

# Challenging Climate and Gender Paradigms: SunWASH Ethiopia

How can we scale to reach SDG6 while also designing for local climate resilience?



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# Welcome

- Part 1: SunWASH Ethiopia
- Part 2: Panel Discussion: Challenging climate and gender paradigms
- Part 3: Break-out Session
- Part 4: Conclusion and Call to Action

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# The situation in Gambella, Ethiopia



ETHIOPIA

GAMBELA

REGISTERED REFUGEES, ASYLUM SEEKERS  
and IDPs in Gambella

360,462 individuals  
72,196 households

Mainly South-Sudanese refugees and IDPs  
from other regions of Ethiopia

- **The challenge:** Lack of access to safe water and lack of access to sanitary facilities – both inside camps and in host communities
- Existing water systems were **unstable and very costly** (run on diesel driven generators)
- The Grundfos Foundation wanted to provide access to safe WASH for refugees in Gambella in a durable and sustainable way

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**Match-making by the Foundation turns  
into a multi-skilled partnership**

# The Programme and Results (so far)

- 4 solarized water systems in Pugnido I and II refugee camps – setting new standards for how to create access to water in Ethiopia (state of the art)
- 39.590 people accessed safe and adequate water from solarized water systems, including in ECCD, school and health care facilities in refugee camps
- 1.400 people have access to improved sanitary facilities





# Problem-focused Innovation

## The multi-skilled partnership:

- Bringing together the engineering professionals, the community-based approach and the technology of Grundfos

## The technology:

- Utilizing tTem-technology to assess ground water
- Reducing carbon emission by introducing solar-powered water supply-systems (replacing diesel-powered generators)

## The Nexus- approach:

- Working inside and with host communities to increase social cohesion, using Plan's dual mandate





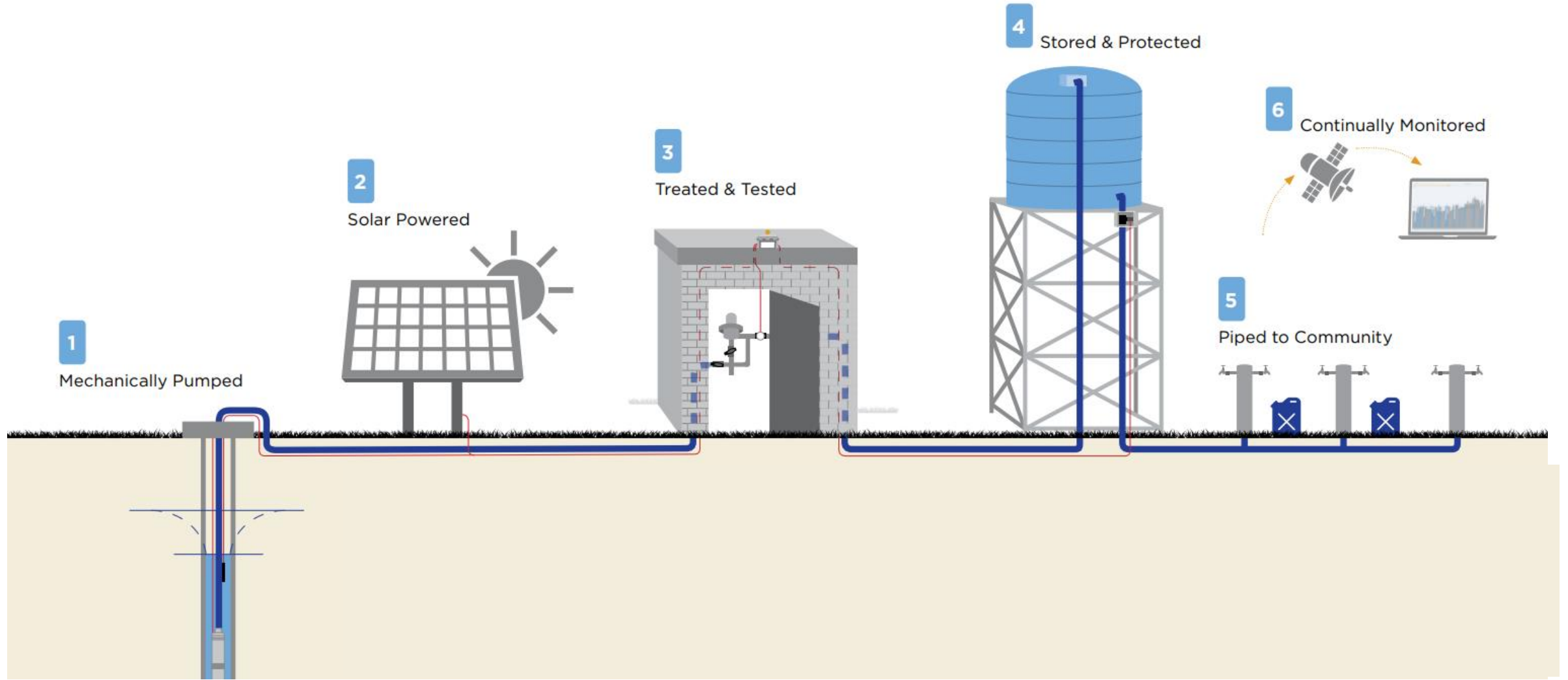
# The “Spin-offs”

- Phase II of SunWASH: Partners are ready to implement
- Technical training and creation of green jobs with Grundfos and Danida funds – to ensure skilled WASH professionals
- Acknowledged as “best practice” by UNHCR and showcased as a state-of-the-art solution in refugee settings – using tTem-technology in other projects
- Bringing the solar-powered water systems into other refugee settings (e.g. Kenya)
- WASH research partnership being scoped with universities in Copenhagen and Ethiopia





# Solar Powered Water Systems (SPWS)



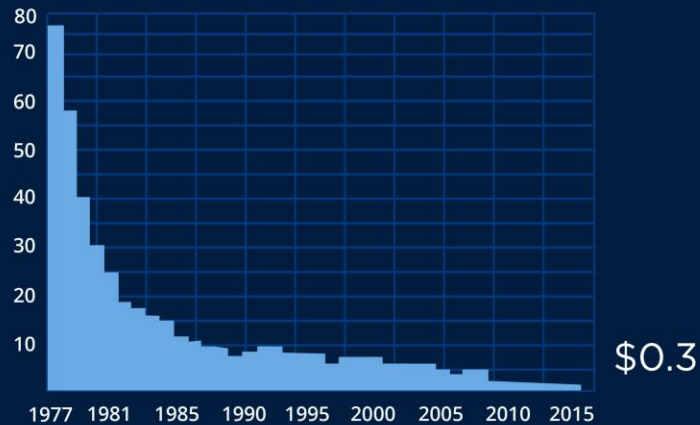
# SOLAR WATER PUMPING

Ready for mainstreaming?

<https://product-selection.grundfos.com/size-page?qcid=215851680>  
Adapted from <https://www.worldbank.org/en/topic/water/brief/solar-pumping>

## PRICE HISTORY OF PV SOLAR CELLS

(IN US\$ PER WATT)\*



\*Source: Bloomberg New Energy Finance & pv.energytrend.com

FLOW UP TO

**220**  
M<sup>3</sup>/H



WITH **270**  
HEADS



LIFESPAN OF A  
SOLAR PANEL

**25**  
YEARS



## CHALLENGES



THEFT



AWARENESS



MAINTENANCE  
REPAIR

DIESEL  
PUMPING

VS

SOLAR  
PUMPING



BREAKEVEN:  
1 - 3 YEARS

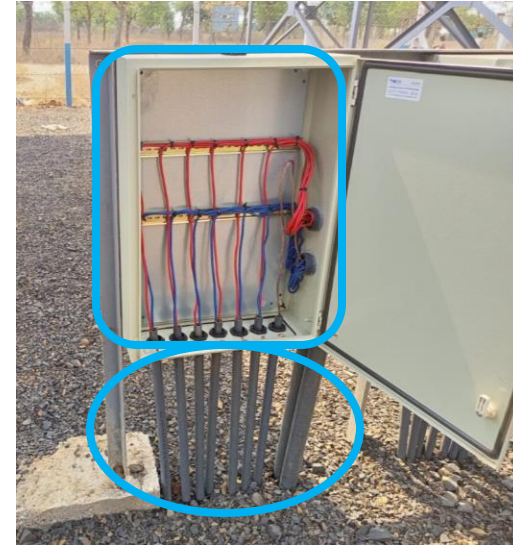


- OPERATION
- MAINTENANCE
- REPLACEMENT
- INITIAL

LIFE-CYCLE-COST-COMPARISON



Projects *without* quality standards

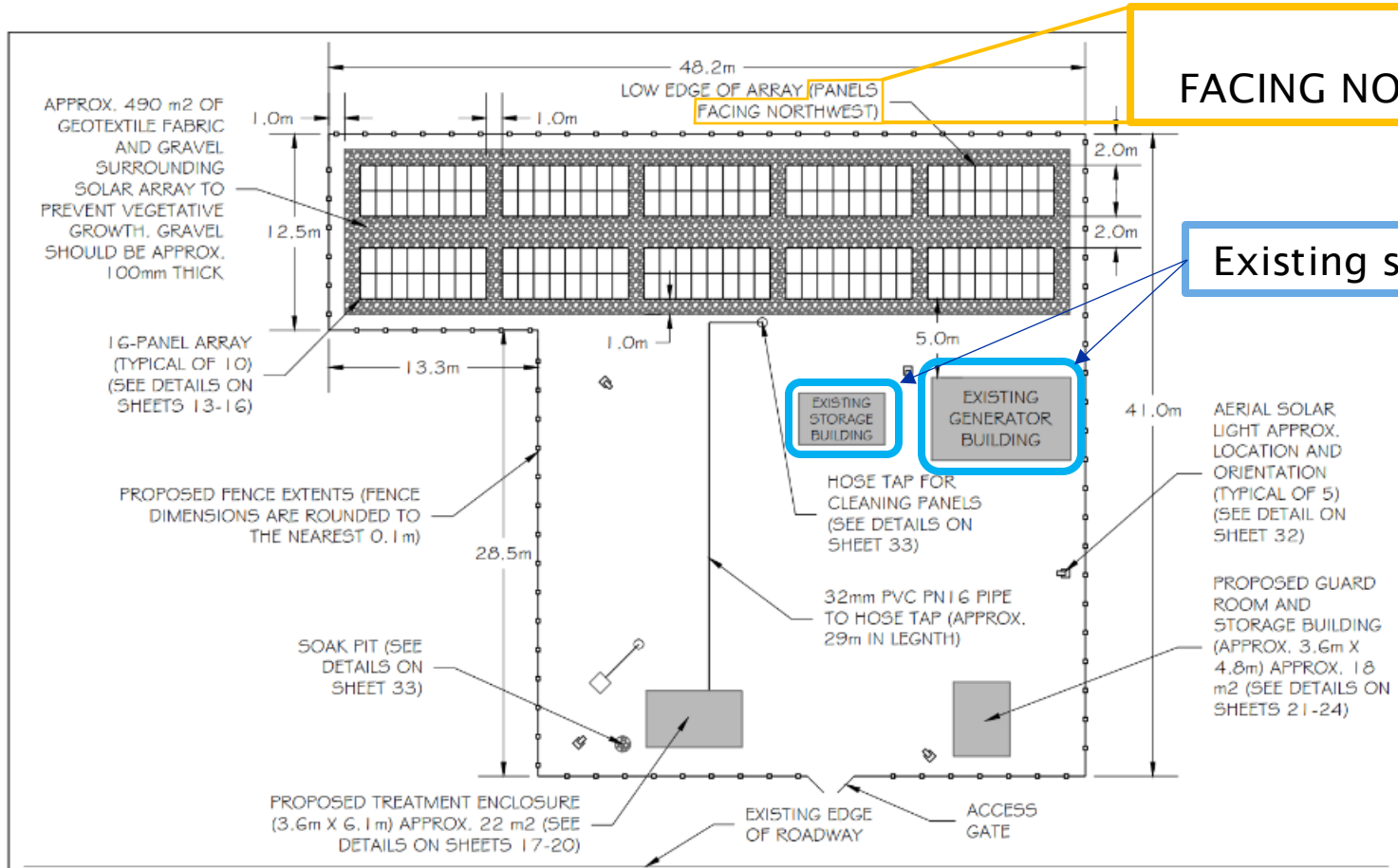


Projects *with* quality standards

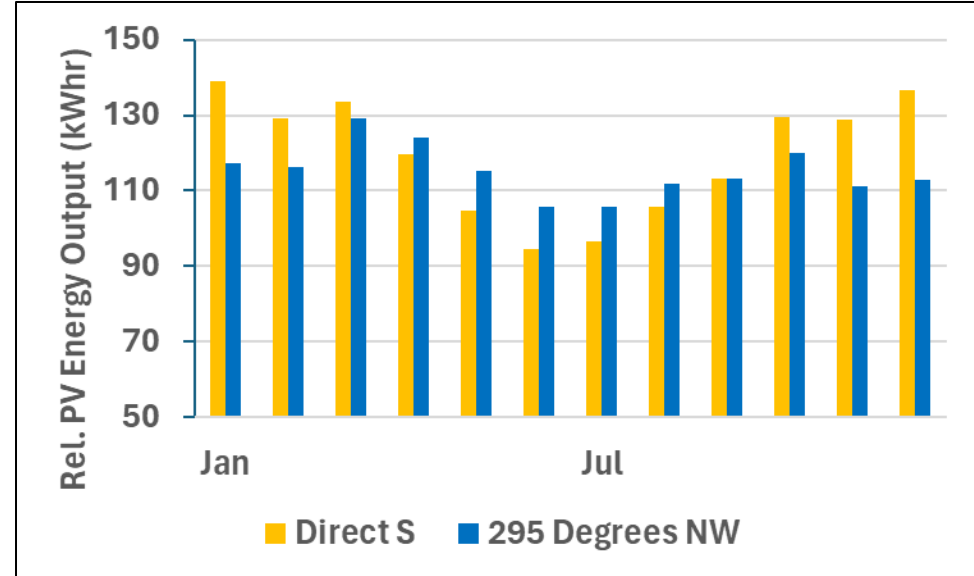
# SunWASH Ethiopia



# Pugnido 1 Village 12



“(PANELS FACING NORTHWEST)”



- Savings: >\$10,000 USD in panels, racks, foundations, wiring, and site prep.
- Cost: Time and money discussing among partners and consultants.

DATE: 23/07/2021 DRAWN BY: JTD REVIEWED BY: JMZ SCALE: 1cm = 3.5m PROJ. #: 00.094.1.1	SHEET TITLE: <b>PUGNIDO 1 VILLAGE 12 - SITE PLAN</b>	<table border="1"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV.	DATE	DESCRIPTION				
REV.	DATE		DESCRIPTION						
SHEET NO. 3 of 33	PROJECT NAME: GAMBELLA, ETHIOPIA REFUGEE CAMP - GENERAL	<small>Copyright © Water Mission 2021 - Use of this document constitutes acceptance of Water Mission's Terms of Use available at <a href="http://www.watermission.org/terms-of-use/">www.watermission.org/terms-of-use/</a></small>							



# Panelists



**Ruth Haile**  
WASH Officer, SunWASH Project  
Plan Ethiopia



**Mandy Goksu**  
Partnerships Director, Institutions  
Water Mission



**Anne Smith Petersen,**  
Chief Operating Officer  
PlanBørnefonden (Plan Denmark)



**Iben Rasmine Østergaard Marcussen**  
Team Lead, WASH/ECD,  
PlanBørnefonden (Plan Denmark)



**David Inman**  
Sr. Director, Global Partnerships  
Water Mission



**Chris Cope,**  
Director, Engineering Design & Support  
Water Mission

# Polling Question 1

Globally, what percentage of licensed engineers in water utilities are women?



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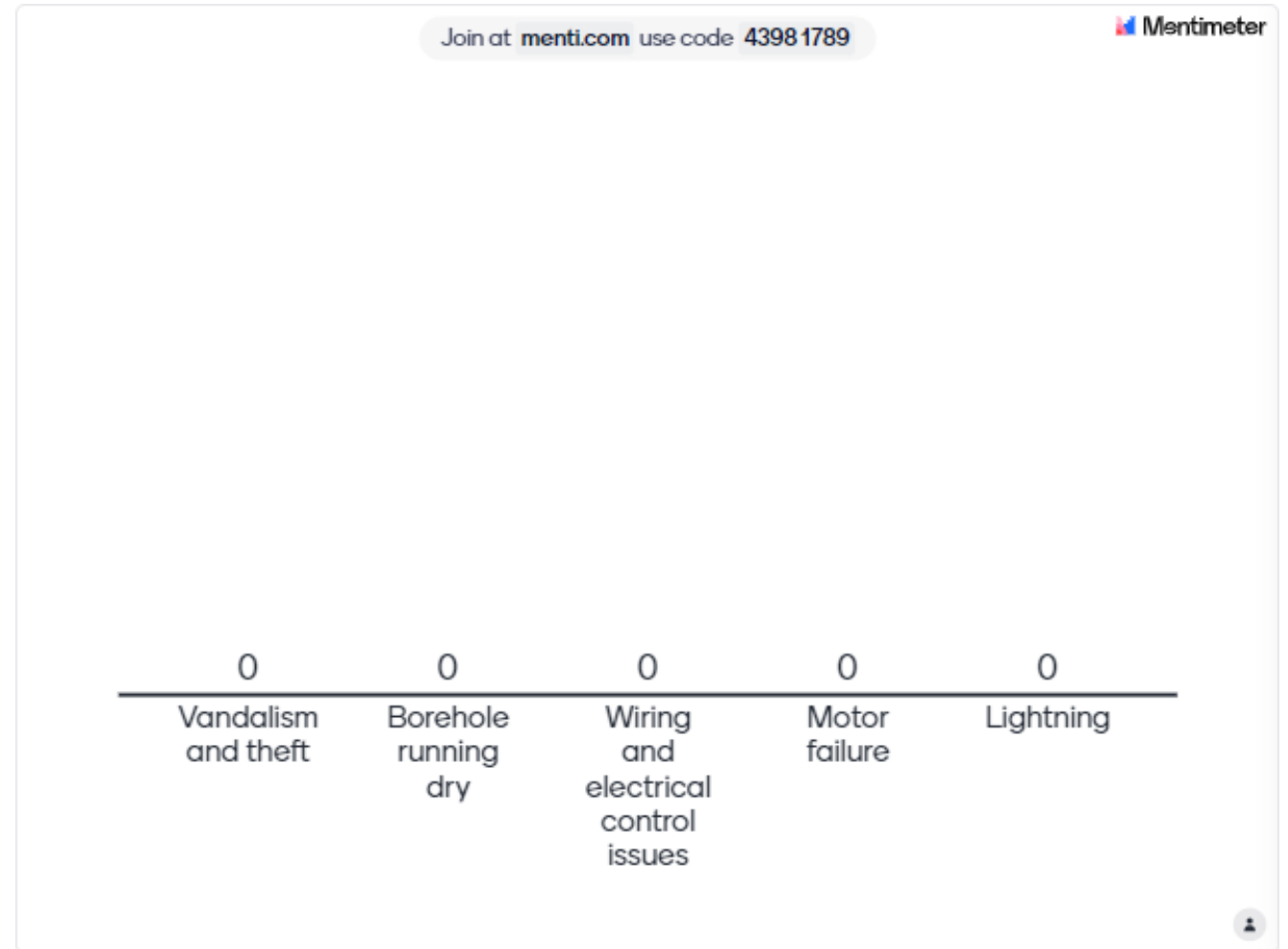


Source: World Bank. 2019. *Women in Water Utilities: Breaking Barriers*.



# Polling Question 2

What is the most common cause of solar-powered water system failure?

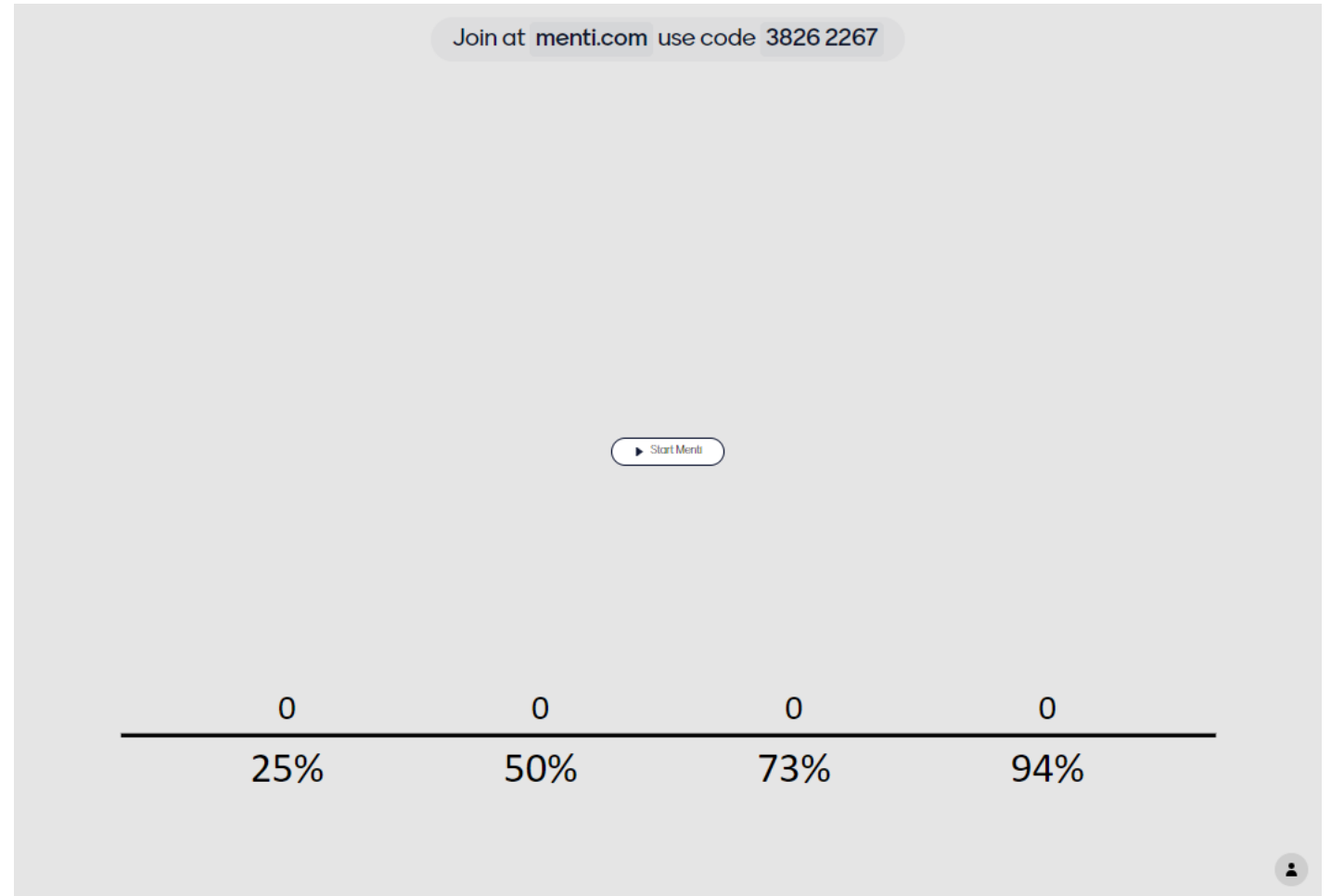


Source: UNICEF. 2016

# Polling Question 3

Since 1989, what has been the percentage decrease in the cost of solar panels?

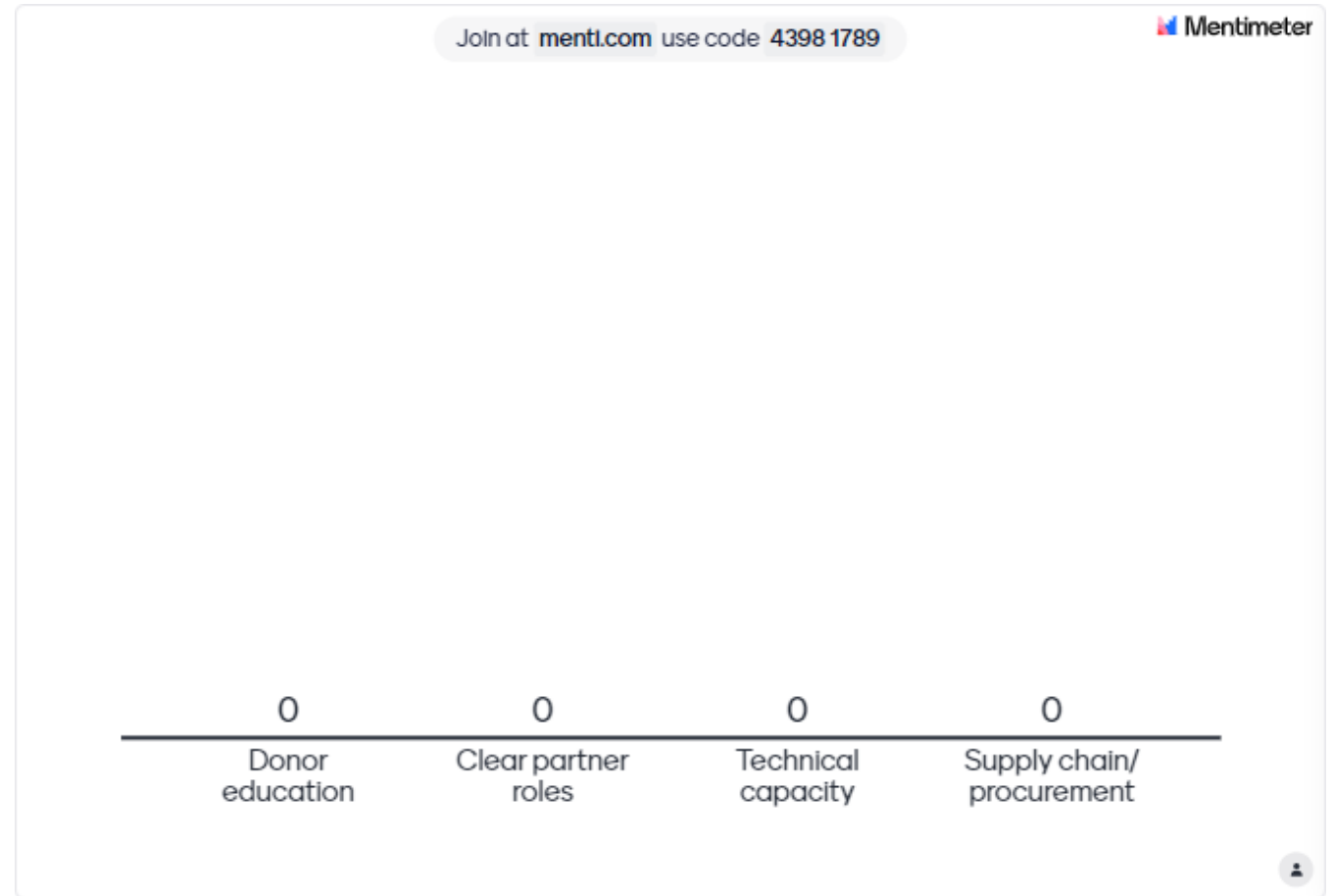
*Source: World Bank. 2019. Women in Water Utilities: Breaking Barriers.*





# Polling Question 4

Of these four key success factors for scaling SPWS, which is the most critical?

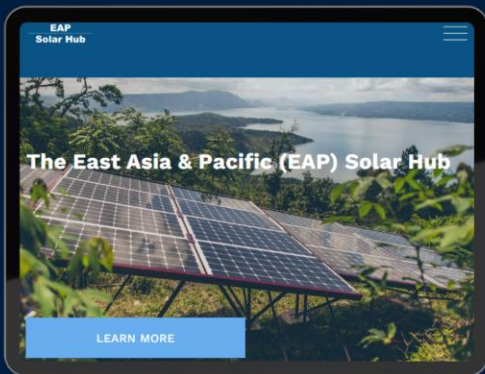


# Breakout Session

What is the best way to eliminate barriers and to build resilience and encourage adoption of the technology?

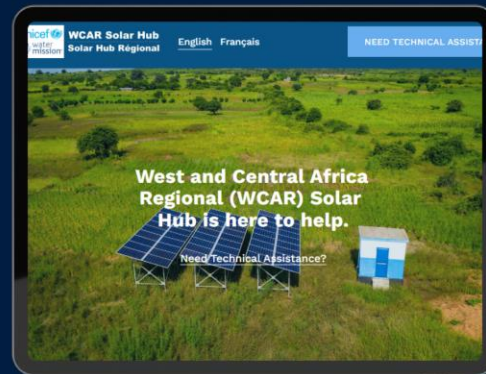
*(for discussion in your group)*

# Learn more about our solar initiatives



## East Asia and the Pacific Solar Hub

[eapsolarhub.org](http://eapsolarhub.org)



## West and Central Africa Regional Solar Hub

[wcarsolarhub.org](http://wcarsolarhub.org)



## Additional Resources