



**Sustainable  
United Nations**

# How is the UN beating pollution?

Isabella Marras, Sustainable UN coordinator  
Nairobi, 15 February 2018



United Nations  
Environment Programme



UNITED NATIONS

ENVIRONMENT MANAGEMENT GROUP



*"Supporting the 2030 Agenda for Sustainable Development by enhancing UN system-wide collaboration and coherent responses on environmental matters"*

# Sustainable UN Objectives



UNITED NATIONS

ENVIRONMENT MANAGEMENT GROUP

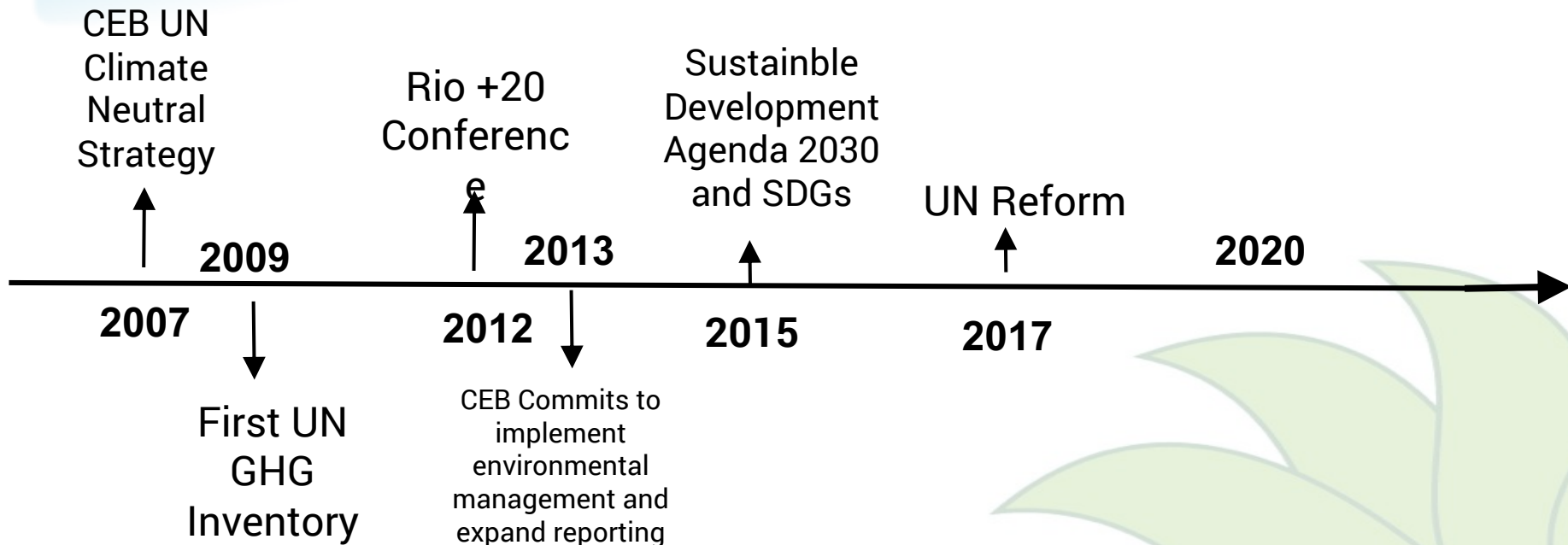


"Supporting the 2030 Agenda for Sustainable Development by enhancing UN system-wide collaboration and coherent responses on environmental matters"

**Sustainable UN** is an initiative of UN Environment launched in 2008 to assist UN system to reform towards **climate neutrality and environmental management...**

...with tools, methodologies and technical assistance to enable the integration of sustainable development principles in the management of facilities and operations.

# UN Climate Neutral 2007 - 2020

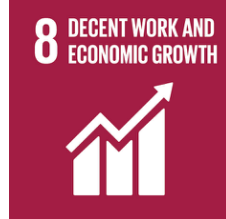


# The Sustainable Development Goals start with ourselves!

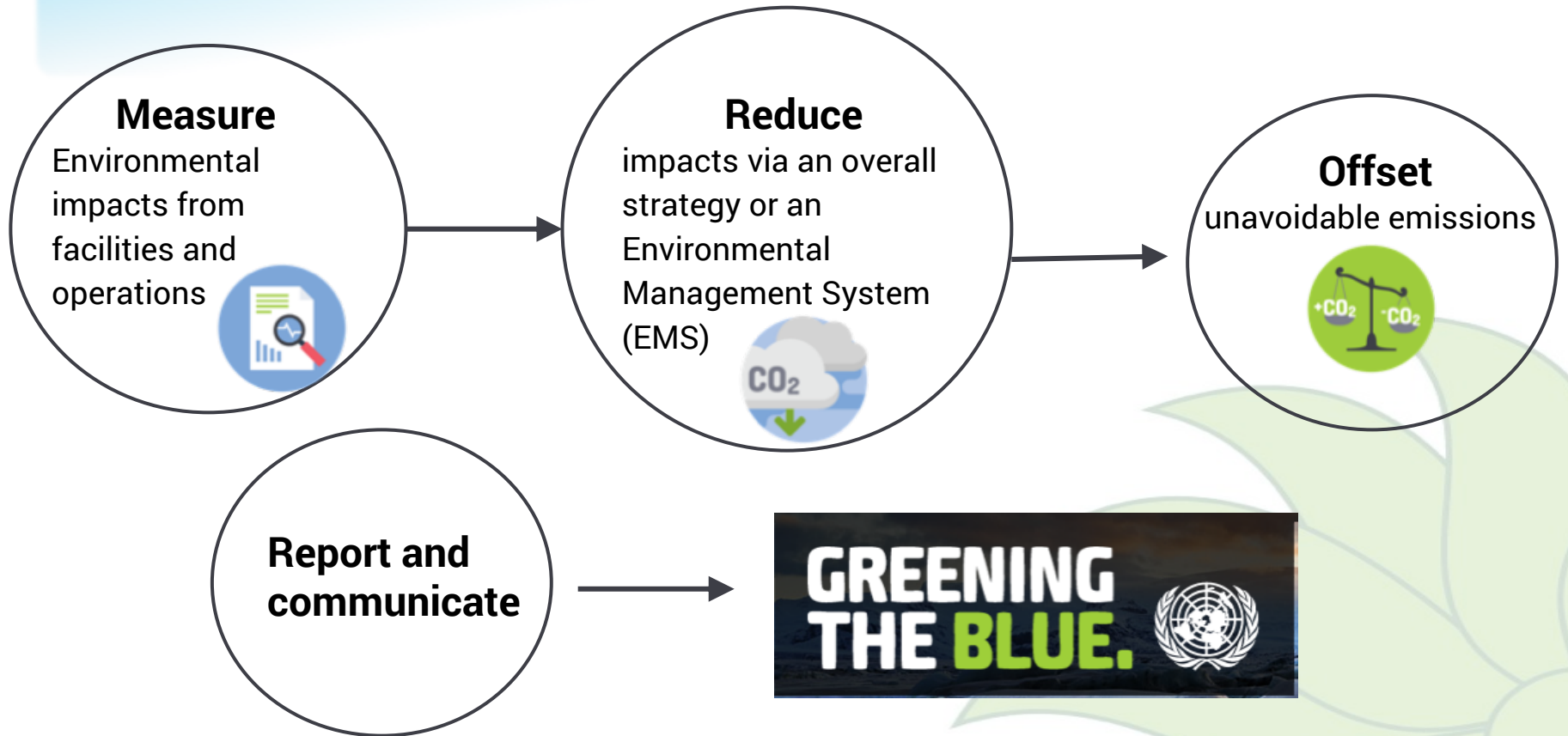
The UN Climate Neutral Roadmap responds to a number of Sustainable Development Goals and indicators that we cannot morally afford preaching to others without implementing at home.



These range from efficiencies in consumption and production (12), integrate climate in policies and strategies (13), to transparent reporting (16), promotion of clean energy solutions (7) and overall better resources management (6,8,11)



# Approach towards a climate neutral and more sustainable UN



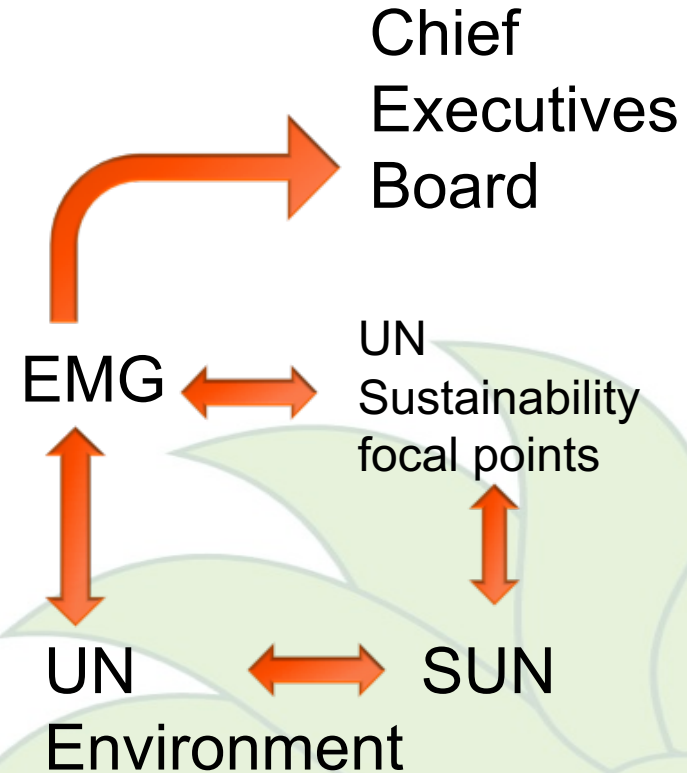
# What SUN has provided so far

- A context through the EMG and the CEB for UN organisations greening efforts
- Collected data and monitoring progress on greenhouse gas (GHG) emissions, waste and water management
- Technical support, capacity building
- Common methodologies, tools, templates, harmonised approaches
- Organized exchange, mutual support and facilitated joint projects among organisations
- Provided the Greening the Blue platform to celebrate the UN's achievements.




# How

- Small team (3 staff plus external experts)
- Strong network (over 60 sustainability focal points in UN organisations and beyond)
- Core team funded by UN Environment
- Partnerships within the UN system or beyond on key project items
- Accent on interagency connections



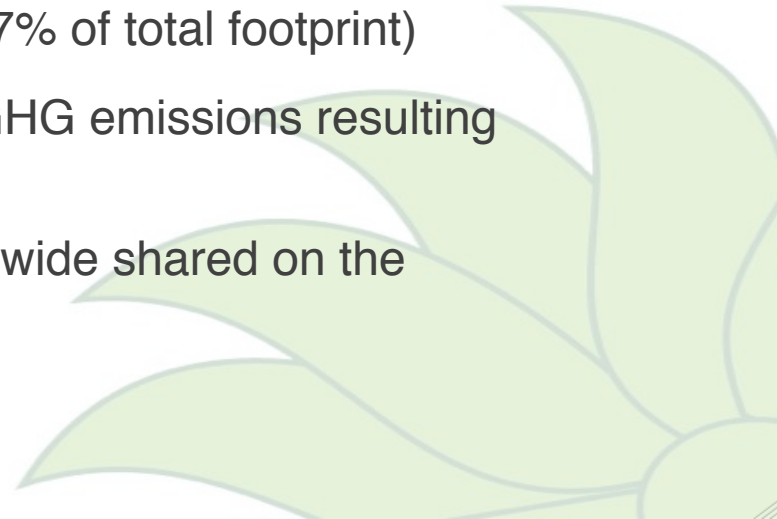
# Examples of services

- Annual Environmental Inventory and Help Desk services
  - **Technical Assistance** to organisation on emissions reductions/waste management measures:
    - 4 Environmental management pilots in New York (HQ); Bangkok (ESCAP& UN environment); Congo (MONUSCO); and Nairobi (WFP in Kenya and the Gigiri Compound)
    - Greening UN environment offices: **Osaka**, Paris and Panama Environmental plans; **Almaty** (environmental assessment of the One UN Office Facility refurbishment plans)
    - Offsetting
  - **Tools and methodologies**
    - UN Environment ICAO UNFCCC Sustainable events (2019-20)
    - Environmental management Toolkit (2018) (with Swedish Environmental Protection Agency)
    - UN Environment WFP Waste Management package and Say Yes to Less campaign (2017-2018)
  - **Internal environmental governance support**
    - Advice to organisations on the drafting of their corporate environmental policies and environmental management systems
- 



# Results

- Annual reports since 2009 improving constantly in scope and detail
- Close to 30 UN entities have developed a system (EMS or other) to tackle corporate environmental footprint
- 39 entities are climate neutral (representing 37% of total footprint)
- 50% of reporting entities show decreases in GHG emissions resulting mostly from efficiencies and savings
- Over 400 stories of UN greening efforts world wide shared on the Greening the Blue website



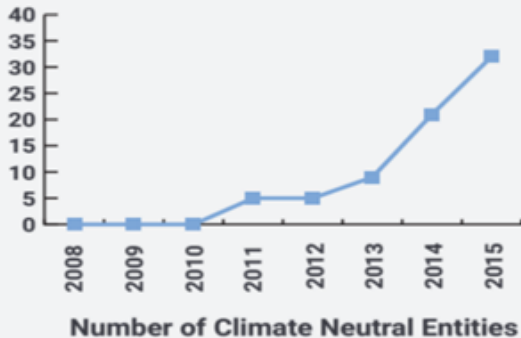
# The SUN Dashboard



## MEASURE



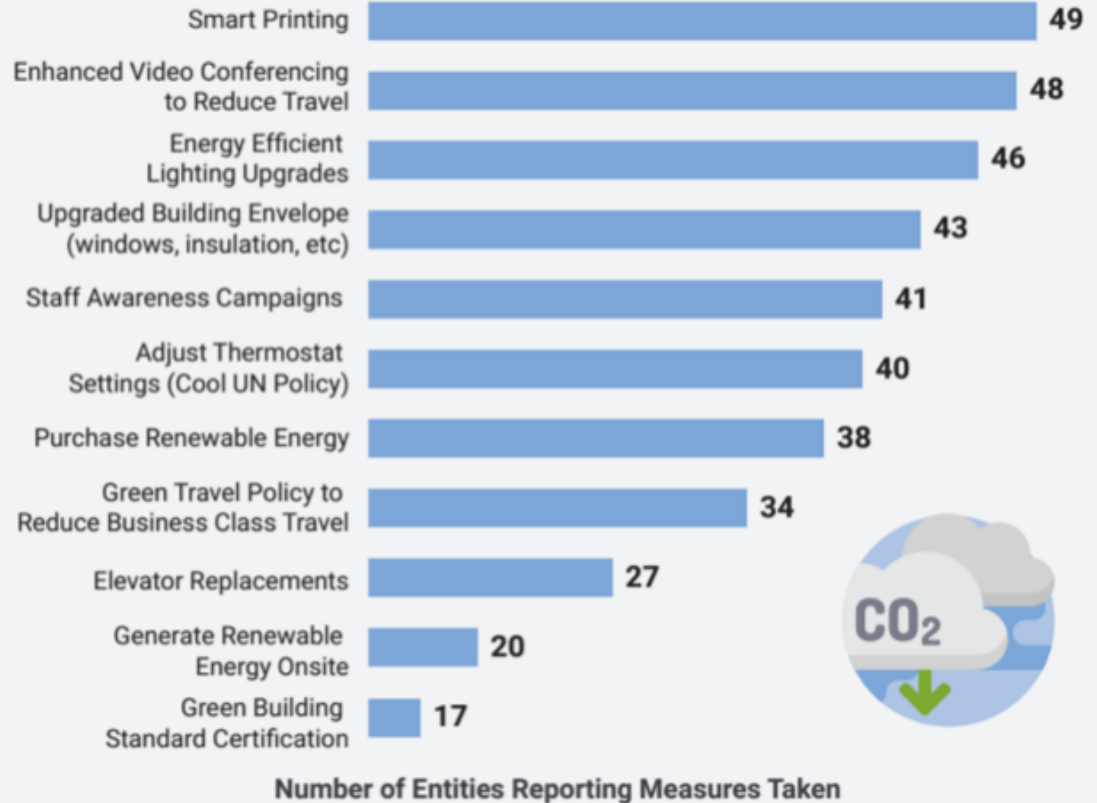
## OFFSET BY 2020



\*\* The number of climate neutral entities for 2016 emissions will be final by October 2016

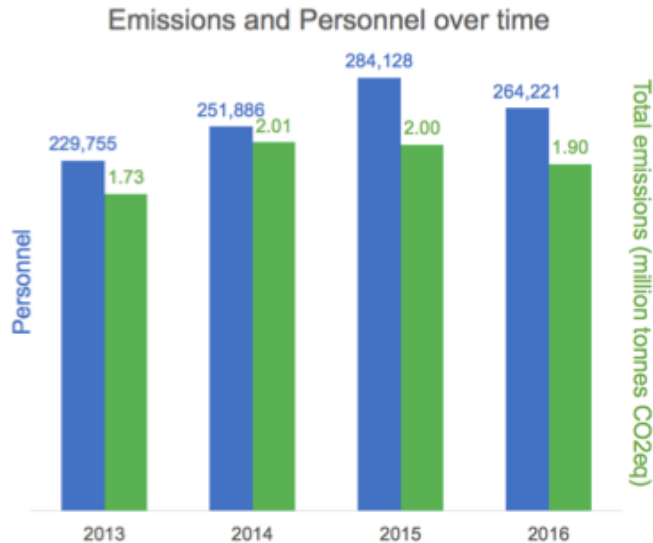
## Emission Reduction Measures

A 2017 UN Environment survey identified the top emission reduction measures undertaken in headquarters locations by the 67 entities reporting in the UN GHG emissions inventory.

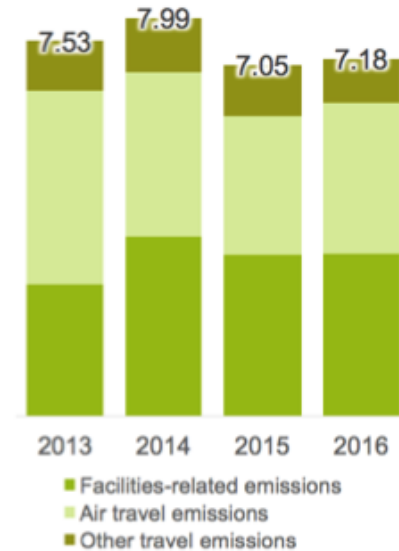


# UN wide 2016 GHG emissions

- 1.90 MtCO<sub>2</sub>eq emitted by 264,221 UN personnel in 2016
- 7.18 tCO<sub>2</sub>eq/capita

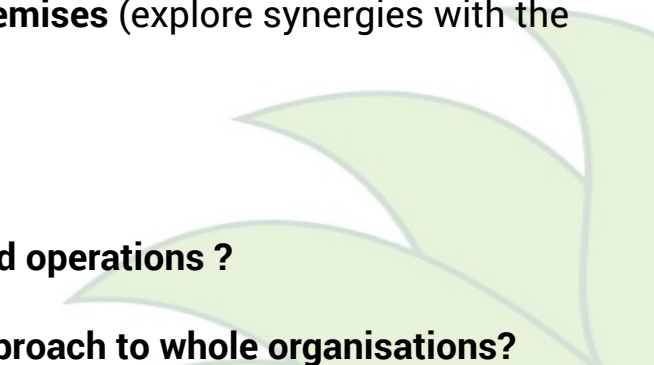


UN-wide per capita emissions  
(tonnes CO<sub>2</sub>eq/personnel)





# Challenges and Opportunities ahead

- More focus on UN Environment priorities to help mainstream them in UN Corporate management
  - **Improve monitoring on measures taken and benefits** (return on investment, environmental gains) and connect reporting to the SDGs
  - **Provide technical assistance to field offices and shared premises** (explore synergies with the host governments)
  - Go beyond offices and operations:
    - 1. **calculate the GHG impacts beyond facilities and operations ?**
    - 2. **Apply environmental management systems approach to whole organisations?**
- 

# SMART UN FACILITIES: Namibia Case

## Project Category

Smart Facilities

## Description

Technological breakthroughs to combat global climate change, collect data, and revolutionize communication methods has given rise to the concept of Smart Cities, which encompasses several frontier technologies, particularly **green energy and ICT infrastructure**. In view of these benefits, UNDP Country Offices with support of OIMT, stand to gain from adopting the concept to the highest extent, by **creating Smart UN Facilities**.

**How is done?** With a well-defined Green Energy 7-step Process:



And **interconnected combination of Smart technologies** leading to more efficient governance:



Installation of Solar Panels in Namibia UN House, 2017



*"The whole is greater than the sum of its parts"*

- Aristotle

## Actions taken

The Namibia UN House case:

- 408 solar panels installed
- Power consumption monitoring & measurement devices installed
- Solar street lamps (ready for roll-out)
- Thermosyphon hot water tank (ready for roll-out)
- Motion sensors for air conditioners (Pilot stage)
- Windmill (PoC in planning)
- Electric Vehicles (Pilot stage)

## GREENING THE BLUE.



## Global Impact

Deployment of Solar Panels (by the end of 2017)

6,949  
Installed

1.28  
MWp

\$1,722  
Savings/Day

Deployment of Power Monitoring Device

103  
Devices Installed

80  
Additionally planned

Deployment of Cyber Security (MSS3)

96  
Country Offices

29  
Fully migrated

\$458,590  
Savings/Year

## Benefits

In Namibia UN House:

- 203.7 MWh generated/year
- Excess energy is fed back to the grid
- \$30,000 USD are saved annually
- 436 tons of CO<sub>2</sub> annually reduced
- Payback period of 6 years



# UNECA, Addis Ababa, Ethiopia

## ELECTRIC VEHICLES

### Project Category

Energy Efficiency

### Description

Replacing fossil fuel engine vehicles by electric carts. These carts are for security patrol and facilities maintenance works. Few electric sweeping equipment are used in compound



**GREENING  
THE BLUE.**



### Challenges

1. Find spare parts in local market.

### Benefits

1. Saving fossil fuel by approximately 2610 liters per Year.

2. Cleaner environment as these carts can be used inside the buildings also.

### Actions taken

1. Two utility carts are used by Facilities Section.
2. Four carts are used by security patrols.
3. Four electric sweeping machines are used for cleaning compound.



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# Timor-Leste Solar Energy for UN House

## Project Category

Sustainable energy production

## Description

UN House in Dili, Timor-Leste, has high day-time energy loads, largely due to a heavy reliance on air-conditioning in the hot year-round climate. Electricity costs increased by 58% from 2012-2015 and make up 40% of the common premises budget. The proposed solution...

- 300 kWp grid-tied photovoltaic system producing approx. 480,000 kWh of clean energy annually
- Designed to cover 75% of annual daytime consumption
- Significant savings on current energy bill



WFP Greening  
wfp.greening@wfp.org

## Challenges

- Managing multiple agencies with different expectations, funding structures and levels of commitment
- Sourcing technical expertise in solar energy (design, procurement etc.)
- Agreeing on a suitable procurement method
- Limited local experience in procurement /management of similar projects
- Long decision making periods
- Capacity of local businesses, mostly limited to small scale projects
- No feed-in tariffs for excess energy

## Actions Taken

- Site assessment by solar energy expert (2014)
- Detailed 24 hour monitoring of energy consumption
- Funding options and cost sharing modalities investigated
- Procurement process initiated for international bidding (July 2015)
- Site survey by selected vendor – GSOL Energy (February 2016)
- UNDP signs contract with GSOL Energy for turnkey 300 kWp system (July 2016)
- Last of the 1152 solar panels is installed (September 2016)

## GREENING THE BLUE.



## Benefits

- Save approx. US\$86,000 annually on electricity costs and US\$46,000 on generator maintenance
- Expected ROI under 5 years with total savings of over US\$2.2 million during the lifespan of the system
- Estimated CO2 savings of 285,000 kg per year
- Online smart monitoring system will measure: energy production; cost savings; CO2 savings; system performance, including live problem reporting to GSOL and UN House
- Demonstrate UN commitment by "Walking the Talk" on sustainability





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