

Engaging the Entire Humanitarian Clean Cooking System

Dr. Benjamin L. Robinson
20th March 2024
IAS Research Seminar

Unlocking Institutional Scale

Energy Team Lead
Outsight International



BACKGROUND

& CORE CONTENT

Raleigh
EXPEDITION **N**
CHANGE STARTS HERE



<https://raleighinternational.org/about-us/publications/>



live To love





Bottle by Bottle

≈ Building a sustainable future ≈



ESCAP AID

Think Big, ACT Local, IMPACT Many

f @ ▶ #escap_aid





**University of
Nottingham**

UK | CHINA | MALAYSIA

An Institutional scale TLUD Improved Cookstove for the off-grid Himalayas in Nepal

Benjamin Robinson

MEng

Supervisor: Dr. Mike Clifford









**University of
Nottingham**

UK | CHINA | MALAYSIA

**How can policymakers and
practitioners use energy
technologies more effectively to
alleviate poverty in Nepal?**

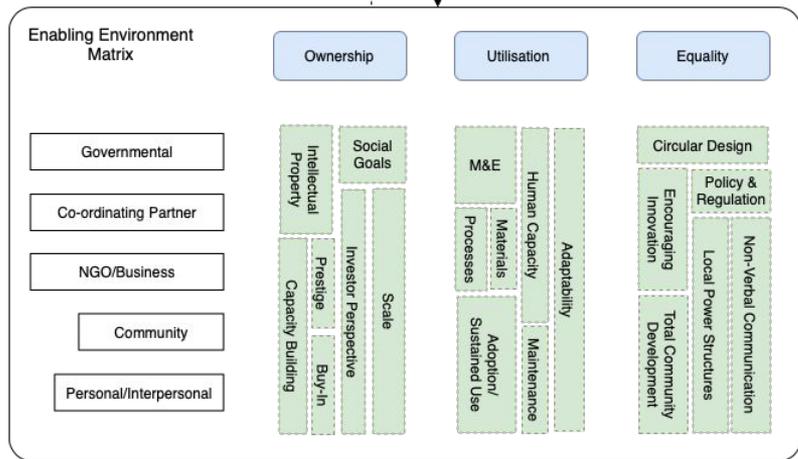
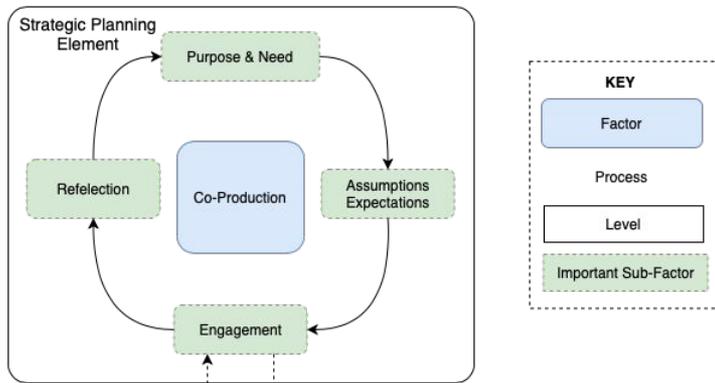
Benjamin Robinson

PhD

**Supervisors: Dr. Mike Clifford, Dr. Sarah
Jewitt**



Technology Implementation Model for Energy (TIME)



1. Identify the complex socio-cultural, environmental and financial contextual factors which act as barriers to adoption and sustained use.
2. Map the roles and responsibilities of the key stakeholder groups in terms of the core factors (ownership, utilisation, equality)
3. Understand the key stakeholder group interactions



Original research article

Transforming North-South research partnerships: Lessons learned from energy, technology & enterprise global challenge research fund projects

Benjamin L. Robinson ^a, Mike J. Clifford ^a, Sarah Jewitt ^b

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Open Access Article

TIME to Change: An Evaluation of Practical Action Nepal's Results Based Finance Program

by Benjamin L. Robinson ^{1,*}, Mike J. Clifford ¹ and Sarah Jewitt ²

¹ Faculty of Engineering, University of Nottingham, University Park, Nottingham NG7 2RD, UK

² School of Geography, University of Nottingham, University Park, Nottingham NG7 2RD, UK

* Author to whom correspondence should be addressed.

Cooking for communities, children and cows: Lessons learned from institutional cookstoves in Nepal

Benjamin L. Robinson ^a, Mike J. Clifford ^a, Joseph Hewitt ^b, Sarah Jewitt ^b

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TIME to Change: Rethinking Humanitarian Energy Access

Benjamin L. Robinson ^a, Mike J. Clifford ^a, Sarah Jewitt ^b

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1,617

Views

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1

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Articles

Understanding the current market enablers for Nepal's biomass cookstove industry

Benjamin L. Robinson ^a, Sarah Jewitt ^b, Mike J. Clifford ^a & Joseph Hewitt ^b

Pages 52-68 | Received 23 Sep 2019, Accepted 30 Oct 2020, Published online: 16 May 2021

Download citation | <https://doi.org/10.1080/09614524.2021.1893659>



Development in Practice

Volume 32, 2022 - Issue 1

Submit an article

Journal homepage



Dutch Coalition for
Humanitarian Innovation

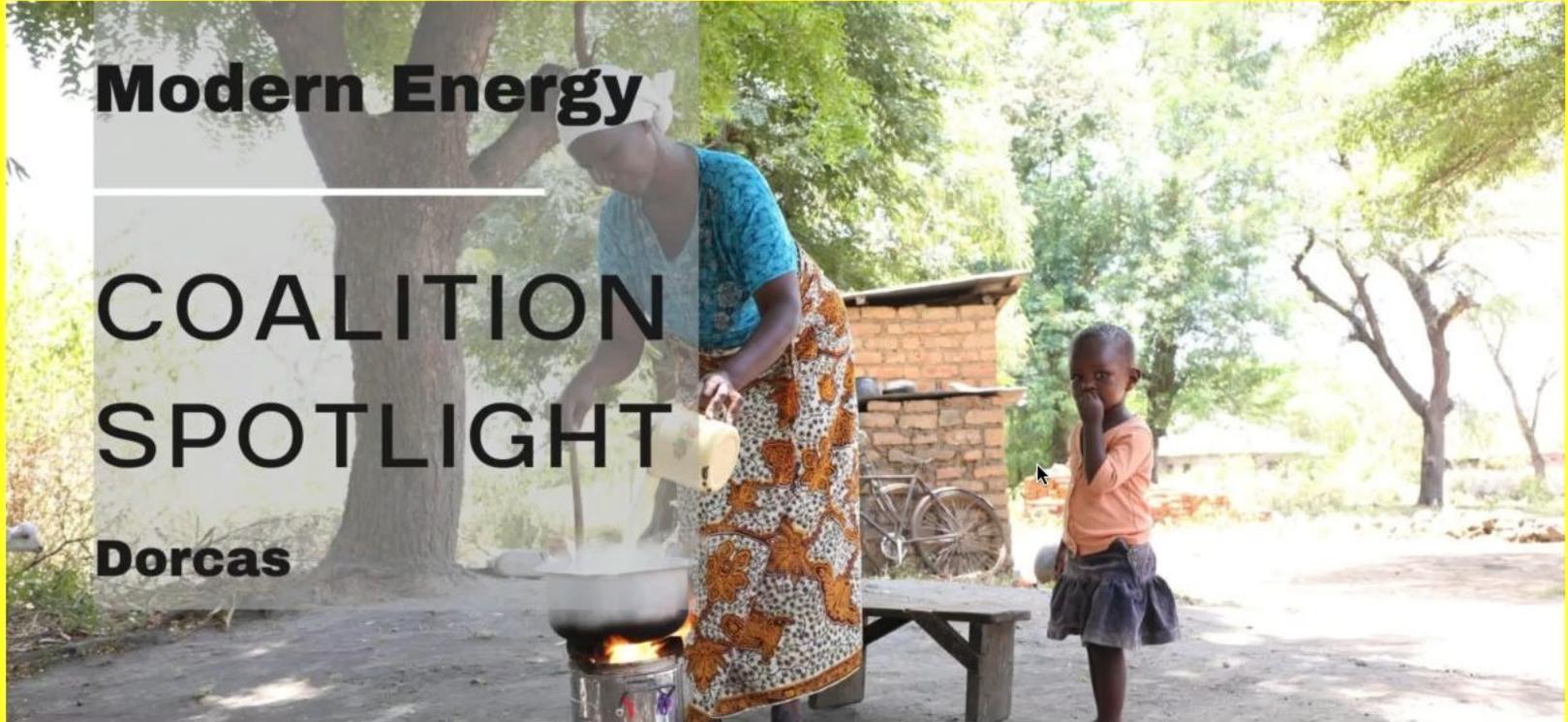
[DCHI ACCELERATOR](#) ▾ [DCHI LIBRARY](#) ▾ [ABOUT THE COALITION](#) [DCHI MAGAZINE](#)

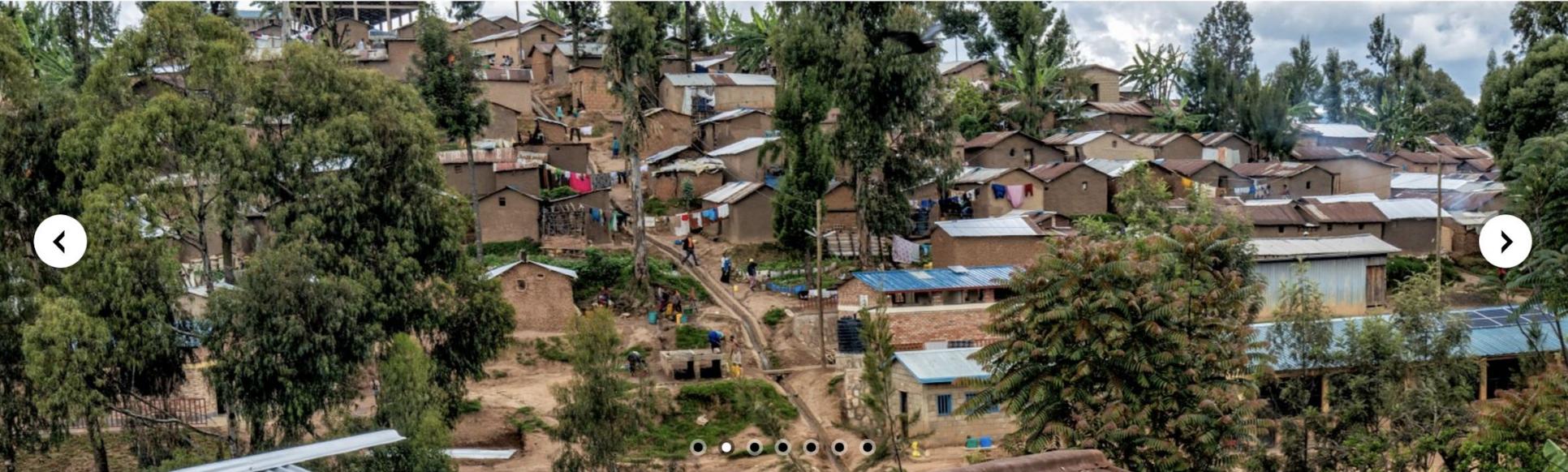


Modern Energy

COALITION SPOTLIGHT

Dorcas





HUMANITARIAN ENGINEERING AND ENERGY FOR DISPLACEMENT (HEED)

Around the world more than a billion people lack access to electricity or other forms of energy for cooking, heating and lighting. For those displaced from their homes access to energy can be

From Theory to Practice: A review of co-design methods for humanitarian energy ecosystems

Benjamin L. Robinson  , Alison Halford  , Elena Gaura 

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<https://doi.org/10.1016/j.erss.2022.102545>

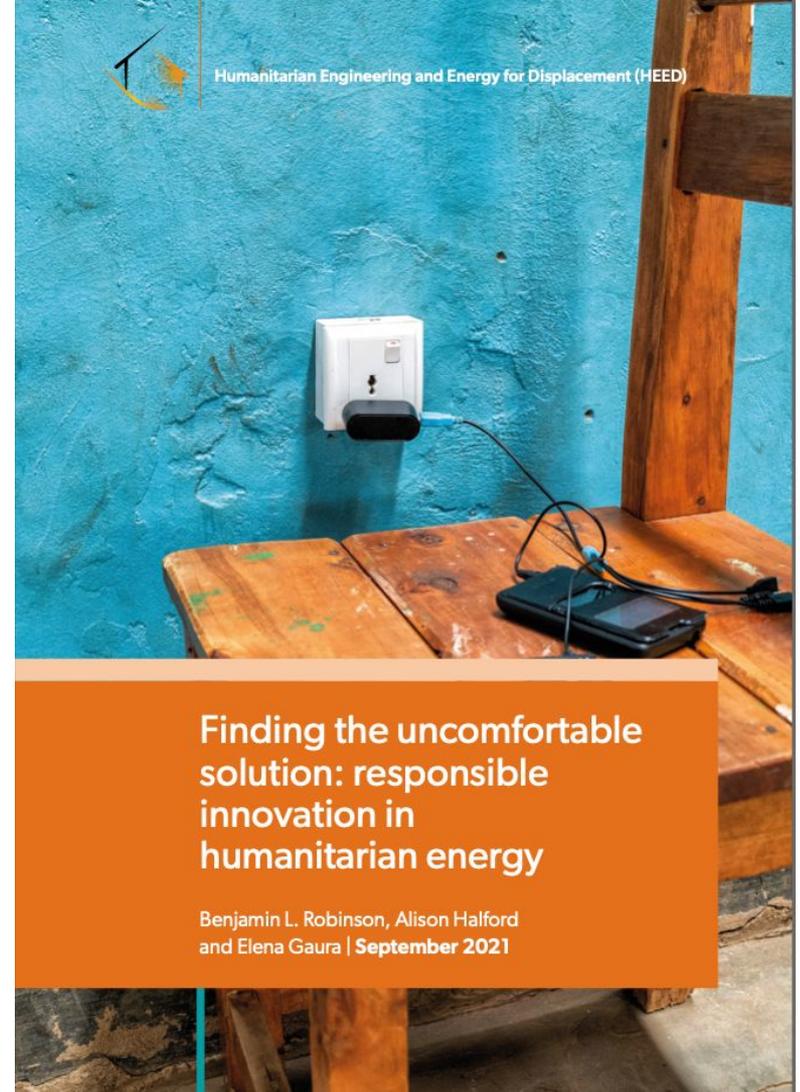
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Highlights

- Critical analysis of co-design frameworks to identify methods that will aid energy transitions in the humanitarian sector.
- Using HEED as a case study, shows how an energy mapping tool can benefit the energy system design in the displaced setting.
- Evidences the experience of implementing co-design to show the connections and disconnections between theory and practice



Finding the uncomfortable solution: responsible innovation in humanitarian energy

Benjamin L. Robinson, Alison Halford and Elena Gaura | September 2021

The Humanitarian Innovation Programme

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OPERATED BY NRC

Building a marketplace for sustainable energy





**Practical
ACTION**



MECS
Modern Energy
Cooking Services



The University of
Nottingham

EPFL



IOM
UN MIGRATION



ENACCESS

ETH zürich

Digesting Data

A 2-year (2023-2025), £1.35m, 6-party collaboration taking place over 3 continents. Led by Inclusive Energy and co-funded by Innovate UK, Digesting Data continues the mission of digitising the small to medium scale biogas sector. The project includes research and development and aims to build several features for commercial release, adding to the Smart Biogas product family, including:

- Enhanced analytics for preventive maintenance and diagnostics for biogas plants
- More widely applicable digital Carbon Credit reporting
- Enhanced sensing hardware to provide further data points
- Development of metering hardware for wider use cases including larger commercial digesters

Ultimately we seek to address financial barriers and operational inefficiencies, enabling viable biogas-as-a-service commercial models, enhancing company operations and providing additional income streams.

The project will also contribute to the scarce data-driven literature on small-scale biogas and the benefits of digitisation.

Project Partners:



Outsight International

Coordinating the best interdisciplinary teams to build an equitable, healthy and sustainable future.

Outsight International

Outsight International is a consultancy that provides excellence in [research, strategy, facilitation and M&E](#), primarily in humanitarian, environment, health and social justice settings. We draw on deep and diverse expertise in the private, public, and humanitarian sectors and deliver impact through [human-centered processes](#) and [systems thinking](#).

Outsight International **Energy Team**

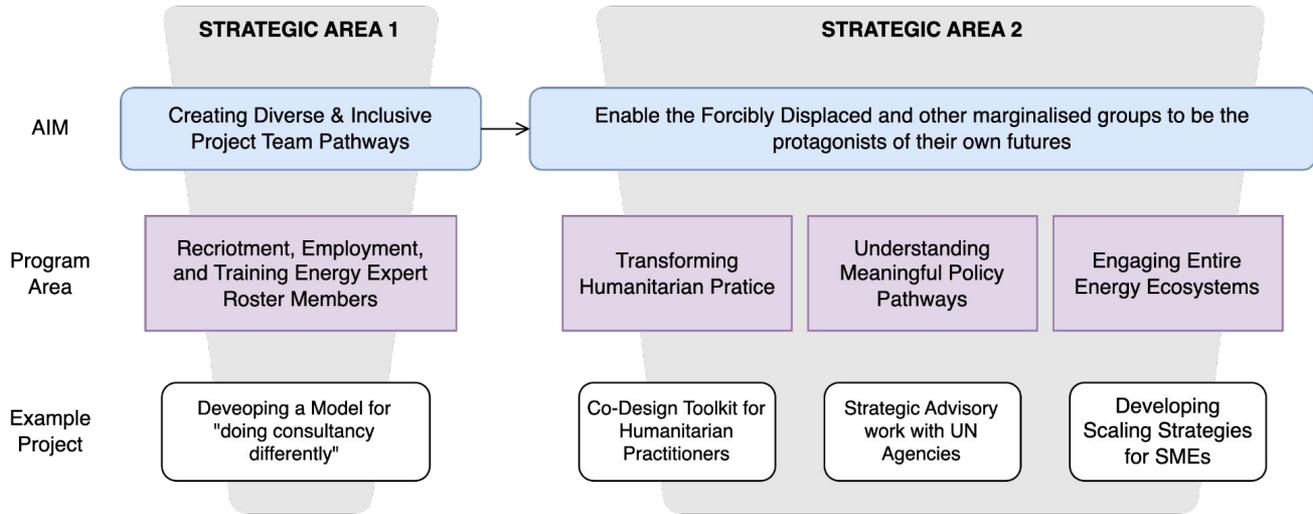
At Outsight International we have launched the first **dedicated humanitarian energy consultancy team**, with our expert roster spanning 17 members and 13 countries. Led by the voices of crisis-affected stakeholders, we strive to be the go-to team to transform wicked humanitarian energy challenges towards **climate neutrality and sustainability**.

A programmatic, strategic, and policy focus.

With and for households, communities, and institutions to unlock entire energy ecosystems which include cooking, cooling, lighting, heating, and transport.

To enable energy for all.

Our Mission. We aim to drive the global shift to modern, reliable, and sustainable energy systems and services for all through transforming humanitarian practice, unlocking policy pathways, and engaging entire ecosystems. Our goal is to enable people in humanitarian settings to be the [protagonists of their own stories](#) and [shape their own energy futures](#).



**Engaging the Entire
Humanitarian Clean
Cooking System**

**Unlocking
Institutional Scale**

SDG7

And The

The Global Energy Transition

2.3 Billion People.

1.2 billion across Asia
990 million across Sub-Saharan Africa

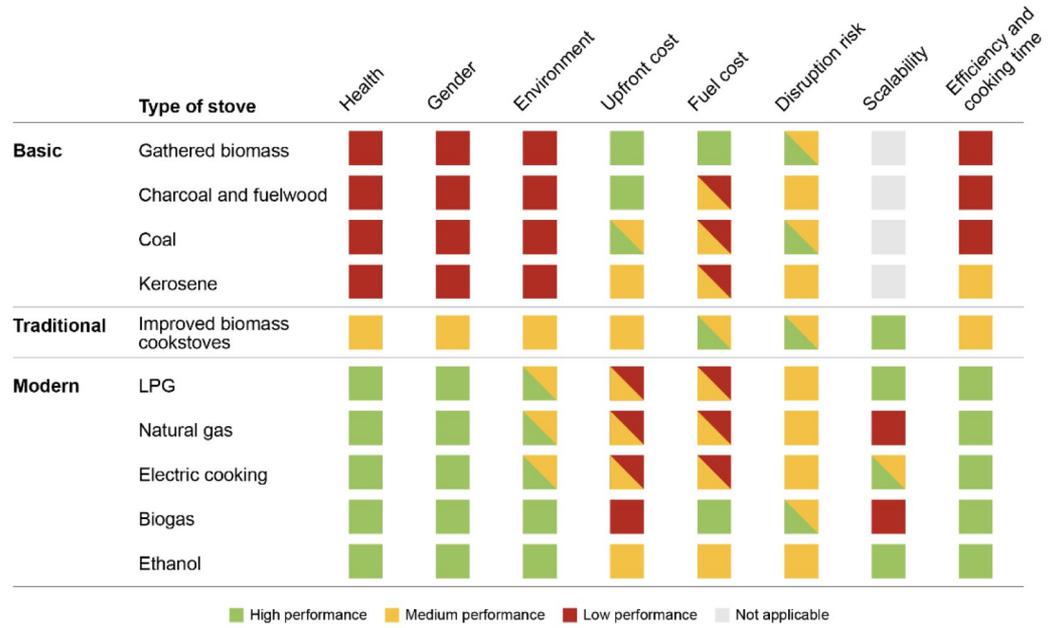
DEFINITIONS

What is Institutional Clean Cooking
in Humanitarian Settings?

Clean Cooking

DEFINITIONS

What is Institutional Clean Cooking in Humanitarian Settings?



[IEA \(2023\). A Vision for Clean Cooking Access for All](#)

DEFINITIONS

What is Institutional Clean Cooking
in Humanitarian Settings?

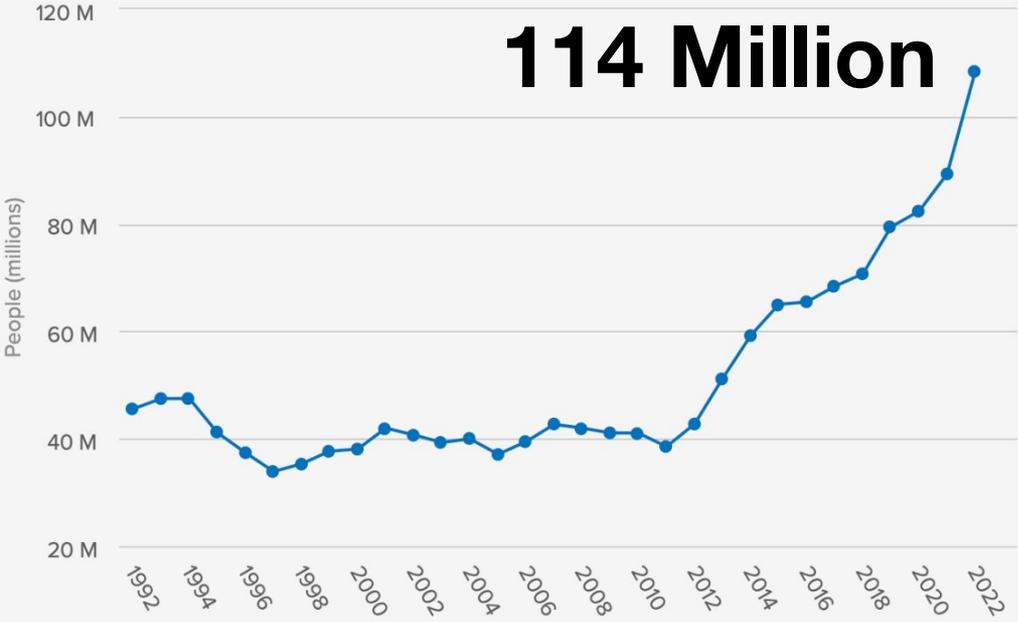
Institutional Cooking

DEFINITIONS

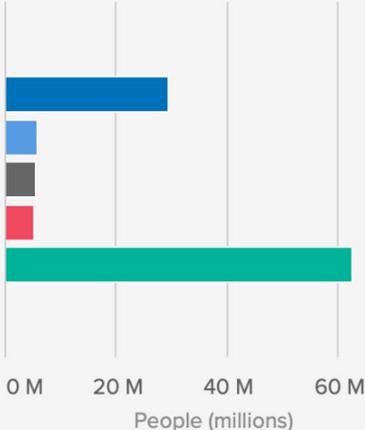
What is Institutional Clean Cooking
in Humanitarian Settings?

Humanitarian Settings

At the end of 2022 as a result of persecution, conflict, violence, human rights violations or events seriously disturbing public order.



- Refugees (under UNHCR's mandate)
- Palestine refugees (under UNRWA's...)
- Asylum-seekers
- Other people in need of international...
- Internally displaced people*



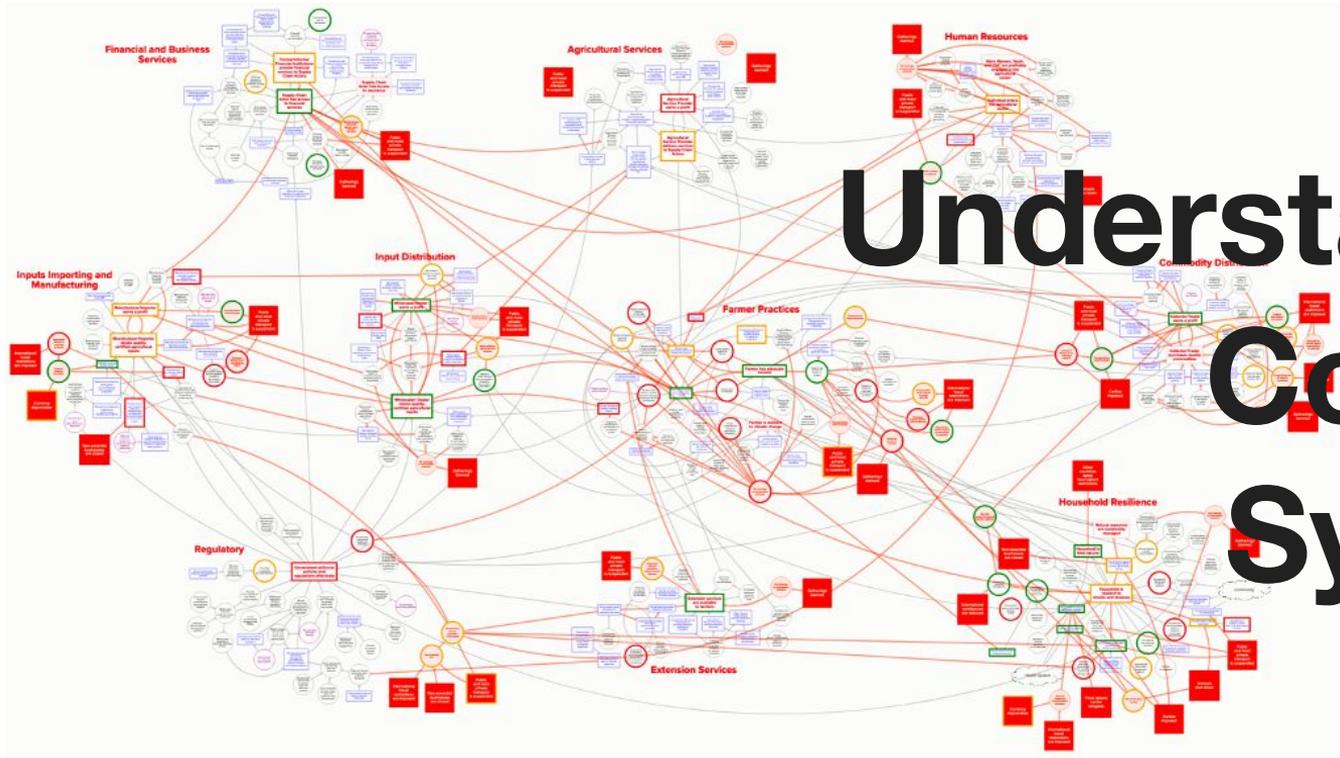
14 June 2023
Source: [UNHCR Global Trends 2022](#)

14 June 2023
* Source: Internal Displacement Monitoring Centre
Source: [UNHCR Global Trends 2022](#)

“94% of forcibly displaced people living in camps now estimated to not have meaningful access to power, and 81% lacking anything other than the most basic fuels for cooking.”

[Chatham House - Energy for the most vulnerable remains a distant hope](#)

A side note.
Policy, Regulation & Standards



Understanding Complex Systems

The Building Blocks

Critical Concepts

The Nexus & Delivery Models

The Co-Design Spectrum

CRITICAL CONCEPTS

What is non-negotiable when designing
and implementing institutional clean
cooking programmes?

Participation

Localisation

Decolonisation

Meaningful Participation

“To enable the forcibly displaced and other marginalised groups to be the protagonists of their own stories and shape their own energy futures”

<https://outsight.international/energy>

Localisation

“Criticisms of a ‘broken’ humanitarian system dominated by international actors has led to commitments, such as those in the Grand Bargain, intended to bring transformational change. These include promises to address inequalities in the system, such as the inequitable recognition given to local actors despite their frontline role in humanitarian responses.”

Decolonisation

The New Humanitarian

Aid and Policy Feature 12 August 2022

Decolonising Aid: A reading and resource list

A repository for all things decolonisation and aid.

Human Rights First person 14 March 2023

Flipping the narrative: The roots of the refugee protection system are colonial and racist

'We need a movement where refugees lead the way, while true allies ensure that they are not taking power and agency away from people in the name of empowering them.'



Sana Mustafa

Feminist human rights defender and CEO of Asylum Access, a family of organisations advocating for a more equitable refugee response system

WHITE SAVIORISM IN INTERNATIONAL DEVELOPMENT



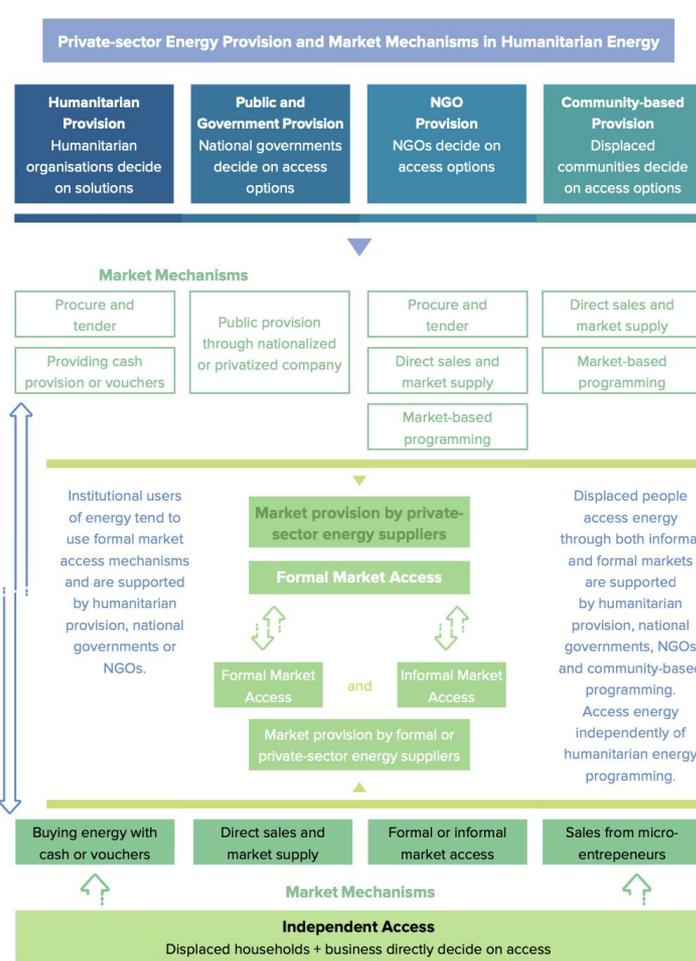
THEORIES, PRACTICES AND LIVED EXPERIENCES

Edited by

Themrise Khan, Kanakulya Dickson, Maika Sondarjee

The Nexus & Delivery Models

Delivery Models are defined as “the combination of the technology, finance, management activities, policy support, legal arrangements and relationship types required to supply energy to a group of people or end users” ([Bellanca and Garside, 2014](#)).





ELSEVIER

Energy Research & Social Science

Volume 89, July 2022, 102545



The Humanitarian Energy Co-Design Toolbox

From Theory to Practice: A review of co-design methods for humanitarian energy ecosystems

Benjamin L. Robinson  , Alison Halford  , Elena Gaura 



Co-Design Toolbox

Toolbox & Training Pack How-To Guide

Outsight International Energy Team
 EnAccess Foundation

The Co-Design Toolbox

90% of the 110 million forcibly displaced people on our planet do not have access to modern, reliable, and sustainable energy systems and services in their current living environment, often relying on diesel-powered generators for occasional energy access. In addition, forcibly displaced people are left out of key decision-making processes that determine their own energy futures. Outsight International and the EnAccess Foundation recognise this challenge and look to deconstruct the systemic barriers to transformative program design, implementation, and evaluation through their practitioner-facing Open Source Humanitarian Energy Co-Design Toolbox.

This toolbox collects, collates, and categorises co-design theory and practice across the humanitarian project cycle (the Data Layer) - making it accessible to practitioners through a highly curated database with graphic format (the Presentation Layer) including case studies and training materials (the Training Pack). From deconstruction and localisation to data collection and analysis methods to many more, this toolbox represents the state of the art in Transformative Humanitarian Practice.

Humanitarian Energy Co-Design Toolbox

THE DATA LAYER

A collection of key theories, tools, quality standards, methods, and case studies for transforming humanitarian energy co-design practices.

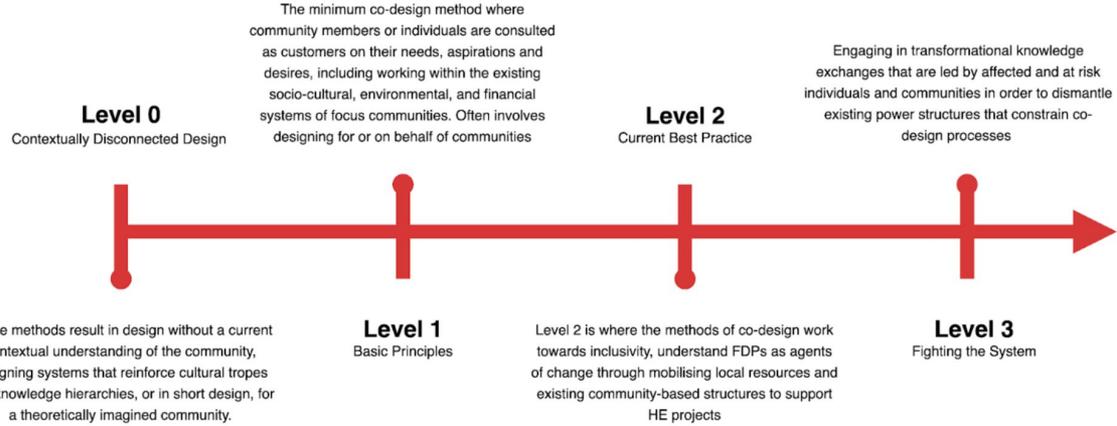
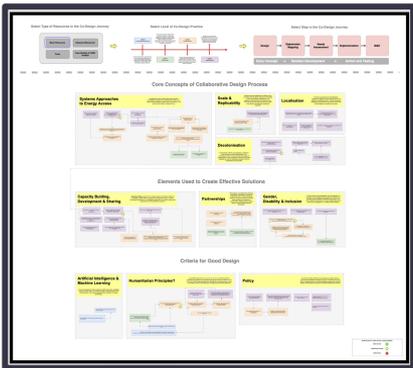
THE PRESENTATION LAYER

A clear representation of key data from an "info system" perspective directly focused on key project areas for humanitarian energy practitioners.

THE TRAINING PACK

Accompanying resources that enable humanitarian organisations to embed transformative co-design processes within their own organisations.

This document contains all the collated information from the Humanitarian Energy Co-Design Toolbox project which provides the contents for the training pack outlined above. It is directly supported by the [project MIRC board](#) (Password: EnAccess).



Potential Pathways

To Engaging the Entire Humanitarian
Clean Cooking System

Improved Cookstoves...?

E-FC

E-Cooking

Biggest for Enterprise

**Interesting
Possibilities**

Improved Cookstoves

What holds the most potential for institutional clean cooking programmes?

Usafi Green Energy Limited - Kakuma, Kenya

Institution cook stoves



We offer different sizes of Institutional cook stoves and incinerators. They include:- **100 Litres, 200 Litres and 300 Litres** .

Usafi green energy is embarking on a scale up plan on installing incinerators to social joints such as schools mostly to burn and dispose the sanitary pads and other waste.

LPG

What hold the most potential for institutional clean cooking programmes?

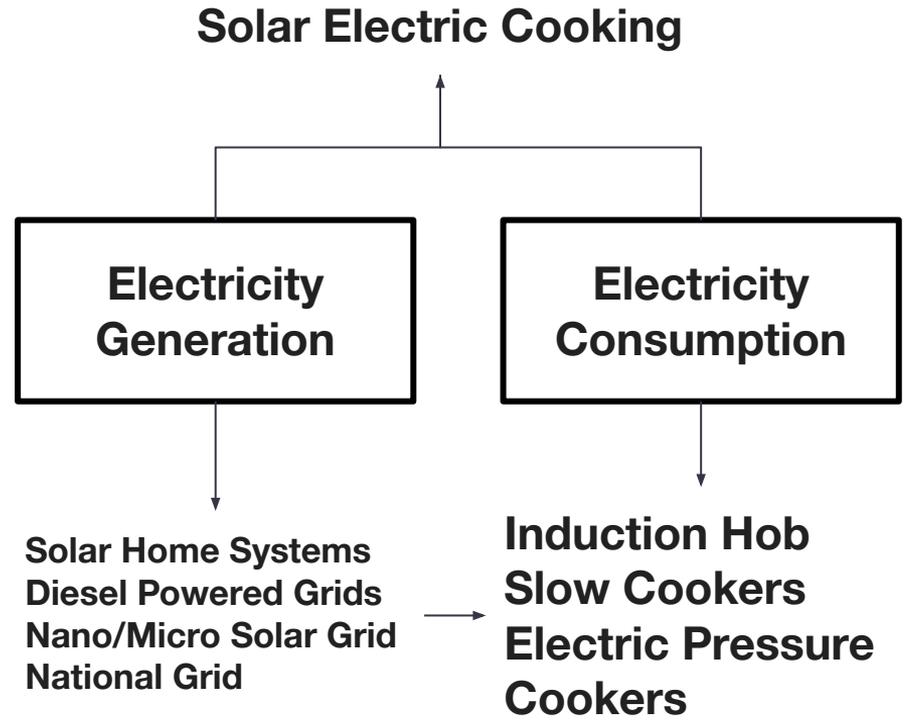
BRIEFING NOTES

Rohingya refugee camps in Bangladesh switch to environmentally friendly LPG

By Andrej Mahecic
23 November 2018

E-Cooking

What hold the most potential for institutional clean cooking programmes?



CARE International



CARE International in partnership with Innovation Norway and DANIDA piloted three community solar kitchens across Kyangwali Refugee Settlement in western Uganda in an effort to create the first truly sustainable refugee settlement. The four key project aims were to:

- provide clean cooking service to at least 50 households of Kyangwali village,
- reduce the use of firewood in Kyangwali refugee camp and save the environment,
- reduce gender-based violence against women resulting from moving long distances to collect firewood,
- and improve the standard of living of the refugee community of Kyangwali through provision a clean and safe cooking facility (Care International, 2021b, 2021a).

Given the focus on clean cooking needs, wants, and aspirations across this project it was critical that the CARE International-Uganda took an approach that was driven by the refugee settlement residents. This case study will focus on two key areas, first, the key project steps, and second, the key challenges, opportunities, trends, and gaps presented in the project - both in relation to and in the context of the co-design spectrum.



**Community Needs Assessment
to understand community needs**

**Negotiation Process with
Potential Project Partners to
deliver key processes**

**Understanding what works:
Revisiting Community Energy
Needs**

Biogas

What hold the most potential for institutional clean cooking programmes?



Biogas-as-a-Service w/ Smart Metering



Final Thoughts

Three Takeaways

The humanitarian system is a complex weave of socio-cultural, environmental, and financial context - listen to it!

Respond to real needs, not imagined ones.

The institutional scale changes the clean cooking system in humanitarian settings - leverage those changes to explore new and different ways of working

Questions?

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Dr. Benjamin Robinson

Energy Team Lead, **Outsight International**

www.outsight.international/energy