



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



UNIDO's Bioenergy Strategy: Pathway to self-reliance, energy security, economic empowerment

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UNIDO's Mandate

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



UN Specialized Agency promoting inclusive and sustainable industrial development (ISID) to create shared prosperity and advance competitiveness while safeguarding the environment



HQ: Vienna, Austria - 170 Member States

Department of Energy : Provides support to sustainable energy transition in the Industrial sector (renewable energy for productive uses, energy efficiency, low-carbon technologies and processes)

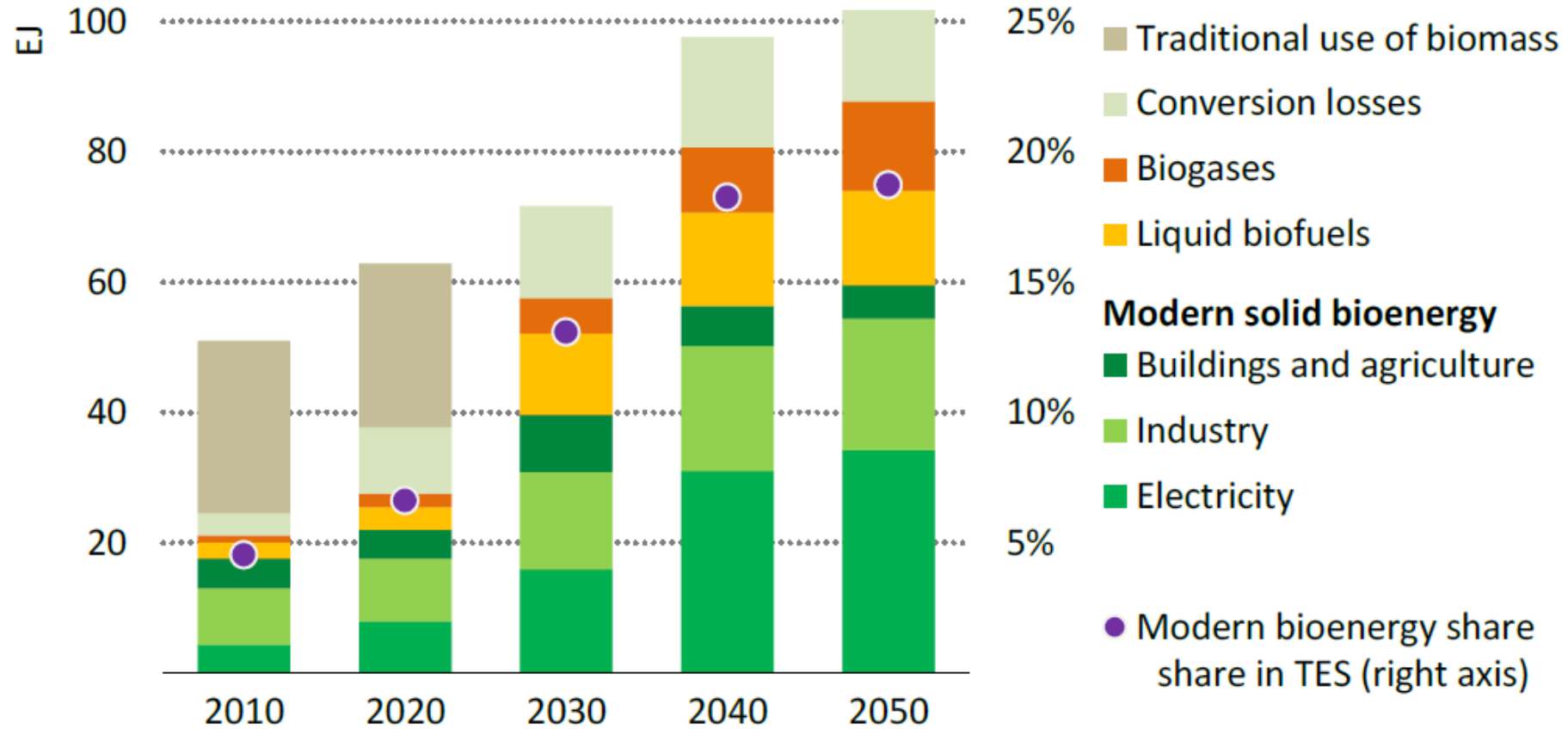
7 AFFORDABLE AND
CLEAN ENERGY



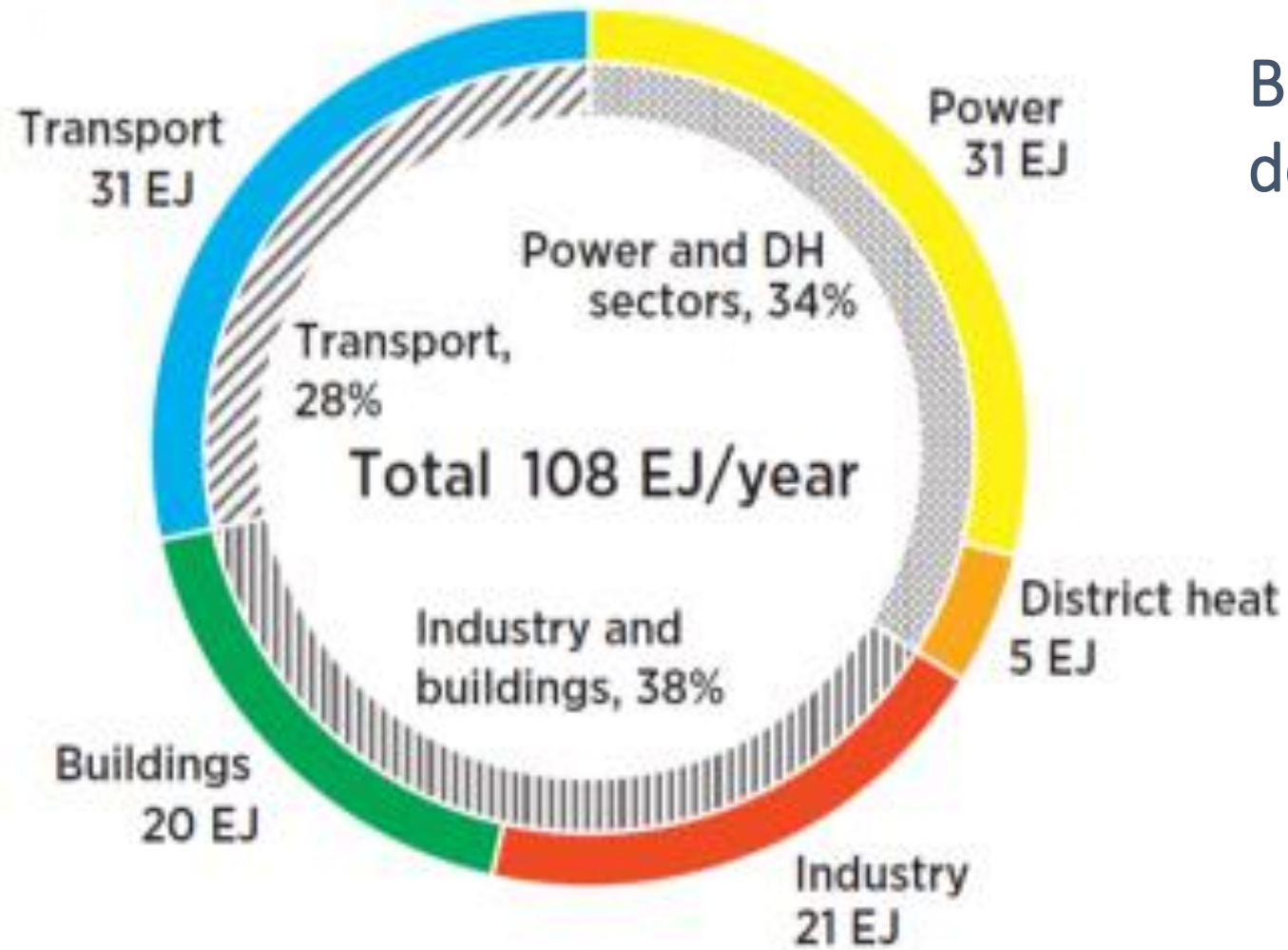


Today's Presentation

1. Context
2. UNIDO's Bioenergy Strategy
3. Global Impact Programme for clean cooking
4. Conclusions

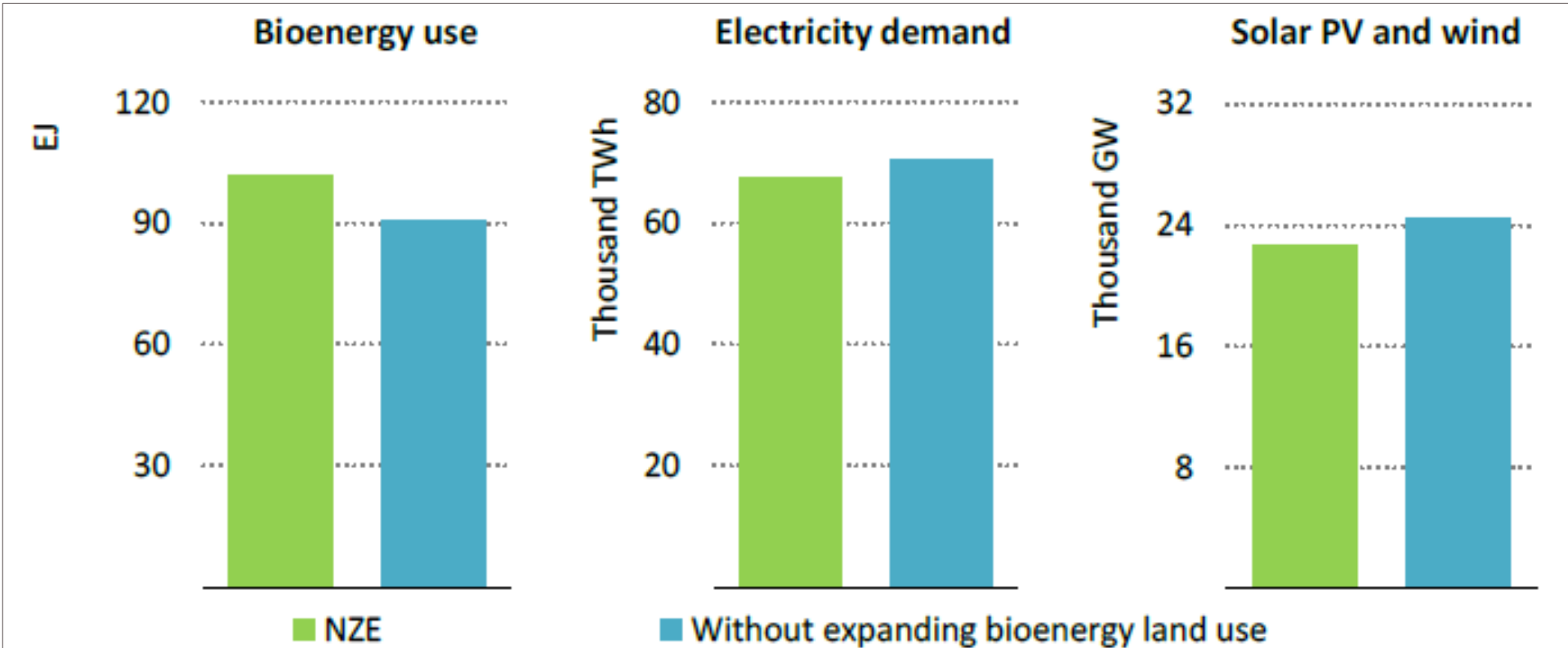


Contribution of Bioenergy supply – IEA NZE 2050



Breakdown of global biomass demand by sector

(Source: IRENA REmap 2030)



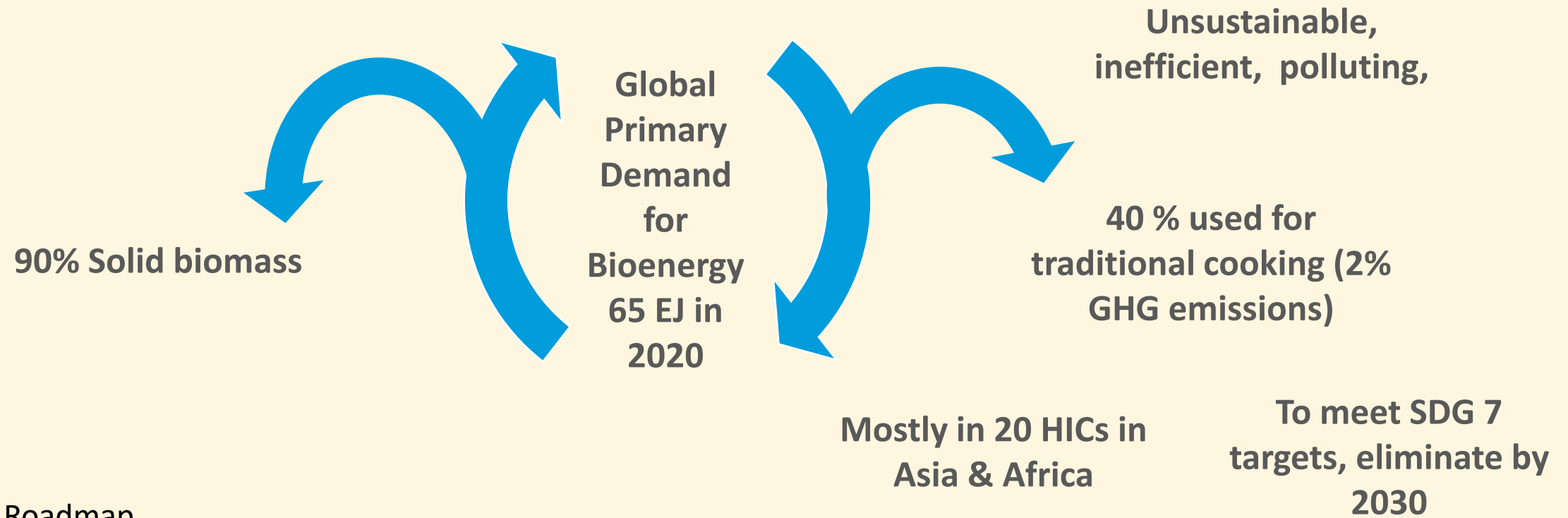
IEA. All rights reserved.

Achieving net-zero emissions without expanding bioenergy land use would require a further 3 200 TWh from solar PV and wind, increasing capacity in the NZE by nearly 10%



CONTEXT

Biomass in Households



Ref: IEA NZE Roadmap

Inclusive and Sustainable Industrial Development



CONTEXT

Decarbonization of Transport Sector

1. 2020: 90% transport reliance on oil
2. Shift to e-mobility (Electric & Fuel cell vehicles)
3. Shift towards higher biofuel blending ratio and other low carbon fuels (eg. Hydrogen)
4. 15% biofuel blending by 2030



Bioenergy Programme

Agro-industries

WTE in
industries

Biofuels
industries
development

Sustainable and clean
energy to:



Industry
Households
Transport

Tools for implementation of Bioenergy Programme

Bioenergy Programme Tools		
Global Programme for Clean Cooking (GIP/CC)	(WtE) Waste to Energy in Industries	Advisory Services and Capacity Building (AS &CB)
<ul style="list-style-type: none"> ➤ \$ 6 million to be mobilized. ➤ GIP/CC is expected to generate at least 20 child projects. ➤ A child project in Tanzania (proof of concept with \$ 2.5 mil GEF and € 3 million from EU already mobilized) is being implemented. ➤ 4 Requests from Nigeria, Kenya, Mali, and Ivory Coast are underdevelopment. 	<ul style="list-style-type: none"> ➤ WtE's Programme represent the second tool and if focused for selected Agro-Industries Sectors (Sugar Industry, Cassava/Sisal, etc.) ➤ A number of specific projects located in Kenya and Nigeria will be in this category. 	<ul style="list-style-type: none"> ➤ Advisory Services and Capacity Building in the areas where Policy & Planning for Biofuel blending in the transport sector are needed. ➤ The AS & CB will be also implemented in the areas of Member states where will be foreseen decentralized energy access, including electricity and cooking energy.



PROOF OF CONCEPT DAR ES SALAAM - TANZANIA



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

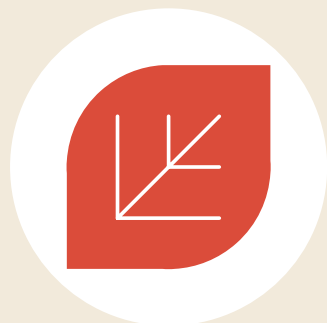


MARKET – TECHNOLOGY – SOCIAL IMPACT
Transformation and Innovation



Market growth numbers and potential for fuel supply

Country	Households	Access rate %	switch target %	Potential annual usage, Lt/yr
Tanzania	54,400,000	2.2	25	612,000,000
Uganda	41,200,000	0.8	20	370,800,000
Kenya	42,000,000	13.0	30	567,000,000
Sudan	23,000,000	1.0	15	155,250,000
DRC	76,000,000	3.0	15	513,000,000
Ethiopia	99,000,000	3.0	20	891,000,000
Mozambique	25,000,000	1.0	15	168,750,000
Madagascar	31,000,000	1.0	15	209,250,000
Total	391,600,000			3,487,050,000



Global Impact Programme

BIOFUEL
INDUSTRY AND
VALUE CHAIN
DEVELOPMENT
FOR CLEAN
COOKING



Target: 20 High Impact
Countries in Africa and Asia.

- Afghanistan
- Bangladesh
- China
- Democratic Republic of Congo
- Ethiopia
- Ghana
- India
- Indonesia
- Ivory Coast
- Kenya
- Madagascar
- Mozambique
- Myanmar
- Nigeria
- Pakistan
- Philippines
- Sudan
- Uganda
- United Republic of Tanzania
- Vietnam

5 years



Counterparts

- **Ministries of** Industry/Energy/Environment/ Natural Resources/Forestry/ Social & Women's Empowerment/Finance
- **Municipal Authorities** and other local Government entities
- **Private Sector** especially SMEs
- **Financing Institutions**
- **National Development Banks**
- **Impact Investors**



CONCLUSIONS:

UNIDO's **Bioenergy Strategy** supports the development of bioenergy industries in DC, LDC and SIDS in their transition to a **sustainable bioenergy-based electricity, transportation and cooking solutions**, relying on their **agriculture and industrial strength**.

- Replacing a percentage of gasoline with ethanol;
- Switching to a clean cooking fuel option;
- Reducing the rate of deforestation;
- Cutting GHG emissions in several sectors;
- Applying circular economy & resource efficiency principles;
- Contributing to overall economic prosperity and well-being.

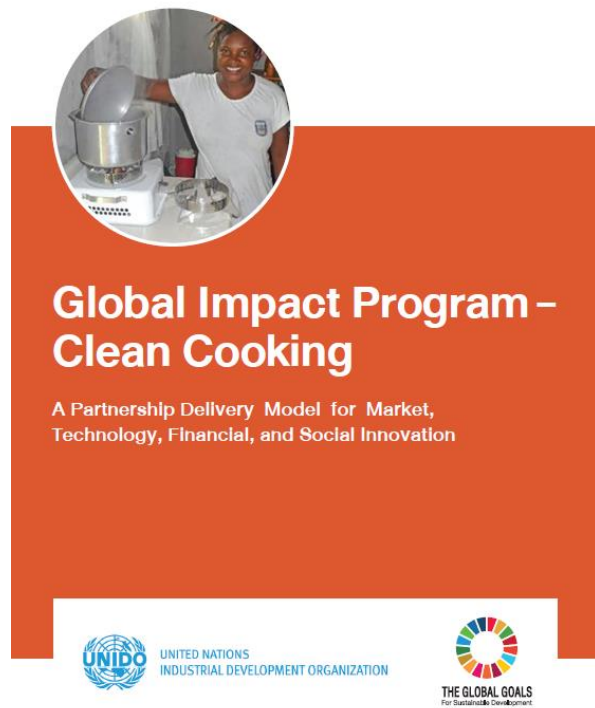
Contribute to
SDGs and
NDC
commitments



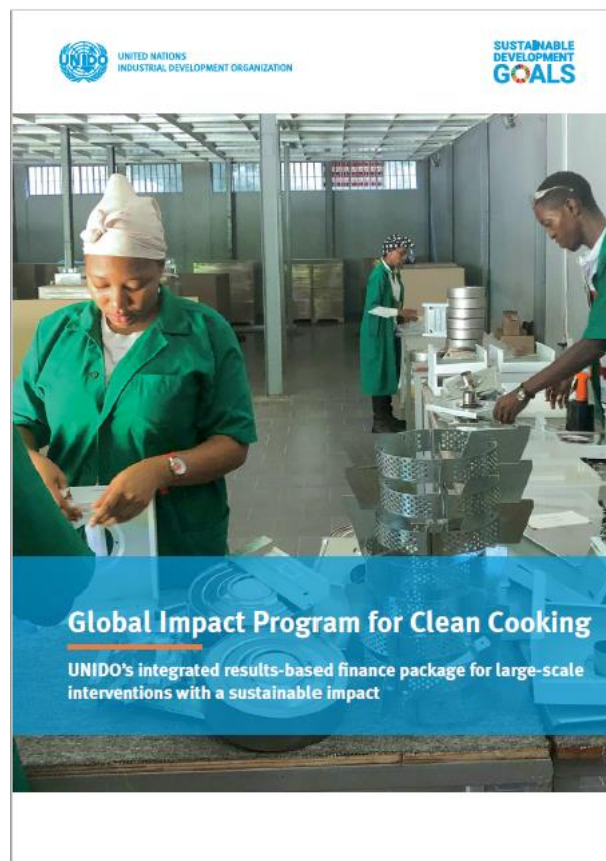
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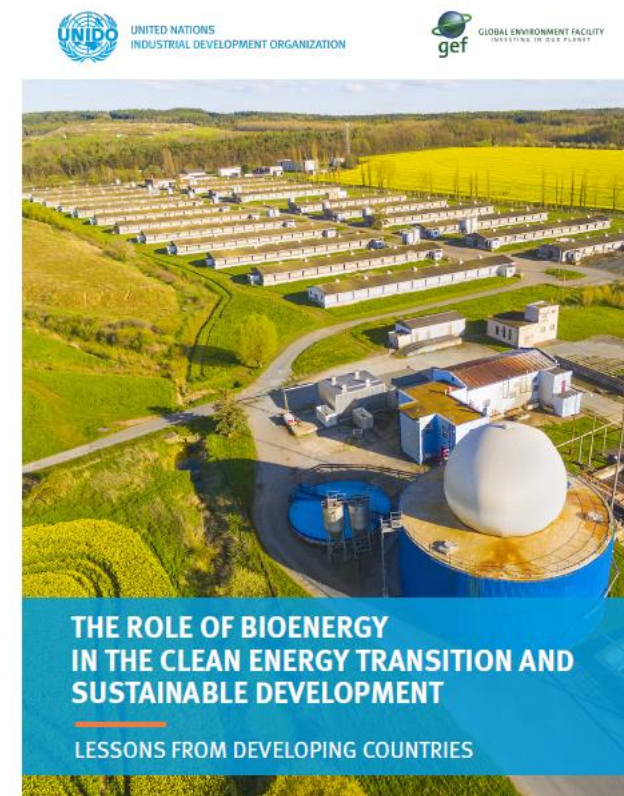
UNIDO Bioenergy Publications



GIP-CC brochure



RBF brochure



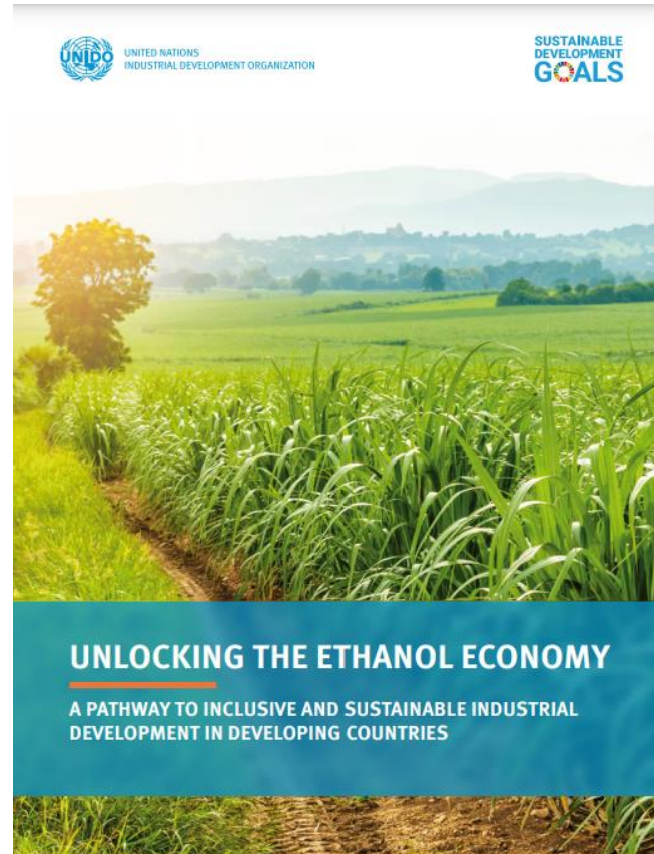
Bioenergy Publication



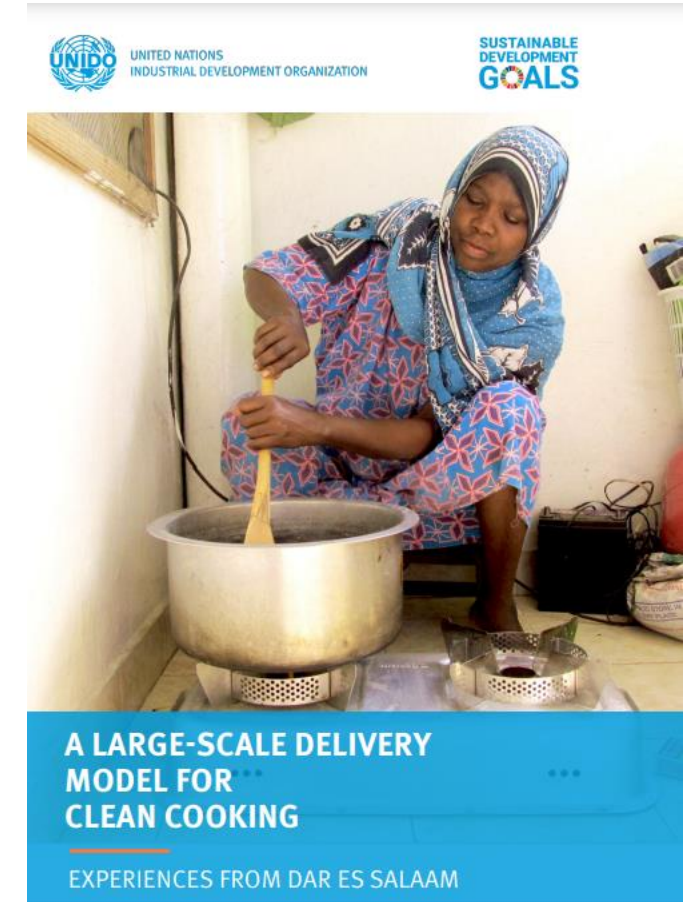
Coming soon



BGS manual



Ethanol publication



Clean cooking



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THANK YOU!