



GLOBAL IMPACT PROGRAM FOR CLEAN COOKING AND TANZANIAN EXPERIENCE

A PARTNERSHIP DELIVERY MODEL FOR MARKET,
TECHNOLOGY, FINANCIAL AND SOCIAL INNOVATION

*Webinar - Bioenergy for Energy Access, Security and
Industrialization*

10 May 2022

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WHAT IS THE PRESENT COOKING SCENARIO?



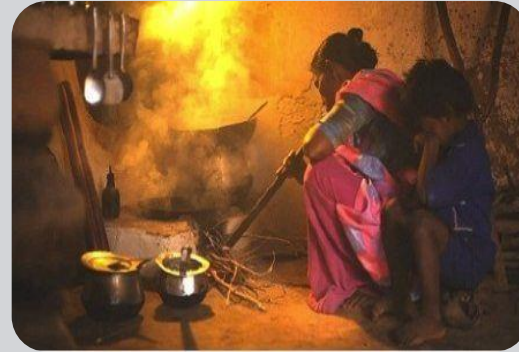
ENERGY ACCESS AND CITIES ISSUE

More than 3 billion people worldwide do not have access to clean fuels and technologies for daily cooking, affecting the growing urban metropolitan areas



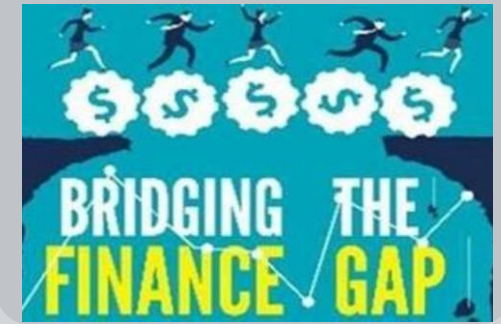
AIR POLLUTION AND CLIMATE CHANGE ISSUE

Inefficient traditional cook stoves **contribute up to 25% of total** black carbon emissions, more than **2 billion** people depend on **wood-based fuel = deforestation.**



WOMEN and CHILDREN HEALTH, LIVELIHOOD ISSUE

Exposure to HAP from traditional cooking practices is estimated to cause **over 4 million deaths annually.** Women spend up to **20 hours each week** collecting **wood** and spend up to **4 hours cooking each day.**



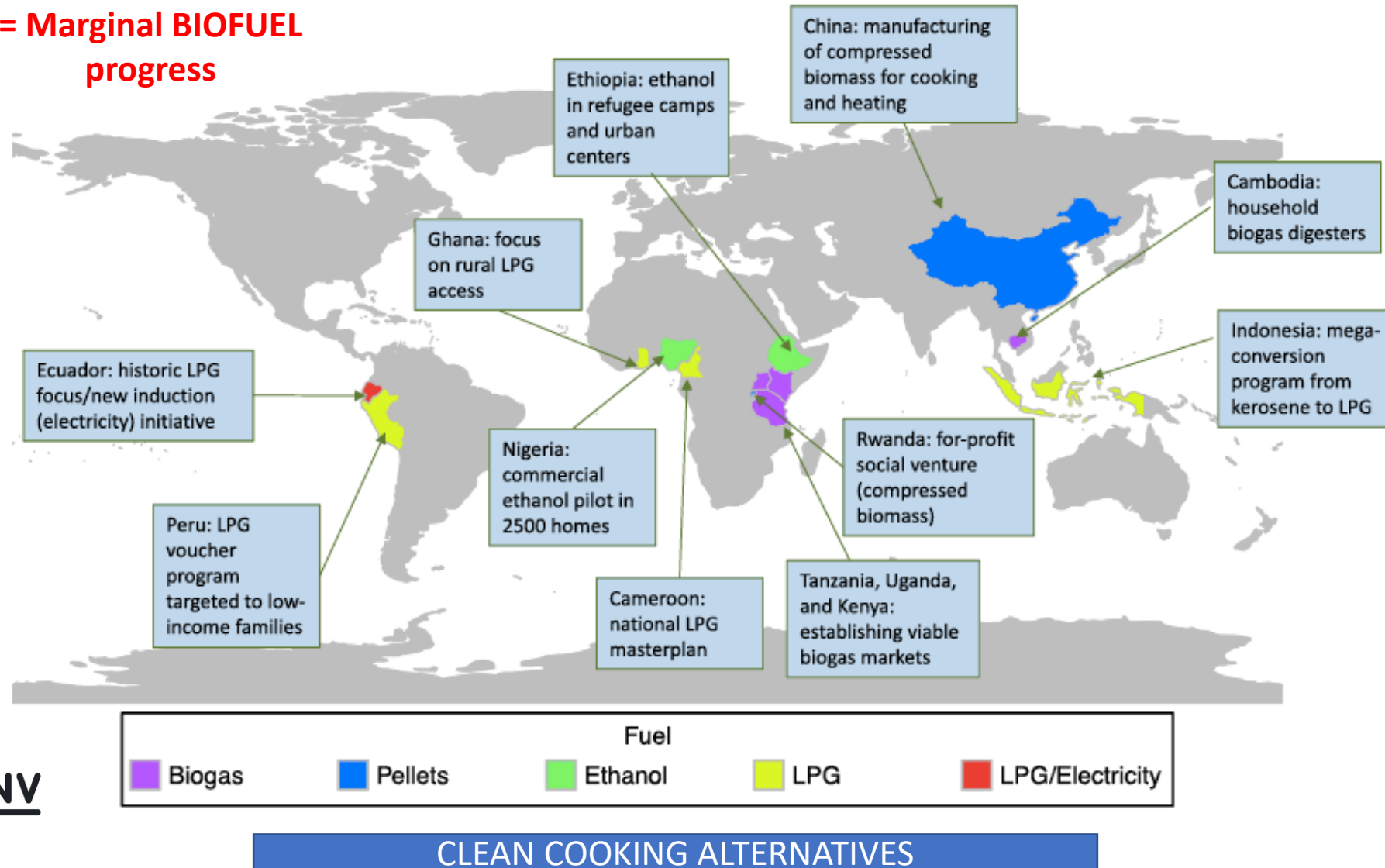
FINANCING ISSUE

Opportunity cost associated with traditional cooking practices and behavior is estimated > **USD 123 billion per year.**

GLOBAL EFFORTS TOWARDS CLEAN COOKING:

Plethora of development partners are looking into various aspects of clean cooking, e.g. SEforALL, UNDP, EU, CCA, WHO, SNV, bilateral organizations and civil society organizations etc.: **yet only millions \$ committed annually** with estimated **4.7. billion \$ yearly finance gap**

CONCLUSION
= Marginal BIOFUEL progress

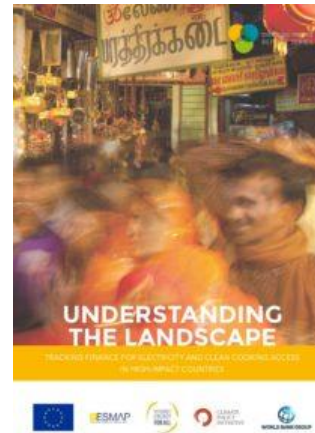


GREEN
CLIMATE
FUND



LESSONS LEARNED FROM LAST 3 DECADES

- **Small-scale**, dispersed and mostly rural initiatives
- **Limited investments** and private sector involvement
- Centered around “improved” cook stoves, still using traditional fuels, **i.e. not clean**
- **Lack of enabling environment** with regard to policies and regulations by Governments
- **Weak market creation** and lack of consumer awareness
- Dire need for real viable alternative fuels and technology solutions to delivered on a **mass scale**

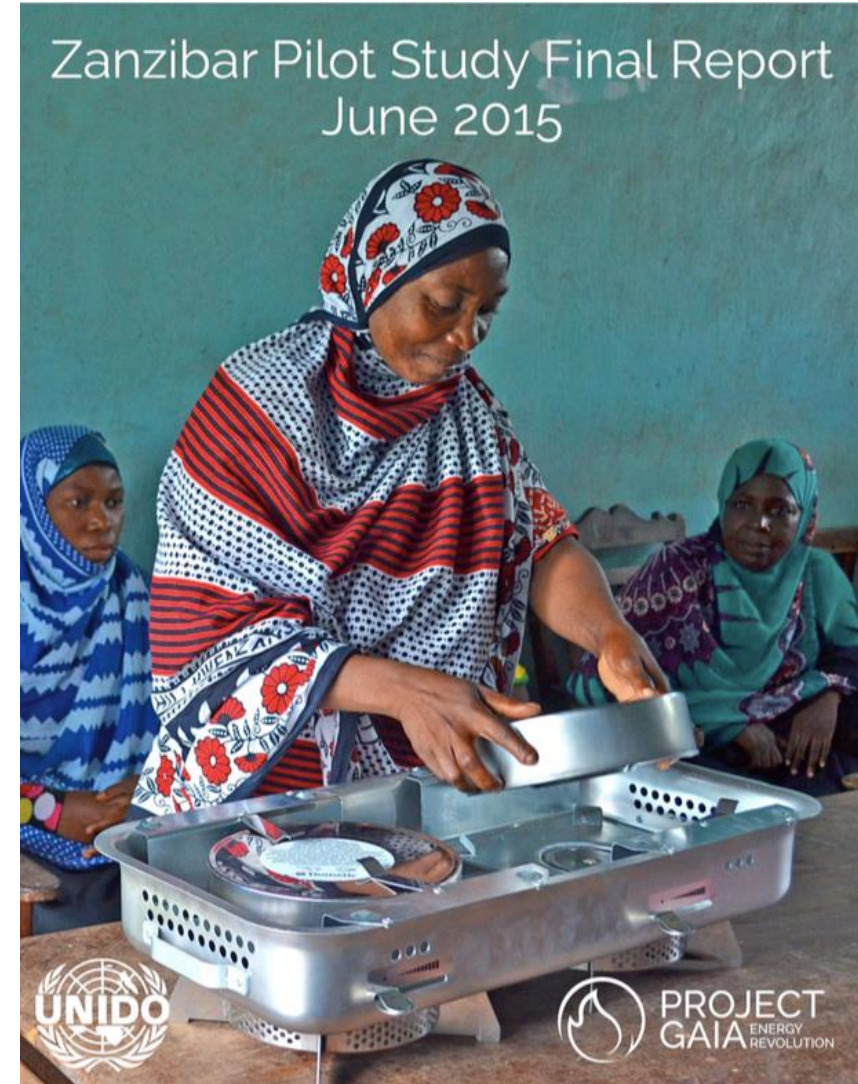


ZANZIBAR PILOT PROJECT (2015): A UNIDO STORY

UNIDO undertook a pilot study in Zanzibar to pilot the viability of bioethanol as a clean fuel for cooking.

Timeline	No. Households
2015 – Project Target	150
2017 – Independent Market Pick Up	350
2018 - Independent Market Development	1,000

	USD
Monthly Savings per Household	20 – 25 \$
Trigger Effect / Market Development	X 6 the Project (150)



DAR ES SALAAM - TANZANIA: SCALE UP UNIDO STORY



Targets	Country A
Household / Families	500,000
Population	2 Million
Housewives	500,000
Children	1 Million
Clean fuels production	100 Million Liters
PS Infrastructure Investments USD in clean fuel production over 5 years	100 Million USD
SMEs Ethanol Producers	40 companies
Jobs Created	800 jobs
Indirect Jobs Created	2,400 jobs



MARKET – TECHNOLOGY – SOCIAL IMPACT
Transformation and Innovation

ALTERNATE SOLUTION BASED APPROACH

Market enabling framework to facilitate a mass commercial roll out



1. Vision and target driven

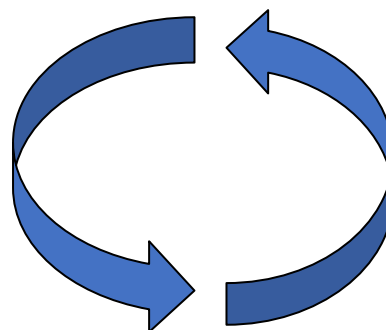
- Fit for purpose solution
- What is measured is managed
- Design to achieve a target & vision

2. Cooking needs already met

- Current fuels meet the needs
- A switch in fuel is needed
- Hence effective market catalyst & effective implementation methods
- It is also different to electrification!

3. Competitive market offer

- Different offers for different markets; economics, Geographic
- Household income & affordability
- Households make value based decisions – price x performance
- Ultimately on a commercial basis & economically sustainable



6. Market enabling interventions

- Current market failure must be addressed
- “Chicken or the egg” – first ?
- Correct integrated implementation methods the CSF’s needed

5. Use of commercial enterprise

- Volume dictates industry needed
- Industry currently supplies charcoal, LPG so why not bioethanol.

4. Scale, scale, scale

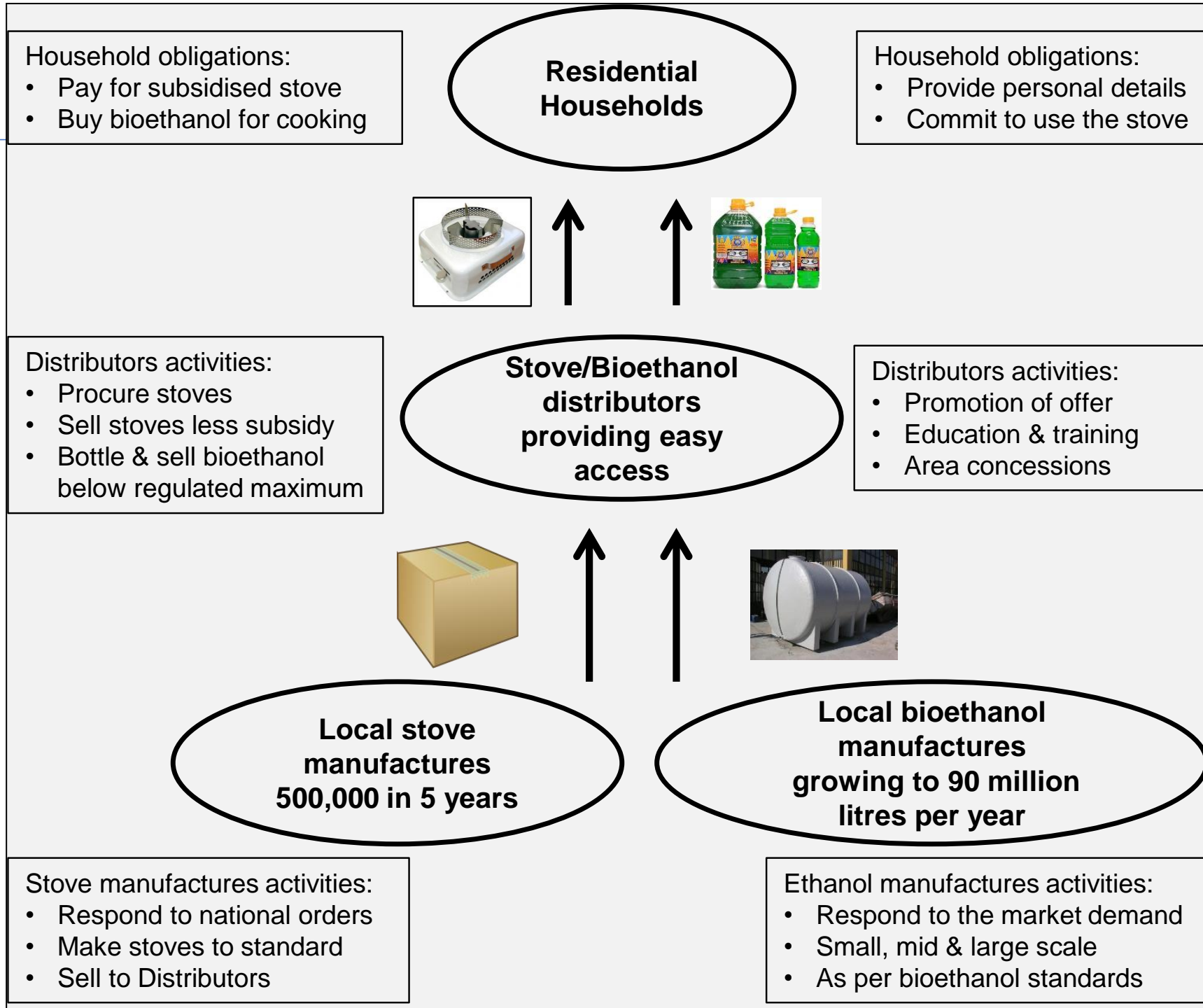
- Fledgling industry curse
- Rather high volume / low margin needed. BUT needs a catalyst
- Large scale roll out >100,000’s

THE APPROACH

Dar es Salaam

Phase One – 110,000 household proof of concept with GEF funding underway

Phase Two - mid 2022 roll out remaining 390,000 across 2/3 areas with EU funding



PROJECT PROGRESS

- **Phase One stove delivery – First Distributor established & rolling out in Dar es Salaam**



- **Phase Two stove delivery**
 - EU funding for another 200,000 stoves in place
 - Procurement currently underway!

PROGRESS ON SCALING UP LOCAL PRODUCTION OF FUEL

Of 14 sugar factories in Tanzania, only one has a major distillery

- Sugar factories have molasses, a waste, to sell
- To remain competitive, sugar factories need 3 revenue streams: sugar, power and ethanol
- Tanzania has a deficit in sugar, power and clean fuel for cooking – government is acting

As part of the MEF, all of the sugar factories have been engaged

- The mainland sugar factories are excited over the prospect of a supply-driven market for ethanol (the demand is huge)
- The project is working with TIB and exploring financial options to help the sugar factories
- The stove/fuel distributor sign offtake agreements with the ethanol producers
- Unlike other markets for ethanol, this is a low-risk & diversifying market for producers

MEF IMPACT IN THE AGRICULTURAL SECTOR

Addition of distilleries to sugar factories will improve the economics

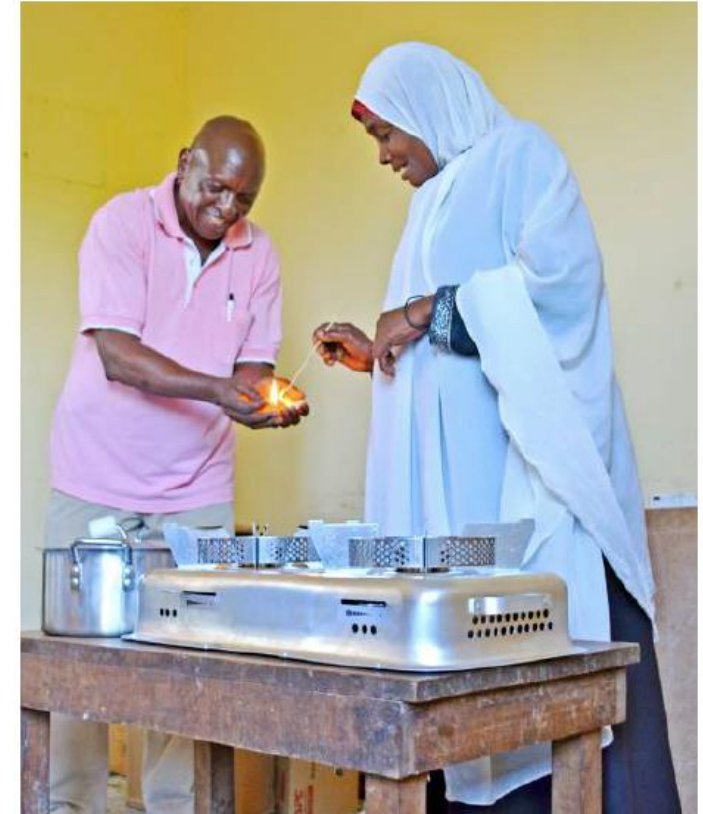
- Benefit to outgrowers who supply sugarcane
- Economic stimulus in farming areas.

New crops, residues and feedstocks take on value

- Cashew waste (cashew apple) offers a potential to produce millions of liters of ethanol from sugary waste now discarded
- Sisal bole, while still unproven, offers potential for ethanol and biogas production
- Red sorghum, tropical sugar beets and other appropriate, climate resilient feedstocks could lay the foundation for a biofuels industry
- These feedstocks recycle and return carbon to the soil
- When farmers and rural economies thrive, they become more productive and take better care of the soil and environment
- More jobs stay in rural areas, more wealth is produced in local economies

UNIDO GLOBAL IMPACT PROGRAMME FOR CLEAN COOKING

High Impact Countries (Asia)	High Impact Countries (Africa):
<ol style="list-style-type: none">1. India2. China3. Bangladesh4. Indonesia5. Pakistan6. Philippines7. Myanmar8. Vietnam9. Afghanistan10. People's Republic of Korea	<ol style="list-style-type: none">1. Nigeria2. Ethiopia3. DRC4. Tanzania5. Kenya6. Uganda7. Sudan8. Mozambique9. Madagascar10. Ghana



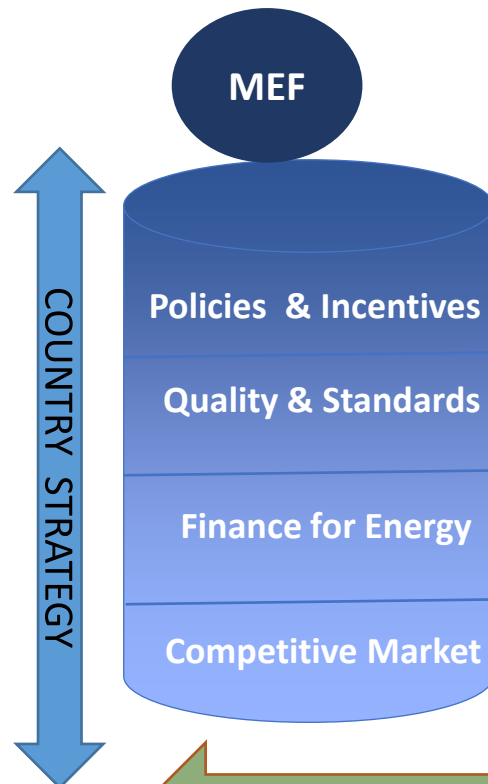
UNIDO'S 3 PILLAR APPROACH

A Partnership Delivery Model for Market, Technology, Financial, and Social Innovation in Clean Cooking

MARKET ENABLING FRAMEWORK PRIVATE SECTOR DEVELOPMENT

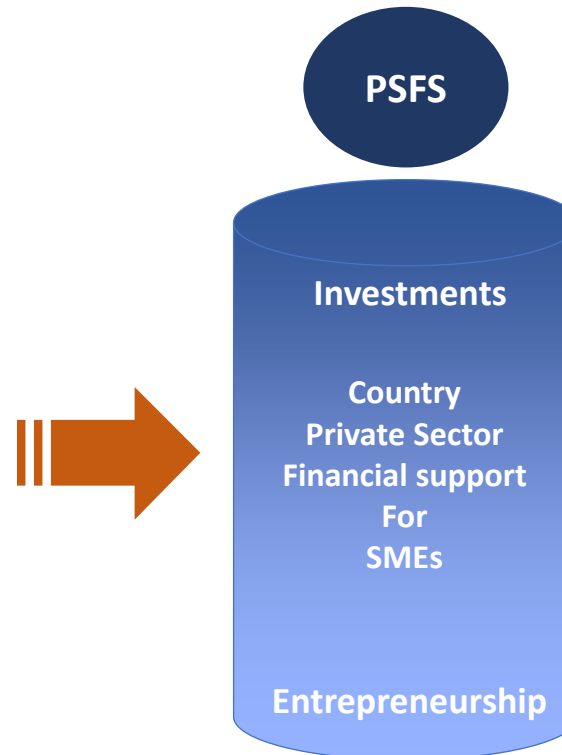
Pillar 1

Creating a market of economies of scale



Promoting private sector investments and participation

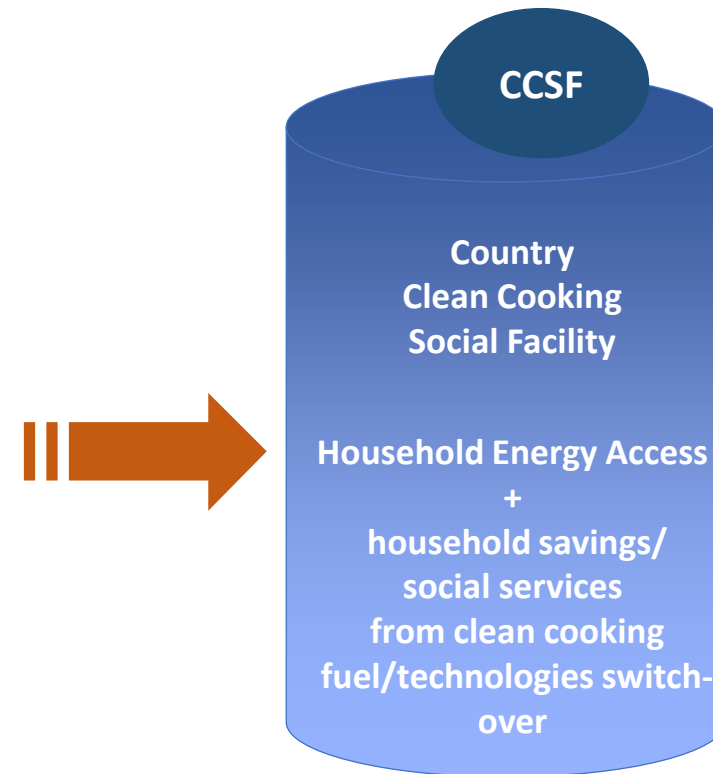
Pillar 2



SOCIAL IMPACT DEVELOPMENT

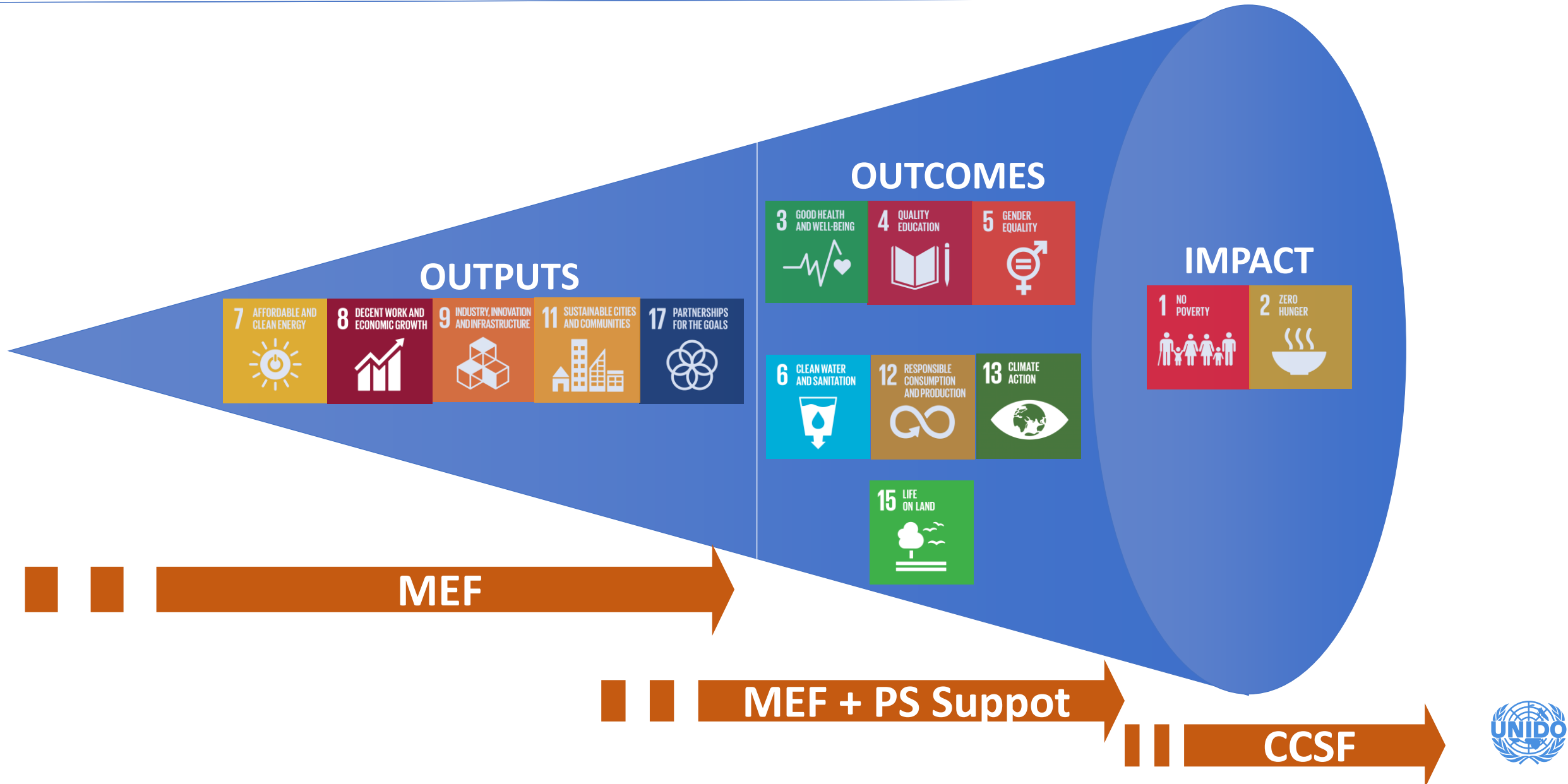
Pillar 3

Cost saving clean cooking behavior leveraged for improved social benefits



INCLUSIVE, SUSTAINABLE AND MARKET-LED CLEAN COOKING FUELS & TECHNOLOGIES PRODUCTION & CONSUMPTION

THE GIP-CC PATHWAY: SDG IMPACTS



THANK YOU