



INTERNATIONAL RESEARCH NETWORK FOR LOW CARBON SOCIETIES 9TH MEETING 12-13 Sept 2017

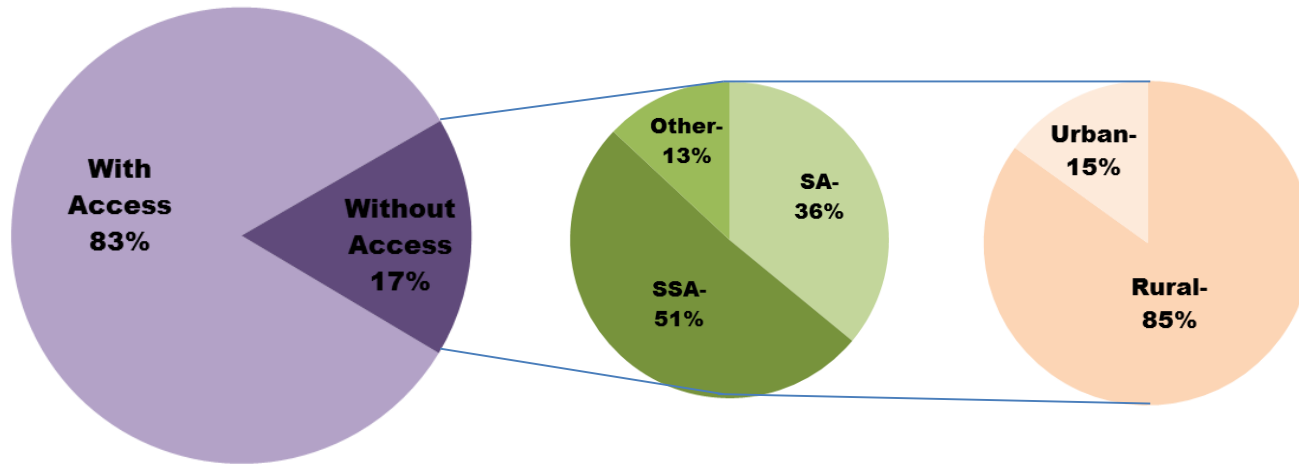
Low-Carbon Energy and Climate Research
from DFID

Dr William Blyth,
Senior Research Fellow (Energy)
DFID Research and Evidence Division




Introduction to Department for International Development

The Department for International Development (DFID) leads the UK's work to end extreme poverty. We are tackling the global challenges of our time including poverty and disease, mass migration, insecurity and conflict. Our work is building a safer, healthier, more prosperous world for people in developing countries and in the UK too.

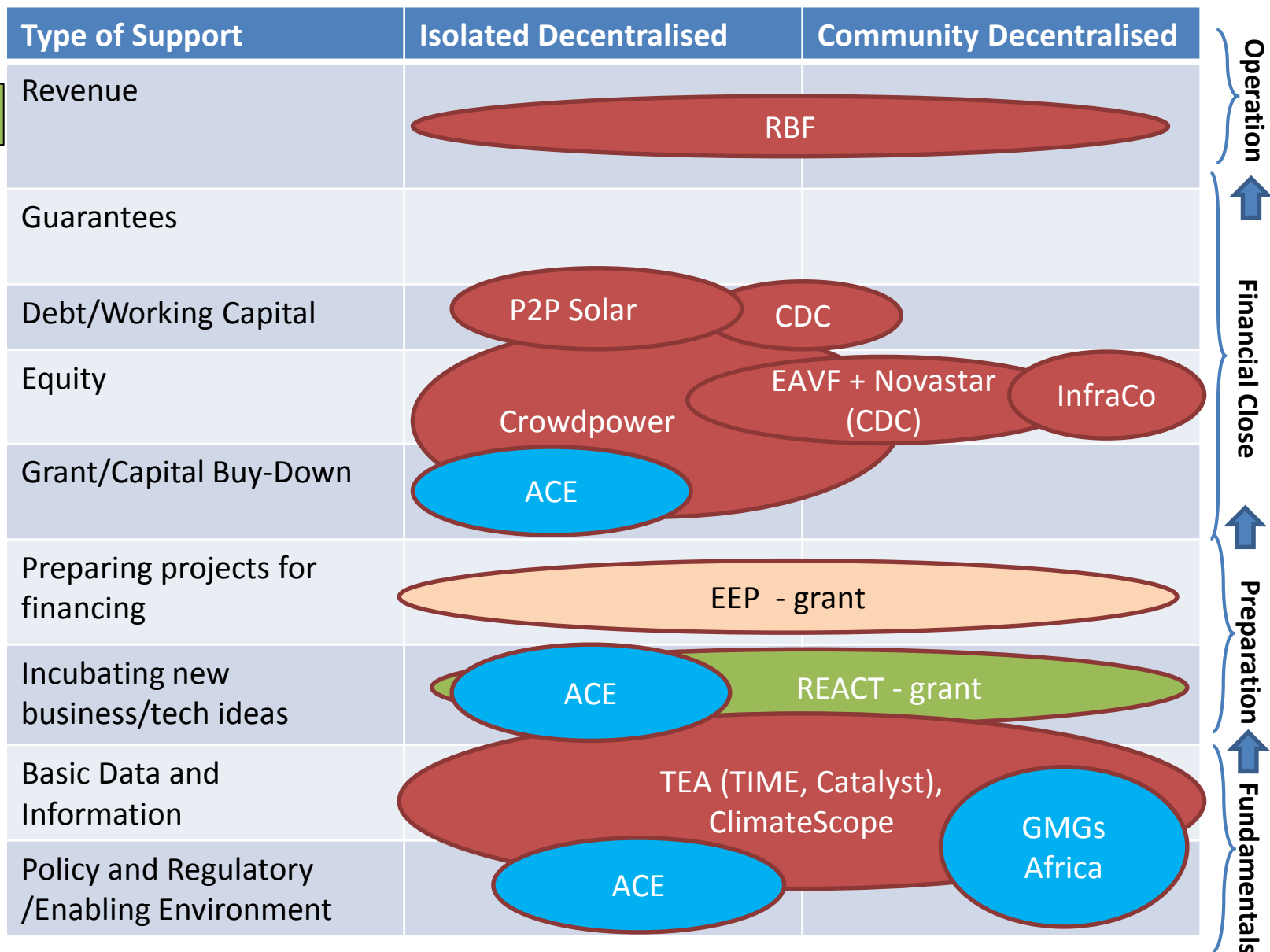


- **Over 1 bn people lack access to electricity, 2.7 billion have no access to clean cooking**
- **Reliable energy access is a primary constraint to growth for many African businesses and economies**
- **Grid-based systems face economic and governance barriers**
- **Increasing opportunities for decentralised and smart systems**
- **But barriers remain to achieving Global Goal 7- *affordable, reliable, sustainable and modern energy for all.***

Working with International Institutions

	UK co-fund	Clean Cooking	Household Solar	Green Mini-Grids	Grid RE Power	Grid Non-RE Power	Energy Efficiency
	No UK support						
MDBs	WB ACCES	Lighting Africa			Majority of MDB lending – WB, AfDB		
		ElectriFI					
	ESMAP						
Internat. Orgs/ Funds	SE4All						
		IRENA					
	EnDev				AREF		
	Global LPG	ECREEE					
	Energy Access Ventures Fund			EAIF, Globaleq/CDC			
Bilaterals		Power Africa				E4A	
		 ENERGY AFRICA	GMGs Africa	Majority of bilat. Support – Nor, De, Swe, NL, Fr, US			
Business Groups/ Fndations		GOGLA			World Energy Council		
		ARE			World Economic Forum		
	GSMA, Shell Foundation						
NGOs/ CSOs	GACC	Power for All					REEEP
		Solaraid					
	GVEP, Practical Action, SNV, EA Pract. Net.						

Types of support: off-grid



East Africa

Southern & East Africa

All SSA

Global

Types of support: on-grid

Africa

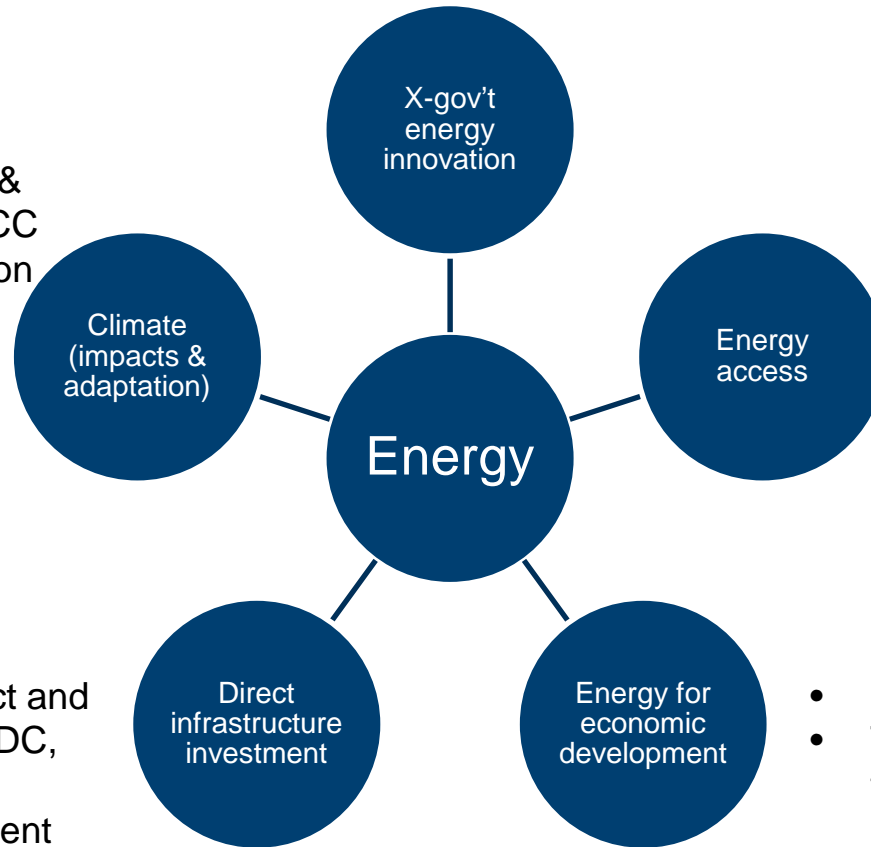
Global

Type of Support	On-grid	
Revenue		Operation
Guarantees	GuarantCo	
Debt	CDC, EAIF	Financial Close
Mezzanine/Quasi-Equity	GAP – w/ BEIS	
Equity	CDC, CP3, InfraCo (Africa/Asia)	Preparation
Preparing projects for financing	EA Geothermal (GRMF), TAF, DEVCO (e.g Scaling-Solar)	
Incubating new business/tech ideas		Fundamentals
Basic Data and Information	CIG, ESMAP, ClimateScope - TA	
Policy and Regulatory Environment	EA Geothermal TA, EEG	

What types of impact are we targeting?

- Energy Innovation board
- Mission Innovation

- Research, modelling & capacity building on CC impacts and adaptation



- Research
- Core support to international initiatives (CIF, SE4All, WB etc.)
- Country-specific policy & TA support
- Supporting innovation (technologies & business models)

- Investment, direct and via funds (e.g. CDC, PIDG)
- Debt, equity, patient capital

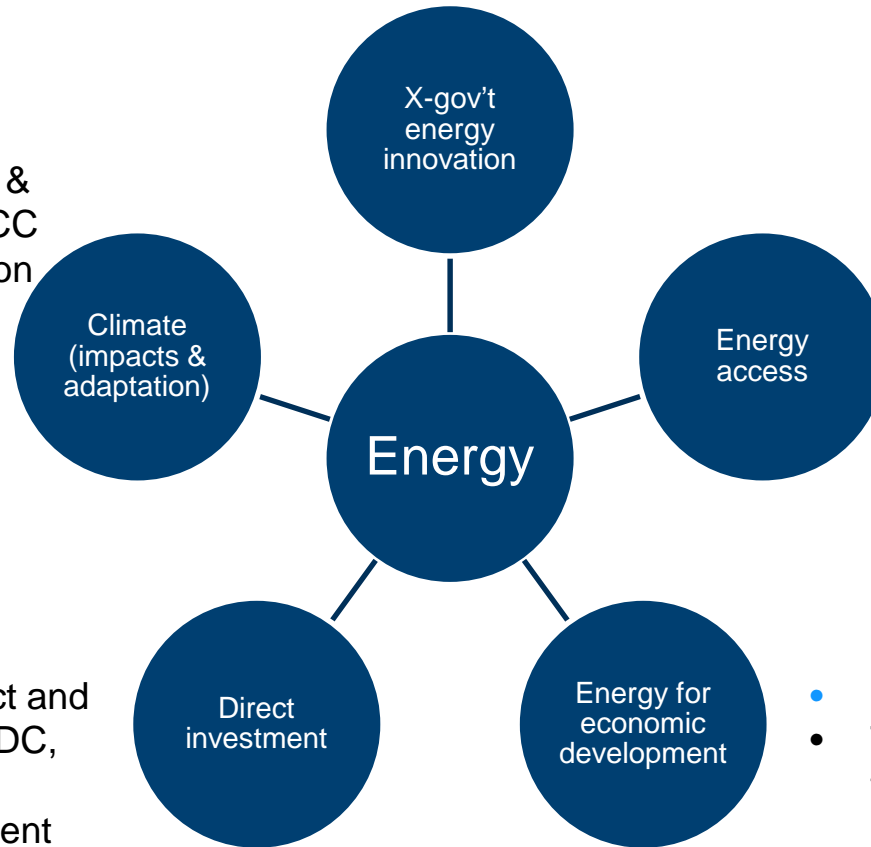
- Research
- Technical assistance facilities direct to countries

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Research and Evidence Division

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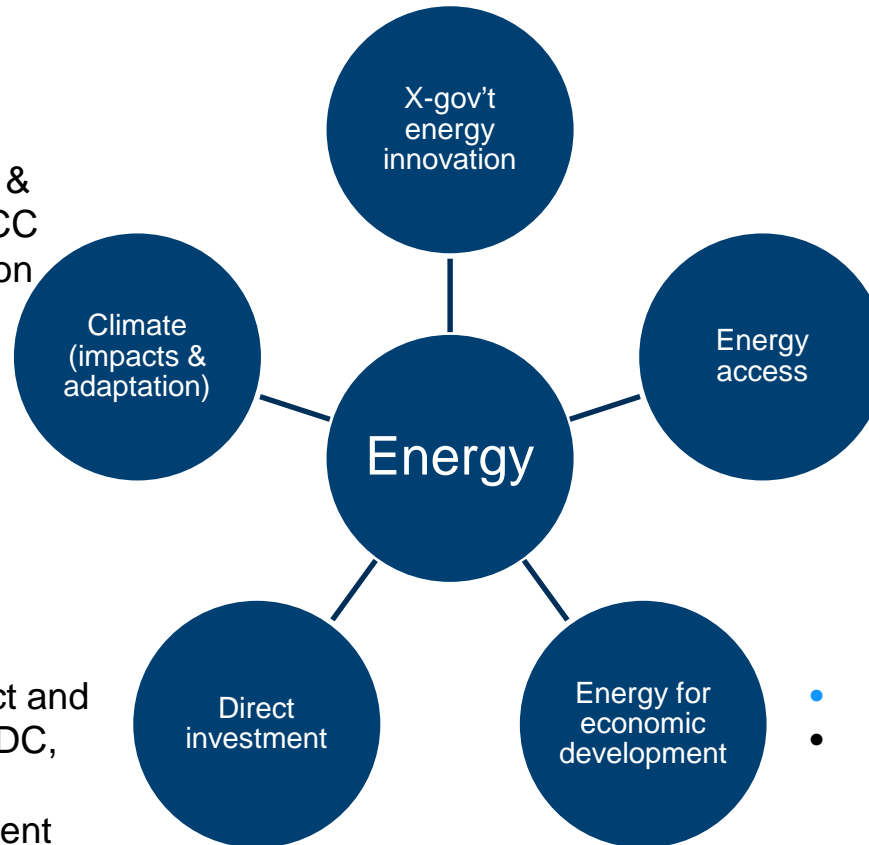
- **Research and Evidence Division** is responsible for making DFID more systematic in using evidence, innovation and learning.
- **A strong evidence base** and well conducted evaluation is essential for the provision of more effective development and humanitarian assistance for the poorest people. It helps us get best value for money, learn lessons for the future and demonstrate impact.
- **It does this through:** i) commissioning research on key questions in development ii) active engagement with policy makers iii) Robust evaluation of DFID's programmes iv) providing evidence products and high quality statistics v) strengthening DFID's professional cadres.

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Energy Innovation Board: Single Integrated Plan

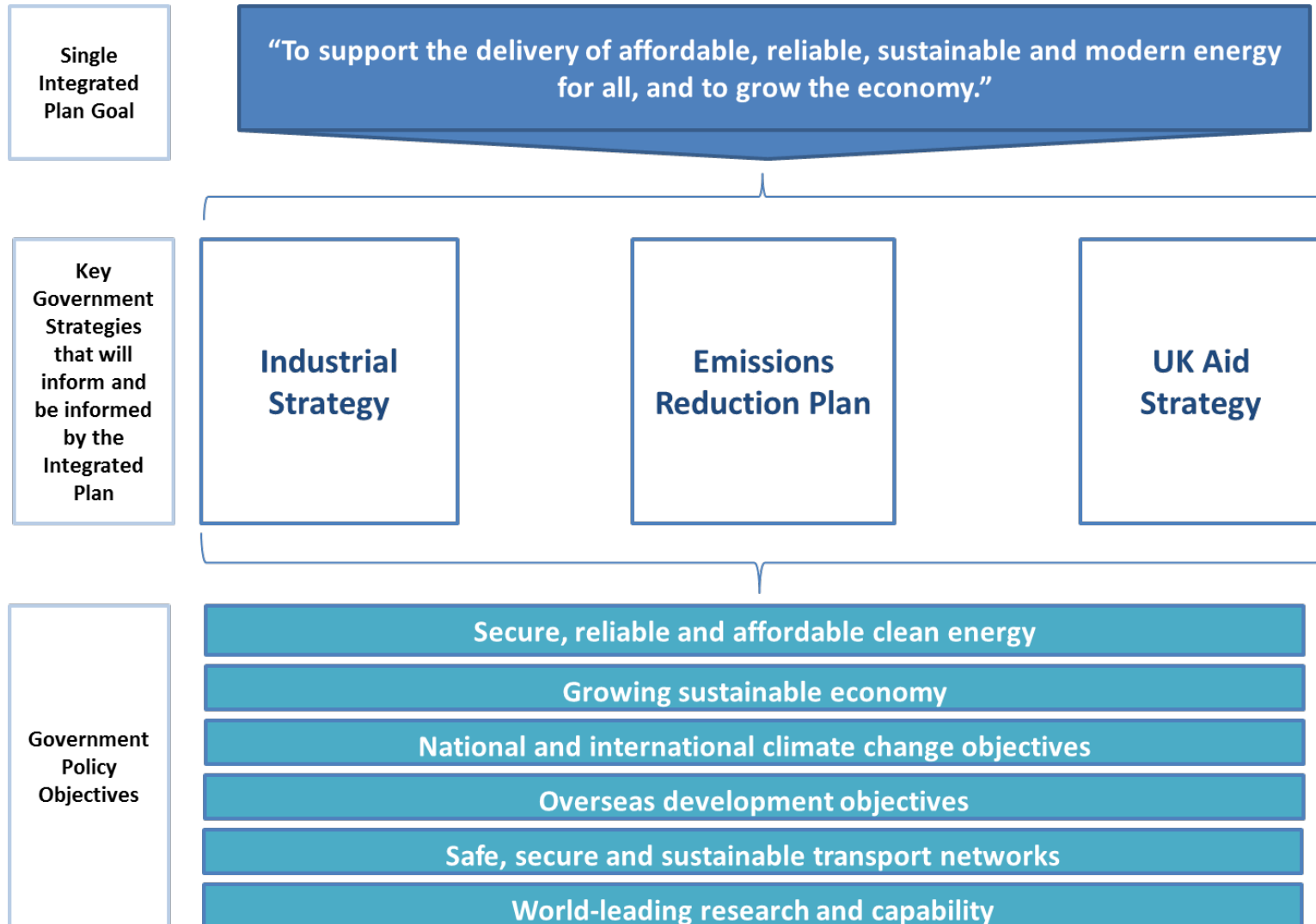
Energy Innovation Board. Working towards cross-government shared aspiration, strategic guides, and policy objectives on energy innovation

Single Integrated Plan

Commissioned by the Energy Innovation Board to provide a strategic framework to help guide, co-ordinate and maximise the effectiveness of HMG's support to energy innovation

The plan covers both domestic and international energy innovation.

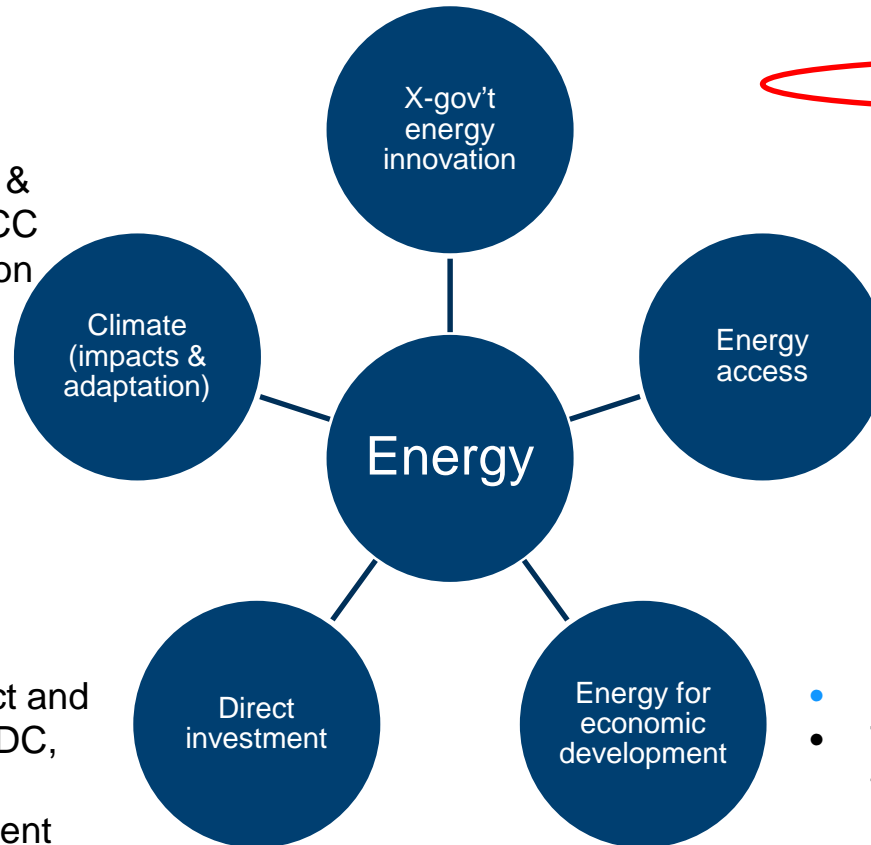
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Addressing
Barriers to
Sustainable
Energy
Access for All



M4D Utilities (half for energy); managed by the GSMA (mobile phone trade association)

New Energy Applications and Delivery Models (NEADM); with Shell Foundation.

Green Mini Grids (2015-19) Action Learning and Exchange component

Moving Energy Initiative MEI (2014-2016) sustainable energy provision in humanitarian situations,

Crowd Power assesses crowdfunding platforms as a way of securing finance

Transform: Innovation partnership with Unilever

Scaling up
the Use of
Clean Energy



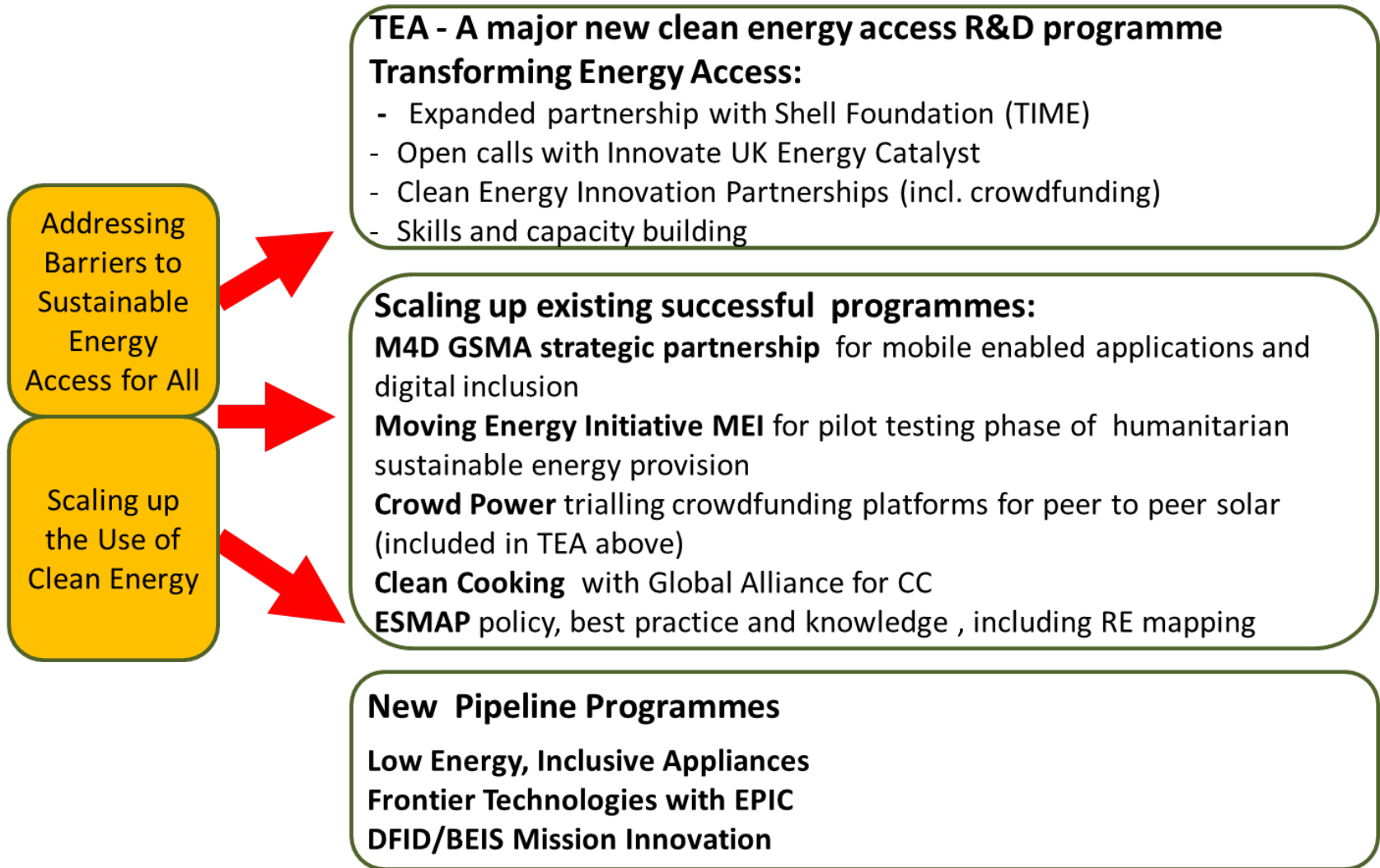
Sustainable Energy, Access and Gender (SEAG)- includes Renewable Energy Resource Mapping through ESMAP

ESMAP (2012-16) addresses a range of policy and best practice options; co-funded by RED and Policy Division.

Understanding Sustainable Energy Solutions (USES) 2014-18 partnership with EPSRC, BEIS

Scaling up clean cooking solutions EBCC (2011-17), includes cookstove standards, behaviour change, market development etc),

Bio-energy for Sustainable Local Energy Services and Energy Access in Africa 2015-19





Project Purpose: To support early stage testing and scale up of innovative technologies and business models that will accelerate access to affordable, clean energy based services to poor households and enterprises.

1. Stimulating Technology Innovation:

Co-funding **Energy Catalyst** with Innovate UK, BEIS and EPSRC, using existing calls and procedures



2. Accelerating Innovation:

Strategic TIME partnership with **Shell Foundation**. Joint Investment Committee also with USAID/Power Africa

Shell Foundation | 

Research
Programme Delivery
Consortium

3. Clean Energy Partnerships:

Two fast track projects so far on crowdfunding and impact investing, in advance of wider scoping studies.

4. Developing Local Skills and Expertise:

Fast-track Partnership for Skills Development with LCEDN agreed, in advance of wider scoping studies.

- **DFID co-funds Energy Catalyst** to support the best innovative proposals from UK business and/or research organisations
- Additional criteria: identify the **relevance to developing country energy challenges** (especially Sub-Saharan Africa and South Asia)
- Innovate UK's assessment and scoring processes remain unchanged, but additional **assessors with development experience** may be used
- **Partnerships with developing country organisations are encouraged** in "DFID-relevant" project applications (only)
- DFID support can include the **early, mid and late stages**. The parameters and features of these awards (process, duration, co-funding etc) as for the existing Energy Catalyst.
- UK partners will be **contracted and monitored directly by Innovate UK**. UK leads will undertake due diligence for overseas partners and take responsibility for payments made.

Energy Africa: Funding and Programmes

Early
Stage/R&D

Business
Development

Business
Expansion

TEA

- Energy Catalyst
- Shell Foundation
- Capacity & Partnerships

ACE

- REACT Solar
- Competitive Business Facility
- TA Facility

CDC

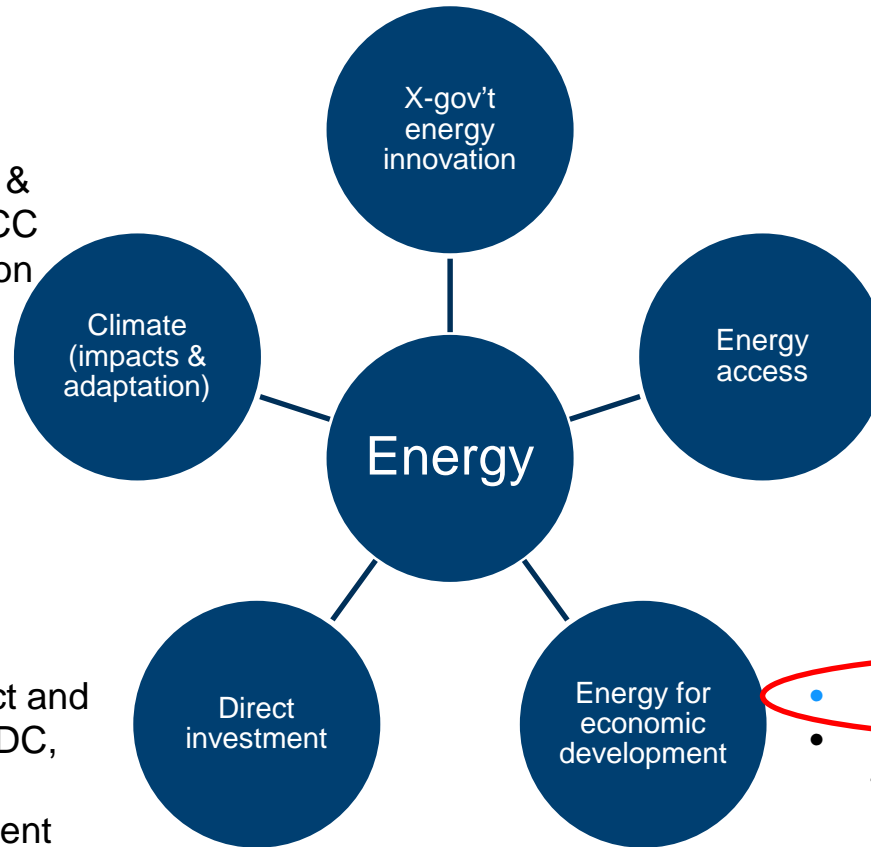
- Development Finance
- Debt and Equity Funding

Technical
Assistance to
Implement
Compact
Actions

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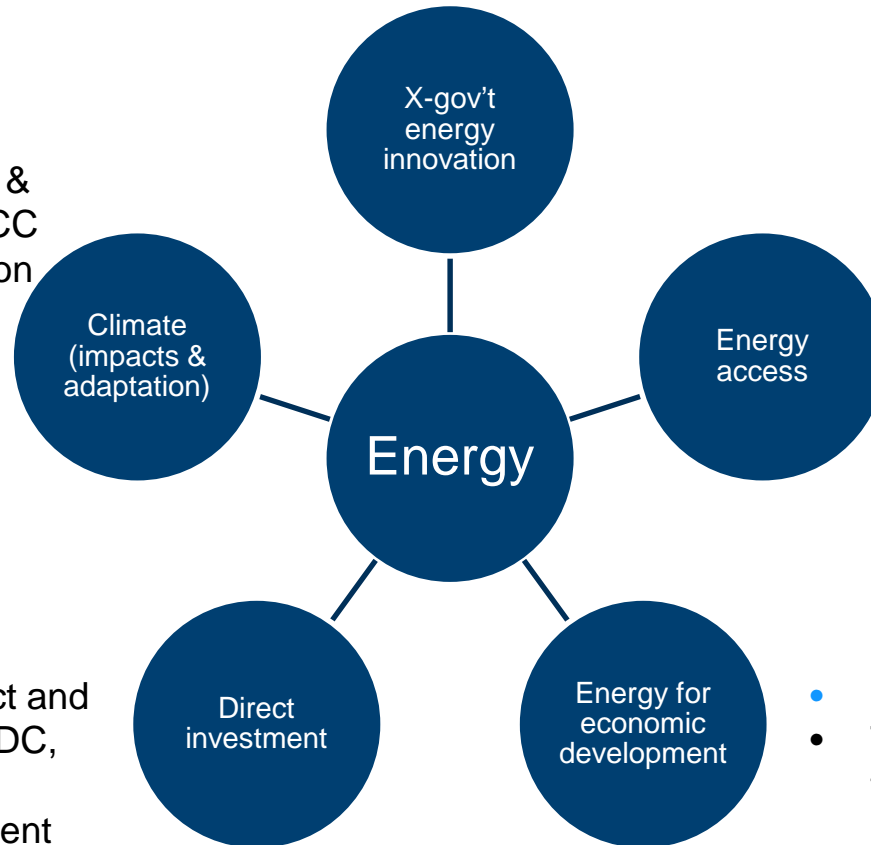


- Commission applied research exploring the links between energy, economic growth and poverty reduction
- Evidence geared to meet the needs of decision-makers
- Enable the development of large-scale energy systems that support sustainable, inclusive growth in low-income countries in S. Asia, and Sub-Saharan Africa

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RED Climate related Research Programmes

- **WISER**
Weather and Climate Information Services for Africa
- **SHEAR**
Science for Humanitarian Emergencies and Resilience
- **FCFA**
Future Climate For Africa
- **CDKN**
Climate and Development Knowledge Network
- **CARIAA**
Collaborative Adaptation Research Initiative in Africa
and Asia



- ... and finally...

- Improving Strategic Energy Planning in Partner Countries
- Bring together key stakeholders (partner governments, donors, investors and modellers)
- Agree on the diagnosis of current energy planning problems:
 - Access to data and models
 - Capacity to run and interrogate model results
 - Public funds used to create private IP
- Develop solutions
 - Modelling platforms, open source data and models
 - Improved donor coordination and partnerships
 - Improved systems for capacity building support



Thankyou!!

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