform	• Links financing to carbon pricing	• Will make up a small component of the overall project finance requirement • Current uncertainty over future regime limits effectiveness of funding source

*Uses will include: grants for FiT premia; project finance grant; concessional financing; risk guarantees; public co-investment; technical assistance

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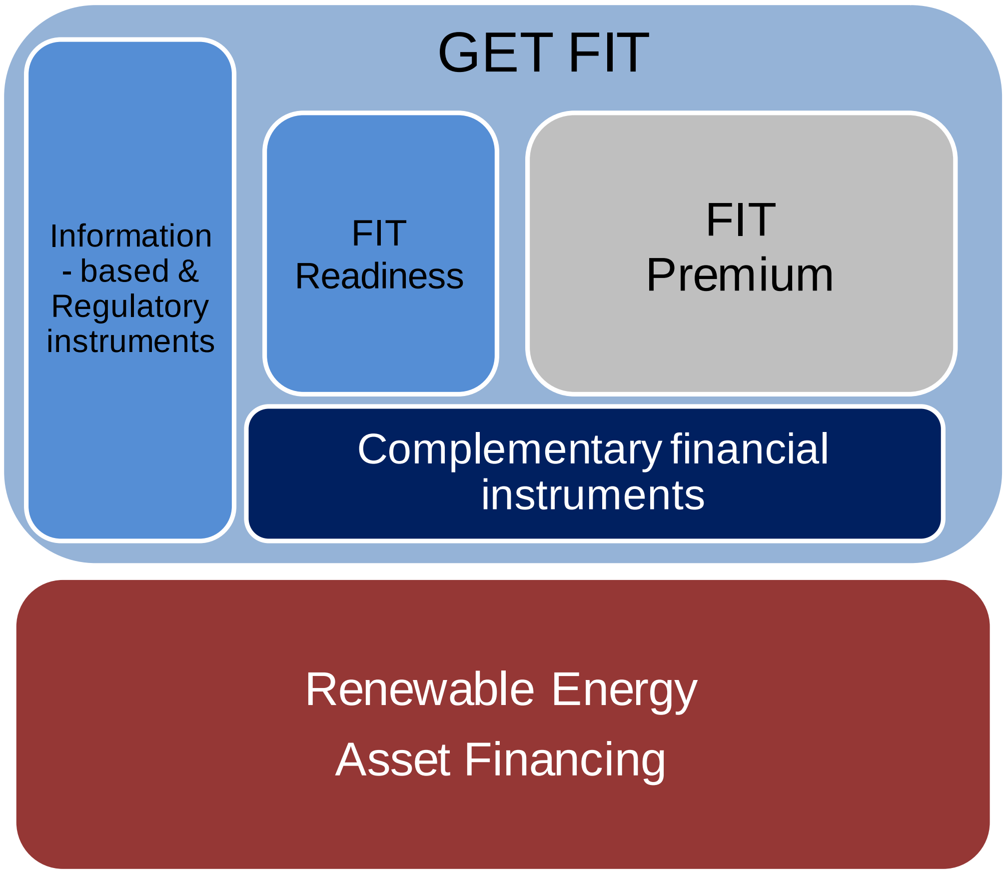
Creating a Public Private Partnership to implement GET FiT



KEY: Funding Sources

- Capital markets (International & Domestic)
- Concessional & development finance
- Public funding sources
- For discussion; likely to be various innovative funding sources

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World Climate Summit: Opportunity for dialogue and idea exchange

Evaluate options and next steps for the GET FiT concept through:

- **Workshop** co-hosted by DBCCA and UNEP Finance Initiative to at World Climate Summit entitled "GET FiT: De-risking Clean Energy Business Models in a Developing Country Context"
- **Release of work in progress document** prior to workshop to spur dialogue
- **Integration of feedback** from workshop and completion of first review round of working document, to which we welcome your review

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UNEP Finance Initiative
Innovative financing for sustainability

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