



# HUMANITARIAN **ENERGY** CONFERENCE

16 May 2022  
Kigali, Rwanda

#HumanitarianEnergy  
#HEC2022

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# Session 3 Track B: Innovative Finance and Delivery Models for Scale

15:30-16:45 CAT

Room B

# Moderator



Susanne Hounsell

SNV

# Speakers – Lightning Talks on Innovative Financing Mechanisms



Borja Gomez Rojo

World Food Programme  
(WFP)



Mark Gibson

GPA Coordination Unit at  
UNITAR and NORCAP



George Okuthe

Acumen



Colm Fay

Clean Cooking Alliance

# Energy Efficiency Programme

## Background

- UN committed to reduce its carbon footprint to -45% from 2010 levels by 2030 and Net-zero by 2050
- WFP mainstreams environmental management in our operations through our environmental management system Environmental and Social Sustainability Framework.
- **Internal Carbon Tax** on WFP's global leased vehicles from 2012 and the creation of the Energy Efficiency Program "to decarbonize operations", currently under global facilities management (MSD).
- New Internal Carbon Tax proposed on **commercial flights**, boosting the funding to decarbonization projects (science-based rate of \$100/ton CO2).

## FINANCING MECHANISM

- Any WFP Office can submit a funding application for projects that reduce WFP's published footprint.
- Grant funding, to be executed in 18 months maximum.
- Funding for up to **75%** of the total **implementation costs** of the project including design, equipment, installation, permits, fees, commissioning, etc. (or the extra costs of decarbonization from the business-as-usual).
- Projects will be **evaluated by the EEP Board** on:
  - CO2 equivalent kg/year saved per USD spent
  - Return of Investment (payback time)
  - Total (and relative) decarbonization potential
  - The strategic value
  - How solid the O&M plan is
- The EEP Team in Rome supports technically, and during the application process.

## AREA OF ENERGY INTERVENTION

- Examples of EE Projects
- Design and installation of solar/hybrid and other **renewable energy** systems
  - Replacing **heating/cooling** units with more energy efficient types, and improving controls
  - Upgrades to **building envelope** to reduce heating/cooling demand (wall insulation, shading, (where applicable), etc.)
  - Replacing **office or security lighting** with more energy efficient types
  - Opportunities to switch to the **grid or mini-grid**

## NUMBERS TO DATE

- 44 projects supported in 22 countries



EEP Funded  
Renewable energy  
project - FDP/EDP3  
Kakuma (Kenya)  
January 2022

## KEY CHALLENGES & LESSONS LEARNED

### Challenges:

- Internal awareness of EEP
- Staff time for CO application
- Energy meters (the earlier the better)

### Key Lessons

- Stand-by partners can assist:
  - **NORCAP** in Madagascar, Niger
  - **GIZ** in Nigeria
  - **MSD** in RB Dakar



## LOOKING FORWARD

- To realize our first **Power Purchase Agreement (PPA)**
- To develop an **anchor model** to provide energy to nearby communities (Niger)
- To receive **donors** attention (complement internal funding)
- To **partner** with similar programs (ICRC Transition Fund)
- Apart from just facilities, to explore funding Electric Vehicle, low carbon, supply chain, low carbon aviation, low carbon shipping, etc.
- To decarbonizing a yearly average of 5% of total operations (2030)



# Derisking PPA and Leasing Agreements

Mark Gibson – Operational Lead GPA – UNITAR

# Financial Derisking of PPA / Leasing Agreements

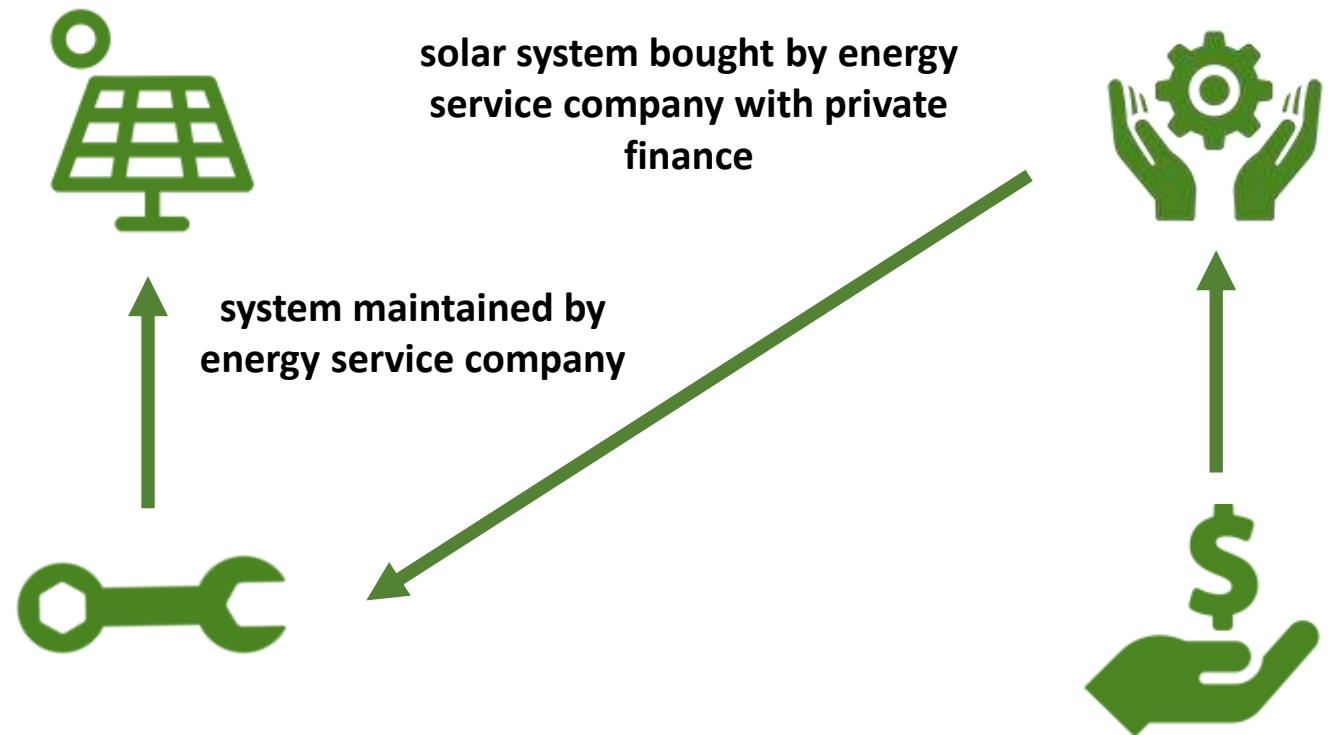
## New Model – Energy as a Service



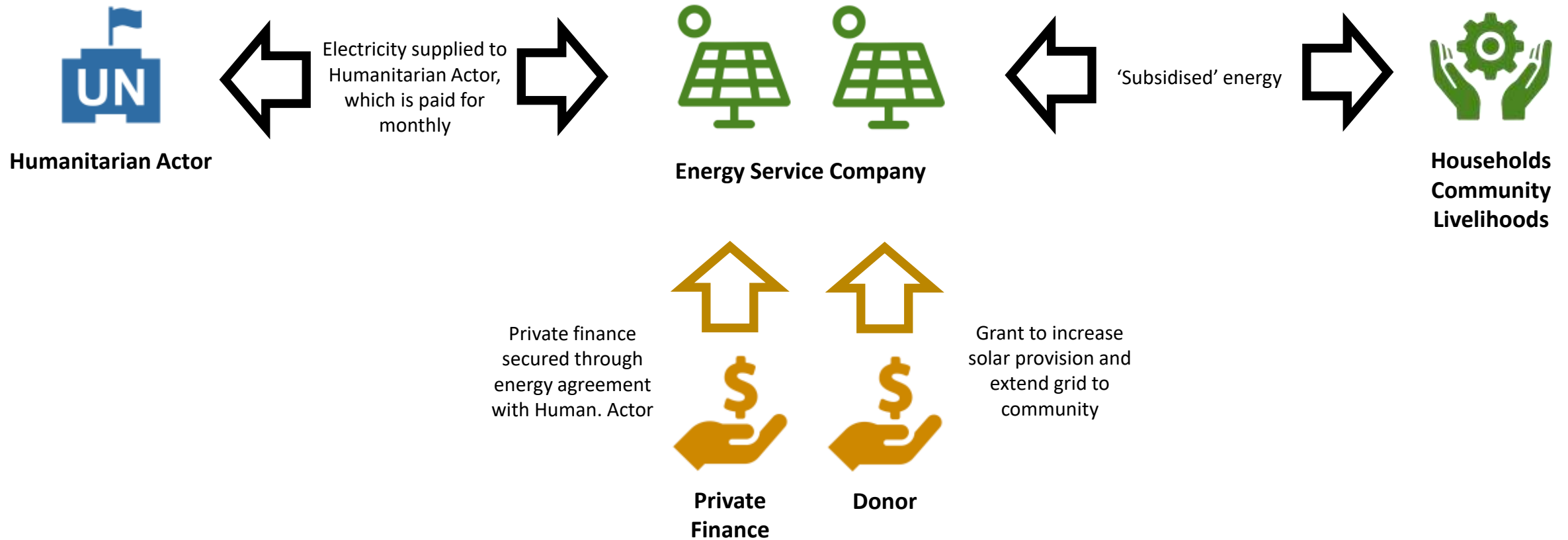
electricity purchased from  
energy service company  
via a long term contract

### Termination Clause in Long Term Agreements

- 1) 12 month liquidity facility
- 2) Third party guarantee mechanism



# Blended Finance: Pushing Anchored Energy Services into Communities





# Results Based Financing for Clean Cooking

Colm Fay, Clean Cooking Alliance



## Clean cooking is the most under-invested health & environmental problem in the world



- 2.6 billion people globally lack access
- \$2.4 trillion annual cost to the world economy
- 4 million premature deaths per year
- 120 million tons of climate pollutants annually

# Results Based Financing is at the forefront of financing innovation in the clean cooking sector



- Clear on ‘What?’ - significant effort invested in defining desired results and targets
- Flexible on ‘How?’ – implementers are free to innovate
- Implementers are incentivized to learn and increase efficiency
- Examples: SEforALL Universal Energy Facility, World Bank Clean Cooking Fund

# Application of RBF in Humanitarian Settings

- Supports both short term results and longer term objectives
- Subsidize demand and/or build sustainable supply & service
- Can be designed for highly uncertain contexts
- Integrated and adaptive learning
- Efficient use of money and can mobilize longer term financing





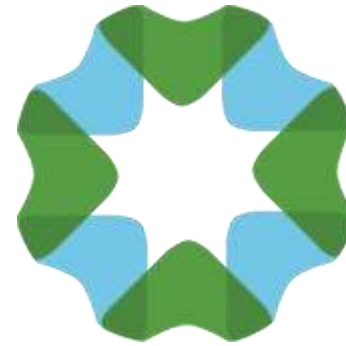
# Results Based Financing Accelerator



- Multi-partner platform aiming to unlock transformational levels of funding via RBF
- Repository of data, knowledge and expertise
- Support rapid design of RBF tools and infrastructure and reduce transaction costs
- Engage more, and more diverse outcome buyers interested in health, climate, livelihoods, gender and other benefits

# Thank you

Colm Fay, Clean Cooking Alliance



**CLEAN  
COOKING  
ALLIANCE**

The Clean Cooking Alliance works with a global network of partners to build an inclusive industry that makes clean cooking accessible to the three billion people who live each day without it. Established in 2010, CCA is driving consumer demand, mobilizing investment to build a pipeline of scalable businesses, and fostering an enabling environment that allows the ecosystem to thrive.

Learn more at [cleancooking.org](https://cleancooking.org)

# Speakers – Presentations on Holistic Delivery Models



Andrea Ranzanici

HumEn



Dave Mozersky

Energy Peace Partners

A young girl wearing a dark headscarf and a patterned shawl is blowing bubbles. She is holding a white bubble wand. In the background, there is a refugee camp with several tents and people. The sky is blue with white clouds. The text "THE PARTNER OF CHOICE FOR HUMANITARIAN ENERGY" is overlaid on the left side of the image.

# THE PARTNER OF CHOICE FOR HUMANITARIAN ENERGY

ETHIOPIA





# WHO



**HumEn - Humanitarian Energy** is an Ethiopian private limited company which aspires to become the partner of choice for the humanitarian world in its search for clean and sustainable energy services, in Ethiopia and beyond.

HumEn is owned by two corporate shareholders:



**Mercy Corps Global** is the majority shareholder. Mercy Corps Global is an international non-governmental, humanitarian aid organization, that works on the front lines of crisis, disaster, poverty, and climate change to create a world where everyone can prosper



**Rensys Engineering and Trading PLC** is the minority shareholder. It is an Ethiopian private limited company and provides renewable energy solutions for under-served communities

# WHY

There are at least 4,7 million FDPs in Ethiopia and it is estimated that **less than 7% of them have access to energy.**

The **perception of temporary nature of refugees** has greatly hindered private sector involvement in the deployment of **sustainable energy infrastructures.**

**Mismatch of time horizons between humanitarian and development sectors** has made it challenging for stakeholders to engage in shared initiatives.

**UNTIL NOW...**

# VALUE PROPOSITION



## Sustainable financials

Asset-leasing for reliable, de-seasonalized cash-flows; mini-grids for long-term revenue perspectives



## Geographical bundling

Optimization of capital and operational costs in fragile areas for better viability



## Energy-as-a-Service

Turn-key solutions inclusive of operations and maintenance over contract period



## Complementary of skills

Expertise in both humanitarian and off-grid energy sector, in Ethiopia and beyond

# VALUE PROPOSITION



## Here to stay

Commercial business with no time-bound budget constraints linked to donor funding cycles



## Linking public and private

For-profit and non-profit workstreams operating synergically towards shared mission and goals



## Scalable and replicable model

Business allowing exponential growth through revenues and economy of scale



## Green and sustainable

Renewable energy-based services and solutions to phase out fossil fuels

# WHAT

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HumEn aims to **design, finance, deploy and operate solar and battery-based power infrastructures** on behalf of its clients, through two business models:



**Solar-hybrid mini-grids for refugee settings and host communities,** providing reliable, affordable 24-hour-a-day, renewable energy charged on kWh-basis.



**Solar and battery-based systems through asset-leasing model for humanitarian agencies (UN, NGOs) and operations,** by undertaking energy efficiency improvements such as replacing diesel generators with renewable energy-based solutions

# WHAT

HumEn aims to **design, finance, deploy and operate solar and battery-based power infrastructures** on behalf of its clients, through two business models:



**Solar-hybrid mini-grids for refugee settings and host communities**, providing reliable, affordable 24-hour-a-day, renewable energy charged on kWh-basis.



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# HOW



HumEn will invest up to  
**three million USD**  
on its initial pipeline  
of projects

**HumEn aims to invest** with the ambition to scale-up its activities once the viability of the business is proven.

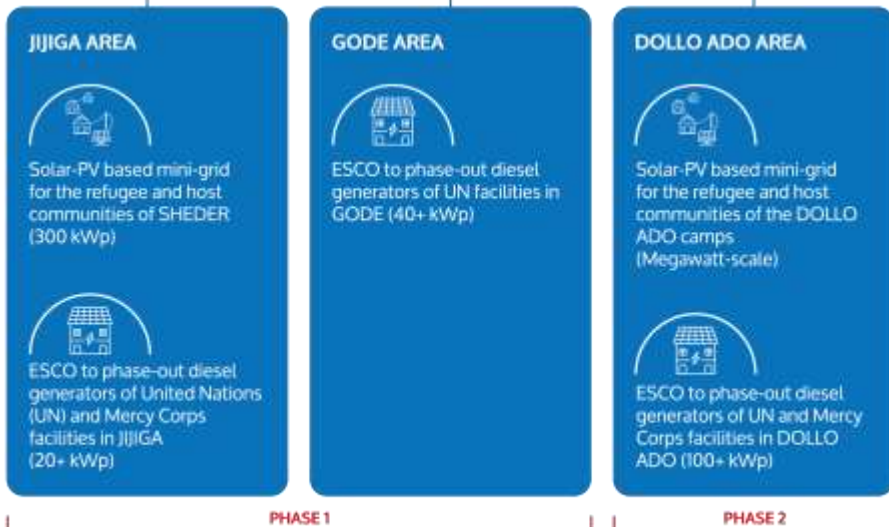
The Engineering, Procurement and Construction **(EPC) elements are outsourced to a consortium of national and international leading companies** in the sector.

**Operations will be delegated** to Rensys through a service-level contract with HumEn.

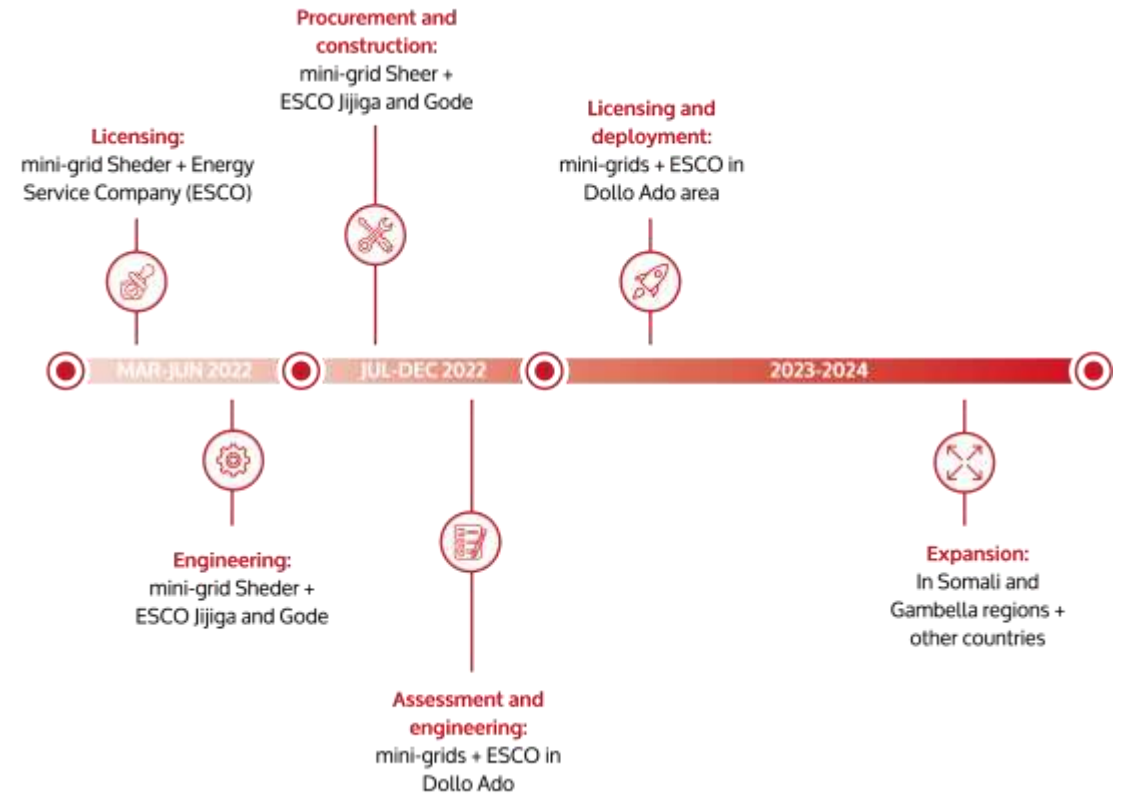
# WHERE



HumEn has chosen to start its operations in the **Somali Regional State of Ethiopia**. The initiative has **substantial support** from prospective clients.



# WHEN





# HUMEN

Humanitarian Energy

## CONTACT

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Managing Director

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# Peace Renewable Energy Credits (P-RECs)

## Case Study: IOM Humanitarian Hub, Malakal, South Sudan

Dave Mozersky, Energy Peace Partners

# P-RECs: Supporting RE in fragile settings

## P-REC value proposition

Monetizes RE generated in fragile, energy poor countries where RE investment is limited. Provides entry points for corporates in voluntary REC markets to support high impact projects.

## Peace Renewable Energy Credits (P-RECS)

High-impact renewable energy credits (RECs) that connect international RE markets with high-impact projects in fragile states, unlocking \$1BN+ Energy Attribute Certificate market

**1MWh = 1P-REC**

**Sales** allow developers additional way to monetize RE, unlocking new revenue stream. **Purchases** help multinational companies meet environmental and social goals



# IOM Humanitarian Hub - Malakal, South Sudan

- The P-RECs were generated from the **700kW solar system at IOM's Humanitarian Hub in Malakal, South Sudan.**
- The core 700kW solar plant powers the IOM Humanitarian Hub, which supports over 30 UN agencies and NGOs that support the Malakal IDP camp and surrounding communities.
- The Malakal IDP camp houses more than 30,000 IDPs, next to the destroyed regional capital of Malakal.



# P-RECs extend community impact: Solarizing Malakal Teaching Hospital

- **2021 P-REC agreement between IOM and 3 Degrees from IOM solar system. P-RECs were transferred to Block.**
- The P-RECs provide a new way to create value from renewable energy from the 700kW Humanitarian Hub solar system.
- The transaction allows IOM to **fund the 24/7 solar electrification of Malakal Teaching Hospital**, the main healthcare facility serving the city of Malakal and the surrounding region.
- The Hospital currently depends on diesel generators and is very constrained by limited access to power.
- EPP will register the IOM solar project and issue the P-RECs.



# Area of energy intervention: P-RECs

- This project was groundbreaking in multiple ways:
- The IOM solar system, built in 2020, was the first PPA-type project model for a UN agency and private sector RE developer.
- These were the first **P-RECs to be issued from South Sudan**
- It was the **first ever P-REC agreement with a UN agency**.
- EPP is working to expand the P-REC market. We are currently the authorized I-REC country issuer **in South Sudan, DRC, Somalia and Chad**.



# Key challenges and lessons learned

- This project moved very slowly, as it was the first of its kind
- It required committed and flexible partners – IOM, 3Degrees and Block. IOM and other UN agencies can not “sell” P-RECs or generate profits, so it required a creative solution.
- We now have a **replicable model for issuing P-RECs from humanitarian and UN-owned/supported RE projects**, which can be used to support new humanitarian initiatives and projects.



# Case Study: Goma, DRC

## Extending social impact of RE projects



P-REC Buyer: Microsoft (inaugural buyer)

P-REC Seller: Congolese solar developer Nuru

Generation Asset: New 1.3MW off-grid solar plant (Goma)

P-REC sale funded: Community Streetlights

Impact:

- ❑ New renewable energy infrastructure,
- ❑ First time electrification (project), first time public streetlights (P-RECs)
- ❑ Improved nighttime security and increased commercial activity for 28,000 residents



Photo credits: Nuru

# P-RECs benefit....



## Companies

**Microsoft** purchased first P-RECs to support climate equity and meet sustainability goals (2020).

**Google** purchased P-RECs to support responsible mining and meet sustainability goals (2020).

**Block** purchased P-RECs to meet financial inclusion commitments (2021)



## Project Development

Minigrid operator **Nuru** (DR Congo) installed community streetlights through P-REC sale to Microsoft.

**Nuru** partially financed and constructed two minigrids through P-REC sale to Google.

**IOM** in South Sudan funded hospital solar electrification (2021)



## Local Communities

**Streetlights** have increased livelihood opportunities and improved security for 28K people.

**Minigrids** are providing first-time electrification to underserved, rural communities, providing alternatives to poaching and artisanal mining.

**Solar system** will provide 24/7 electricity to a destroyed hospital that operates at limited capacity.



# Looking forward

- The market and corporate interest is growing:  
2020: First two corporate P-REC purchases (DR Congo)  
2021: First P-REC transaction from South Sudan, with a UN agency  
2022: Over \$500,000 in P-REC revenue to date (multiple countries)
- We are expecting additional corporate P-REC transactions this year from new countries
- We are growing the P-REC (i.e RE project) pipeline, and will continue to partner with humanitarian actors and renewable energy developers.
- We are launching the **P-REC Aggregation Fund** to help grow and catalyze the P-REC market to support new RE projects in fragile states.
- We expect that the **USD \$10MN Fund will unlock USD \$90MN** in new renewable energy investment in fragile states.

# Thank You



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Thank you for attending the Innovative Finance  
and Holistic Delivery Model session at  
#HEC2022!