



ECC Presentation

ECHO

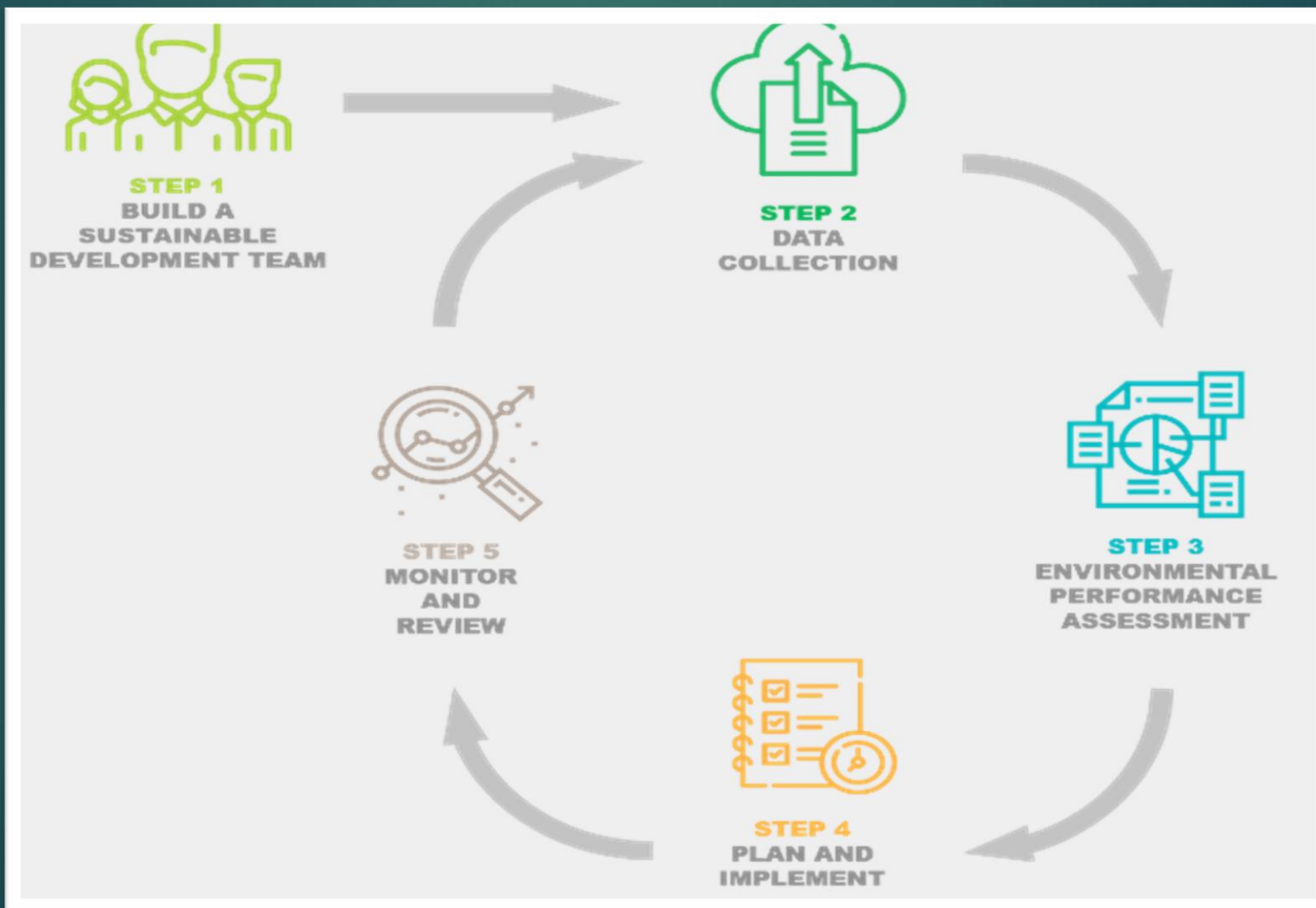


Agenda

- ▶ Introduction
- ▶ Sustainable Delegation Process
- ▶ Action Planning
- ▶ Examples of Sustainability Measures
- ▶ Q&A

Sustainable Delegation Process

“What you can’t measure, you cannot manage. What you can’t manage you cannot change.”



Action Plan Template

Action Plan template for 2018-2019

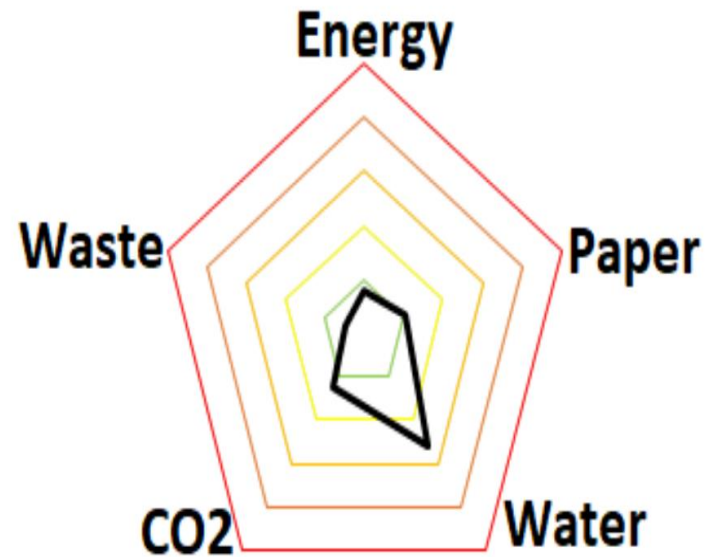
Delegation: _____ Date: _____ Head of sustainable development working group: _____

Quantitative indicators	Current results from 06.01.2016	Target results for 2018-2019	Priority (1 high – 5 low)	Intended actions to accomplish this (ex. communication campaigns, external partnerships etc.)	Estimated purchasing/service cost	Estimated benefit from this action	Group member responsible
EN 1: Energy consumption by primary energy source							
E2: Water consumption							
E3 Waste: paper consumption							
Qualitative areas	Current waste disposal method	Intended improvement	Priority (1 high – 5 low)	Intended actions to accomplish this (ex. communication campaigns, external partnerships etc.)	Estimated cost for set-up and maintenance	Estimated benefit from this action	Group member responsible
• Batteries							
• Electric and electronic devices							
• Toner and printer cartridges							
• Paper							
• Plastic							
• Glass							
• Aluminum							
• Organic waste							

Nairobi Delegation Example

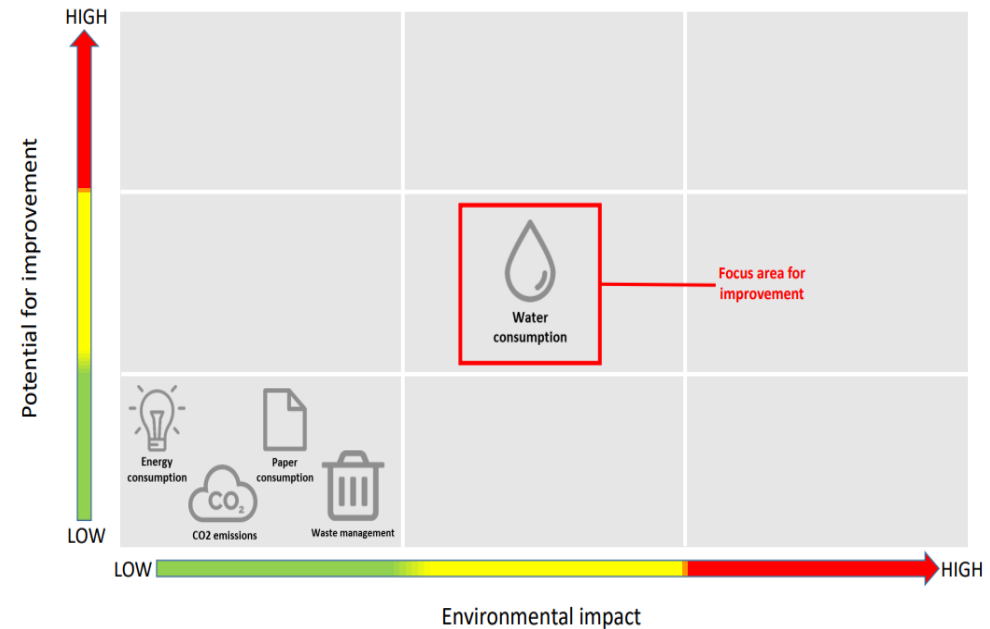
2021 Dashboard

YOUR DELEGATION'S ENVIRONMENTAL FOOTPRINT



2021 Areas for Improvement

AREAS FOR PERFORMANCE IMPROVEMENT



Methods Used to Reduce Impacts



**Change behaviours
& practices**



Technical solutions

Erbil Water Example

Technical Solution



2018



2019

Behavioural Change



- ▶ 2018 Erbil installed a 400 Litre rain water harvesting system.
- ▶ 2019 they expanded this system to 27,400 Litres.
- ▶ Rainwater is used for landscaping and car washing.
- ▶ Reduce their water consumption by 15 M3 (15,000 Litres).
- ▶ Considerable reduction in water consumption.

Sukhumi Waste Example

Technical Solution & Behavioural Change



Statistic before and after implementation of the initiative: 2017 960 ea of 0.5 L (June) + 780 1.5 L (July, August) bottles of water - total: 1740 plastic bottles dumped. 2018 1200 ea of 0.5 L (June) + 360ea of 5 L (July, August) - total: 1560 bottles dumped. A 10% improvement 2019 10 ea of 19 L – total 0 bottle dumped. The bottles still in use by Forensic department in laboratory and in the field. Due to the changes done we significantly reduced the water costs (35'400 RUB/542 CHF-2018; 12'800 RUB/196 CHF - 2019) and stopped producing plastic garbage.

Nairobi Energy Example

Nairobi Delegation replaced 540 lightbulbs to LEDs. Cost benefit analysis stated;

- ▶ total energy consumption for the old bulbs was 78,484 kWh (kilo watt hours) annually.
- ▶ LEDs was 53,460 kWh annually.
- ▶ Savings of 9,463 USD a year.
- ▶ Payback period was estimated at 1.2 years.
- ▶ Minimal risk was identified LEDs came with a warranty of 2 years.

$$\text{Payback period} = \frac{\text{investment/ cost of the project}}{\text{Annual savings}}$$

The payback period is approximately 1.2 years (US\$ 11,401/ US\$ 9,463) and the risk of replacement costs is very low as the LEDs should come with a two-year warranty.



Water Case Study – Nairobi New Delegation

- ▶ Installation of dual flush toilets
- ▶ Installation of flow aerators in faucets
- ▶ Sewage Treatment Plan – recycled water used to flush the toilets
- ▶ Centralised pond to collect rainwater
- ▶ Low flow urinals

Wathab Construction Management Team (CPM) - DESIGN STRATEGIES / SUSTAINABILITY

NEW REGIONAL NAIROBI DELEGATION GREEN DESIGN STRATEGY



LEED Certification

- LEED (Leadership in Energy and Environmental Design) is the most widely used green building rating system in the world.
- Globally recognized certificate for sustainable and efficient design.
- 5% of project budget allocated to LEED Certification.
- Return of the additional investment within 3-5 years.
- LEED requirements to be applied during **design** phase, **construction** phase and **after handover by final users**.



Carbon Emission Reduction

- Projected reduction in carbon emissions of 125 Tonnes of CO2 per annum purely attributed to energy use reduction and onsite renewable energy generation alone.



Solar Water Heating

- To be used in the Entrance complex for the showers (Capacity = 900 litres).
- To be used in the Canteen (Capacity = 1050 litres).
- Has an electrical heater as a backup.



Water Savings

- Water use reduction of 43% (1.014 m3 annually) through fixtures (low flow urinals, showers, kitchen faucets).
- Water use reduction of 29,6% through us treated water for flushing (693 m3 annually).
- Additional water supply from rainwater collection to be reused for flushing and irrigation approx. 347,83 m3 during 2 hour storm weather event.
- Capacity of waste water treatment plant is 28.350 litres per cycle.



Energy Savings

- Energy use reduction compared to conventional building: +- 209389 Kwh/annum (37,7%) overall combined savings (optimized building orientation, insulated roof, improved natural lighting that reduces the use of artificial lighting, natural ventilation for most areas to reduce air-conditioning usage, energy efficient LED lighting with sensors, high efficiency fans, high EER HVAC units where ever used and to top it all onsite solar PV panels).
- Solar panels on the roof of SOK and NAI delegation will provide 30% of the electricity used in the delegation (150 Kwh peak).



Wathab Construction Management Team (CPM) - DESIGN STRATEGIES / SUSTAINABILITY

NEW REGIONAL NAIROBI DELEGATION GREEN DESIGN STRATEGY



Pond

- Receives water from rainwater runoff and waste water treatment plant and subjects it to natural sedimentation for reuse (Capacity = 927 m3).
- The pond water is pumped to be reused in the toilets and irrigation.
- The pond also regulates the temperatures around the plot, keeping it cool, and helps sustain plants, birds and insects.



Building Orientation

- The buildings are oriented in an East-West direction to prevent direct sun hitting the longer side of the buildings.
- This reduces the thermal heat gain by approx. 1% and regulates internal temperature, reducing the need for AC.



Improved work environment due to green approach

- Increase staff productivity.
- Improved employee retention.
- Reduced absenteeism.



Bio-Ecosystem

- Building around trees approach: 50% (200 out of 400) of existing trees on site retained
- 40% (12,800 m2) of the site undisturbed during construction.
- Construction of a pond helps plant, bird and insect life.
- Top soil stored and reused after construction for landscaping.
- Plans to plant over 1000 trees and shrubs on site.



Waste water treatment Plant

- Rainwater runoff, stormwater and water from the toilets will be directed to the WWTP and the stormwater tank.
- 100% of the water is treated daily. Once treated the water will be pumped to the pond.



Water Saving Initiatives

- ▶ Dual Flush Toilets
- ▶ Low flow faucets and urinals
- ▶ Flow aerators
- ▶ Rainwater collection
- ▶ Sewage Treatment Plant (SWTP)
- ▶ Pressurised car wash
- ▶ Installation of water sensors
- ▶ Decreasing flush volumes by placing water containers in cistern – Ukraine
- ▶ Collection of water that drips from AC units
- ▶ Installation of solar water pumps
- ▶ Some delegations are looking into installing water meters.

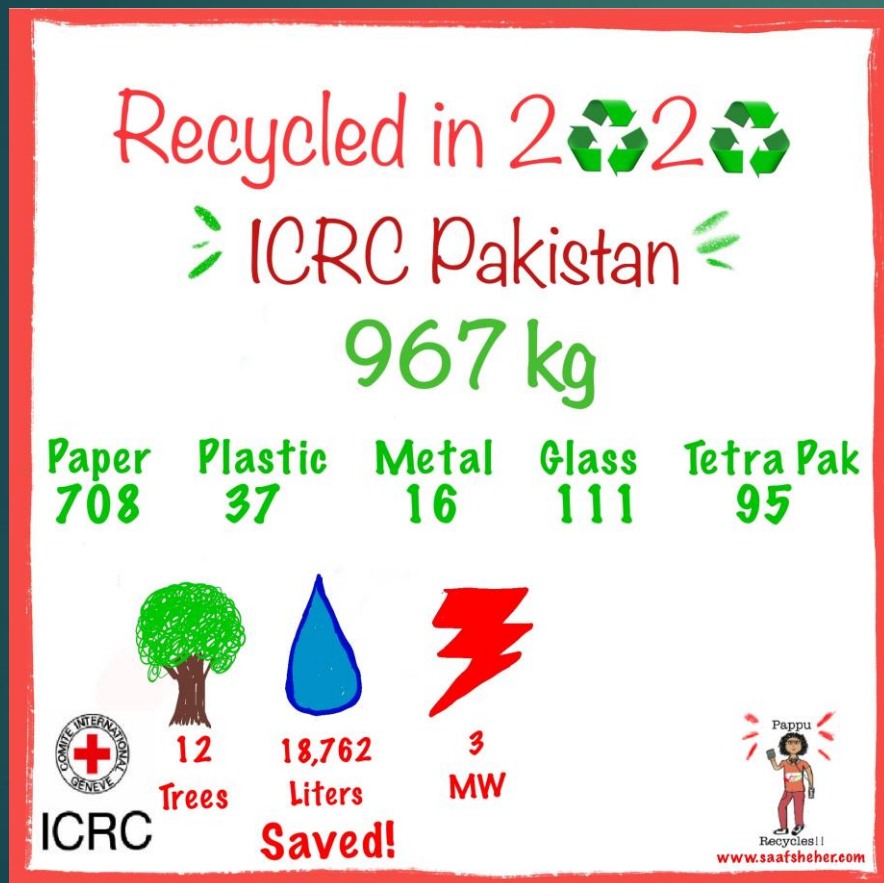


Energy Mitigation Measures

- ▶ Old AC units being replaced with new inverter types – South Sudan
- ▶ Installation of Solar P.V. to provide 35% of electricity – Tartous Logistics center
- ▶ Purchasing a mechanical treadmill instead of electrical – Kabul
- ▶ Installation of smart energy sensors – many sites
- ▶ Use of solar pumps for garden and car wash – Bujumbura
- ▶ Installation of solar security lights – Bangui
- ▶ Installation of LED lights – Brasilia
- ▶ AC set temperature – Bangkok
- ▶ Procurement of more E.V. vehicles – Amman, Nairobi, Bangkok
- ▶ Nairobi new delegation solar p.v., motion sensors, led lights
- ▶ Energy Audits



Waste Mitigation Measures



ICRC Islamabad signed an agreement with Saaf Suthra Sheher (SSS), a company based in Islamabad, to collect all the recyclable waste without letting any of it go to a landfill or to an environment and socially harmful industry. In 2020 even though offices was closed, cities were under lock down, but the ICRC ISL team managed to recycled a big burden of waste!

Along with our partner organization (Papu Recycles) we managed to recycle 967 kg of solid waste. Around 708 kg of paper/cardboard, 37 kg of plastic, 16 kg of metal, 111 kg of glass and 95 kg of tetra pak were recycled and reused.

It saved the environment from degradation and was cost effective as well. With this small effort we saved around 12 trees, 18,762 liters of water and 03-megawatt electricity. It was our small effort to save recyclable waste for reuse

Waste Mitigation Measures

- ▶ Turning old pallets into furniture – Tartus Logistics Centre
- ▶ Recycling old and used tyres into paving bricks – Abuja
- ▶ Working with WFP to collect recycle old car batteries – DRC sites (batteries taken to Rwanda for recycling)
- ▶ Used oil from South Sudan sent to Uganda to be reused by cement factory (QSE assessments done on facilities in Uganda – Juba
- ▶ Donation of old laptops to Kenya Red Cross – Nairobi
- ▶ Nairobi did a trial of sending old tyres to a pyrolysis plant
- ▶ Replace 5L disposable plastic water bottles with 20L reusable water bottles – Sukhumi





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