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# Cooperative approach under Article 6.2: Benefits for participating countries

**Jointly organised by Tunisia and the KliK Foundation**

**SB60 Side Event | Bonn Climate Change Conference | 3 June 2024**
**Side Event Room BONN**

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# Welcome remarks

**Mrs Raïda El Elj, ME Tunisia**
**Director of support and implementation mechanisms**
**Climate Change National Coordination Unit**

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# Tunisia's strategy for cooperative climate action under Article 6.2

**Mrs Raïda El Elj, ME Tunisia**
**Director of support and implementation mechanisms**
**Climate Change National Coordination Unit**

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# Tunisia Nationally Determined Contributions

- Tunisia is a party of the Paris agreement and was among the pioneers who submitted an NDC on September 16, 2015 and updated it on October 2021.
- Increased ambition: reduction in carbon intensity by 45% (instead of 41 %) in 2030 compared to 2010.
- **Unconditional emissions reduction**: 27% by 2030/2010,
- **Conditional emissions reductions**: 18 % in 2030/2010

- Implementing the updated NDC requires mobilizing significant financial resources, estimated at approximately US$19.4 billion from 2021-2030. These include US$14.4 billion for mitigation.
- 82 % of the financing needs stem from the energy sector (particularly capital intensive sector).
- International support to be mobilized in order to fulfil conditional contribution would amount to 11,1 Billion/US$ over (2021-2030),
- This support could be mobilized in different forms (concessional credits, grants, carbon market mechanisms)
- Tunisia wishes to engage in the cooperative approaches in all sources eligible for article 6 mechanisms and more particularly in the renewable energy field, but also in industrial processes, waste and waste water, agriculture, forestry and land use.

- **Bilateral agreements signed under Article 6 to date:**

  - A Memorandum of Cooperation signed with Japan under the JCM (Joint Crediting Mechanism): August 2022.

  - A bilateral agreement signed with Switzerland: December 2023 at COP 28.

# Tunisia’s Art.6 Strategy

- A vision towards Art. 6 was prepared with the support of the GIZ and adopted by April 2023, is structured around several points:

- Institutional framework for authorizing mitigation activities
- Withholding mechanisms and the fiscal treatment of ITMOs’ revenues
- Tracking of ITMOs
- Stakeholder’s engagement and capacity building

- Strategy operationalization: under development (2024-2025).

# Tunisia's Readiness Status and Key Challenges Related to Art.6 Implementation

| A6 Participation Requirements | Tunisia |
|---|---|
| (a) It is a Party to the Paris Agreement | ✓ |
| (b) Prepared, communicated, and is maintaining an NDC per Article 4, paragraph 2 | ✓ |
| (c) Has arrangements in place for authorizing the use of ITMOs towards the achievement of NDCs according to Article 6, paragraph 3 | ✗ |
| (d) Has arrangements in place that are consistent with guidance and decisions of the CMA for tracking ITMOs | ✗ |
| (e) Provided the most recent national inventory report required per 18/CMA.1; | ✓ |
| (f) Its participation contributes to its NDC and lT-LEDS, and long-term goals of the Paris Agreement. | ✓ |

**Next steps:**

- ✓ Authorization Arrangement
- ✓ Tracking Arrangement
- ✓ Legal framework
- ✓ Initial Report
- ✓ Corresponding adjustment
- ✓ Stakeholder's engagement


# Examples of projects under development in the framework of the Tunisia-Switzerland bilateral agreement

# Mitigation Activity 1: Conversion of the sulfuric acid (SO2) production unit of the GCT (Tunisian chemical plant) to double absorption system with Heat recovery System)

## Mitigation Activity Components:

The HRS project in Gabes, whose MAIN was submitted to KLIK Foundation, is one of the projects in a complete GCT investment plan developed in June 2022 with the support of GIZ (The GCT aims for the objective of carbon neutrality by 2030).

- **Main component**: conversion of the sulfuric acid (SO2) production unit of the GCT (Tunisian chemical plant) to double absorption system with Heat recovery System).
- **Additional components**: are under development /objective: comply with the critical size of generated ITMOS required for KLIK eligibility (250 000 t CO2eq).

**Sources of Emissions reduction**:

- Reduce SO2 emissions from 13 to 2.6 kg/T H2SO4.
- Converting from single to double absorption will reduce the SO2 emissions from the acid plant.
- Equipping the plant with HRS will further improve energy efficiency and reduce GHG emissions through the recovery of HP steam and MP steam: Emissions reductions will come from two sources: increased electricity production through HP vapor recovery and avoided gas consumption through MP vapor recovery.

# Mitigation Activity relevance/eligibility (host country perspective)

| Relevance with respect to national development and climate policy | Conditional contribution to NDC target | Co-benefits |
|---|---|---|
| - Industrial process sector: 12 % of carbon intensity in 2030/2010.<br><br>- SO2 gas is covered by the NIR as an indirect gas, EMEP/CORINAIR guidelines). | - Financial needs to meet conditional goals: 501 billion dollars/174 billion dollars for unconditional needs.<br><br>- No national compliance regulation for GCT to reduce emissions. | - Positive impact on air quality and therefore on the heath of local communities.<br><br>- Reduced pollution at local and national level.<br><br>- Reduced carbon print of GCT products / enhanced competitiveness of the company. |

# - The way forward

- Mitigation Activity current status:
- MAIN submitted and approved by KLIK
- LoIs issued by both governments

- Next steps:
- MAAD development
- Business model and funding scheme completed

# Mitigation activity 2: Smart solar pumping and irrigation systems for sustainable water management in Tunisia (S-SPIS)

- To reduce CO2 emissions by replacing diesel use generators for pumping and irrigation in off-grid smallholder farms with smart solar pumping and irrigation systems (smartSPIS).
- This will combine sustainable water management with non-fossil pumping and irrigation technology and digital monitoring tools to achieve reliable access to irrigation water while increasing water use efficiency and preventing aquifers overuse.
- The proposed MA was jointly developed by MicroEnergy International and Myclimate, in collaboration with the Tunisian microfinance institute ENDA Tamweel.

# MA stakeholders and partners

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

**Bundesamt für Umwelt BAFU**
**Office fédéral de l'environnement OFEV**
**Ufficio federale dell'ambiente UFAM**
**Uffizi federal d'ambient UFAM**

myclimate
shape our future

Conseils d'entreprises

Education & Sensibilisation

Projets d'Atténuation de Changement Climatique

MICRO ENERGY INTERNATIONAL

Clean Energy Finance

Clean Energy Technologies

Agricultural & Rural Development

Climate Change Adaptation & Mitigation

Natural & Environmental Resource Management

Agriculteurs et utilisateurs SPIS

Institutions de finance inclusives

enda tamweel

…

Prestataires de services techniques

Autorités nationales et régionales

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# Mitigation Activity relevance/eligibility (host country perspective)

| Relevance with respect to national development and climate policy | Conditional contribution to NDC target | Co-benefits |
|---|---|---|
| - Renewable energy: key to energy transition policy (Target: 35 % of the energy mix by2035.<br>- Reducing dependence on imported fossil fuel.<br><br>Source: national strategy on energy transition, April 2023. | - 82% of the financing needs for GHG mitigation objectives. would be needed in the particularly capital intensive energy sector:<br>- To be mobilized mainly through conditional support.<br><br>Source: Tunisia updated NDC, 2021. | - Enhanced Governance of water resources.<br>- Reduced climate vulnerability and precarity of rural livelihoods.<br>- Enhanced adaptive capacity of the beneficiaries and the local ecosystem. |

# • The way forward

- Mitigation activity current status:

- MAIN submitted and approved by KLIK

- Next steps:
- LoIs still to be issued by both governments
- MAAD development
- Business model and funding scheme completed

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# Article 6.2 Programmes with Switzerland and the benefits for Ghana: Transformative Cook Stoves, Green Cooling and E-Bikes

**Mr Daniel Benefoh, EPA Ghana**

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# The Battery Storage and Renewable Energy Programme in Senegal and the benefits for the transition to renewable energy in Senegal

**Mr Daniel De Vries, ACT Group**

**SB60 Side Event | Bonn Climate Change Conference | 3 June 2024**
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# Battery Energy Storage and Renewable Energy Program in Senegal

A validated mitigation activity developed under the bilateral climate agreement between Senegal and Switzerland

3 June 2024

PARTNERING WITH ENVIRONMENTAL MARKET EXPERTS

# Achieve Your Climate Action with ACT

Since our founding in 2009, ACT has become a reliable partner for high-impact climate projects that generate carbon credits, energy efficiency projects and certificates, renewable fuels, emission allowances, and renewable electricity and gas markets.

Depending on our client's needs, products can be combined and placed into tailormade strategies to meet both compliance requirements and voluntary goals.

## 14+ Years

Shaping carbon markets

## 4 Key Markets

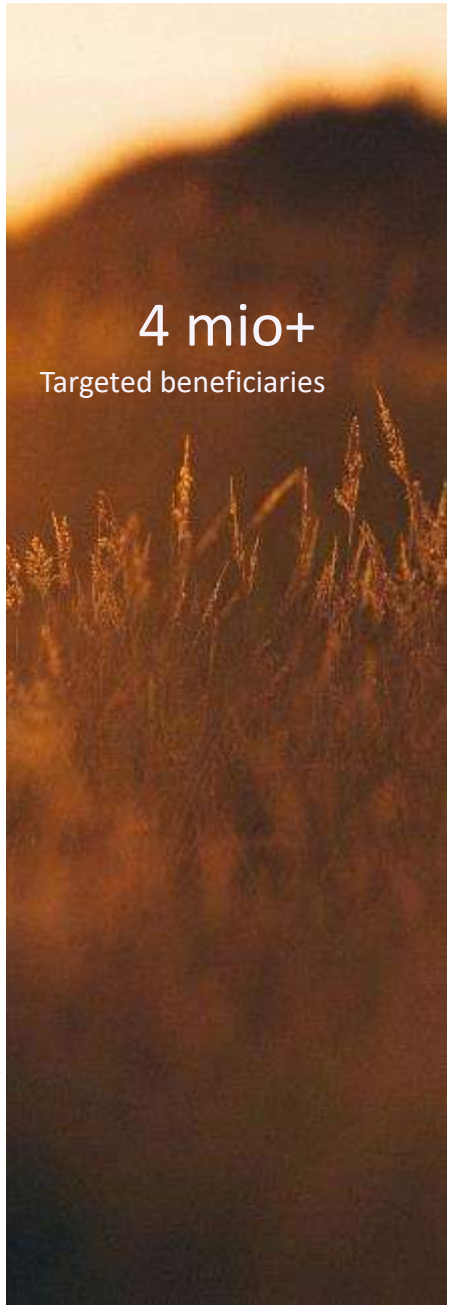
Carbon, Renewable Energy, Biofuels, Energy Efficiency

## 6 Offices

Amsterdam, New-York, Singapore, Paris, Shanghai, Japan

## 5,000+ Clients

Ranging from major corporates and utilities to local operators


# A selection of programs developed by ACT Group in collaboration with our partners


**Biogas generation through dairy farming**


**Transformative cookstoves**


**Battery Energy Storage & Renewable Energy**


**Agroforestry & ecosystem recovery**

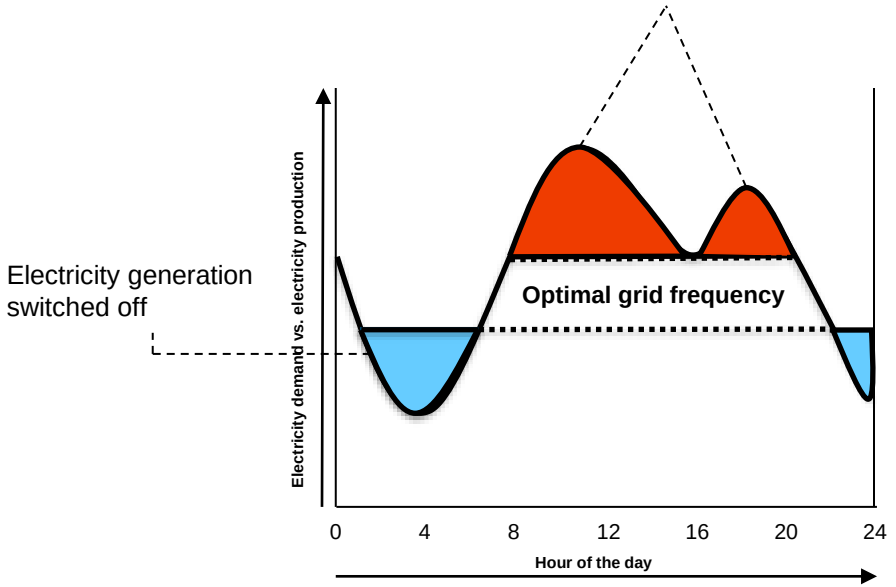
| | Biogas generation through dairy farming | Transformative cookstoves | Battery Energy Storage & Renewable Energy | Agroforestry & ecosystem recovery |
|---|---|---|---|---|
| PROJECT SIZE (aim) | 10,000 biogas digesters | 180,000 stoves | 10 + 40 MW Batteries and a 16 MWp solar site | 550 ha pilot, scalable 20,000ha + |
| BENEFICIARIES (estimated) | 50,700 | 950,000+ | Nearby sites and villagers consuming electricity | 200 |
| CARBON (estimated) | 425.000+ $tCO_2e$ over 8 years | 1.6 mio+ $tCO_2e$ over 8 years *(fNRB: 0.30 and dynamic)* | 400,000+ $tCO_2e$ over 6 years | 3.4 million $tCO_2e$ over 30 years *(for 7,500ha)* |
| LOCATION | Malawi | Ghana | Senegal | Colombia |
| MONITORED SDGs | | | | |
| PARTNERS | klik, Asset Plus | klik, ENVIROFIT | klik, ongresso | CAMPO CAPITAL, IFU, FMO |

# Battery Energy Storage & Renewable Energy program in Senegal

## *The challenges*

- Non-dispatchable renewable energy sources
- Unforeseen weather events and peak demand hours (requiring rapid electricity generation)
- Rapid electricity generation by spinning reserves operating on fossil fuels
- Electricity generation based on fossil fuels

**Increased electricity demand**: operation of heavy fuel oil & peaking natural gas spinning reserves to rapidly generate electricity



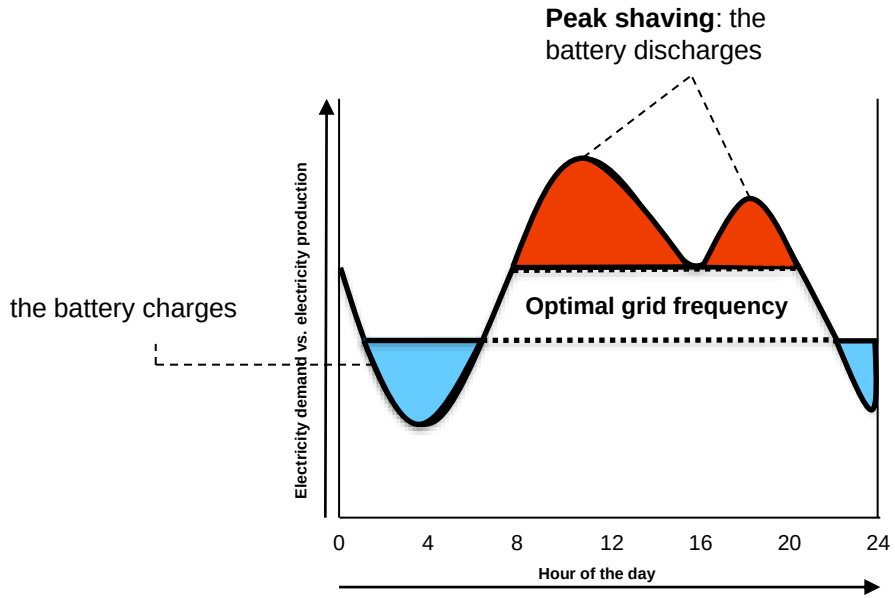

A fossil fuel electricity production site in Senegal
© Energy Capital & Power

Heavy fuel oil © Getty

# Battery Energy Storage & Renewable Energy program in Senegal

*The solutions*

- Battery Energy Storage Systems (BESS) to correct the forecast of non-dispatchable renewable energy production: **displaces the need of fossil fuel spinning reserves**
- Secondary functions: frequency response services, reactive power, load-shifting
- Renewable energy electricity generation

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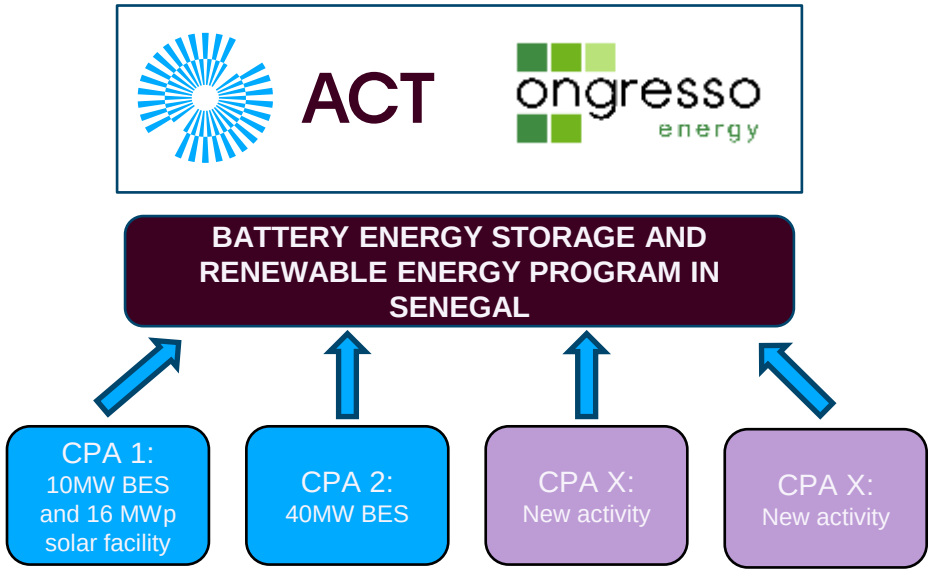
# The Battery Energy Storage and Renewable Energy Program in Senegal

A validated mitigation Activity by **ACT Group** and **Ongresso Energy** with the aim to **reduce 750,000 tCO2e** between 2024-2030.

**More activities can be added, if:**

- Stand-alone Battery Energy Storage Systems (BESS)
- Grid-connected renewable energy if only implemented as part of a project that includes a BESS




Benefits for project activities included in the program:

- Carbon finance **increases the internal rate of return (IRR)** for project activities, making them investable
- Use of existing infrastructure to speed up carbon finance flows: **validated mitigation activity** and **unique methodology** used

# The Battery Energy Storage and Renewable Energy Program in Senegal

Main benefits of the Program through included project activities:

- **long-term support** and **employment opportunities** to local communities (construction, operation, maintenance)
- Increased **independence from fossil fuel imports** for power generation for Senegal
- BESS allows for **additional renewable energy capacity** to be added to the grid, currently renewable sources are often clamped to preserve stability of the grid


Other benefits:

- **Grid resilience**: BES reduces vulernability to centralised failures and extreme weather events. Moreover, proviiding backup reserve for the grid improves the power quality and security of the grid.
- **Technology innovation:** the development of the BESS can drive innovation in BESS technologies, fostering advancements that can have applications beyond the energy sector.
- **Cost reduction**: as BESS technologies advance and become more widespread, their costs often decrease, making this technology more affordable.
- **Reduced land degradation**: the project activities will ahve a smaller physical footprint and reduced land degradation compared to extractive industries.
- **Reduced air pollution**: the project activities produce electricity without emitting harmful pollutants other than CO2 such as particulate matter and avoid production of elecricity from those same harmful pollutants. This leads to **improved air quality and public health.**

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# KliK Foundation's approach to ensure highest co-benefits of cooperation

**Mrs Jacqueline Jakob, KliK Foundation**

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# KliK Foundation: The Mandate

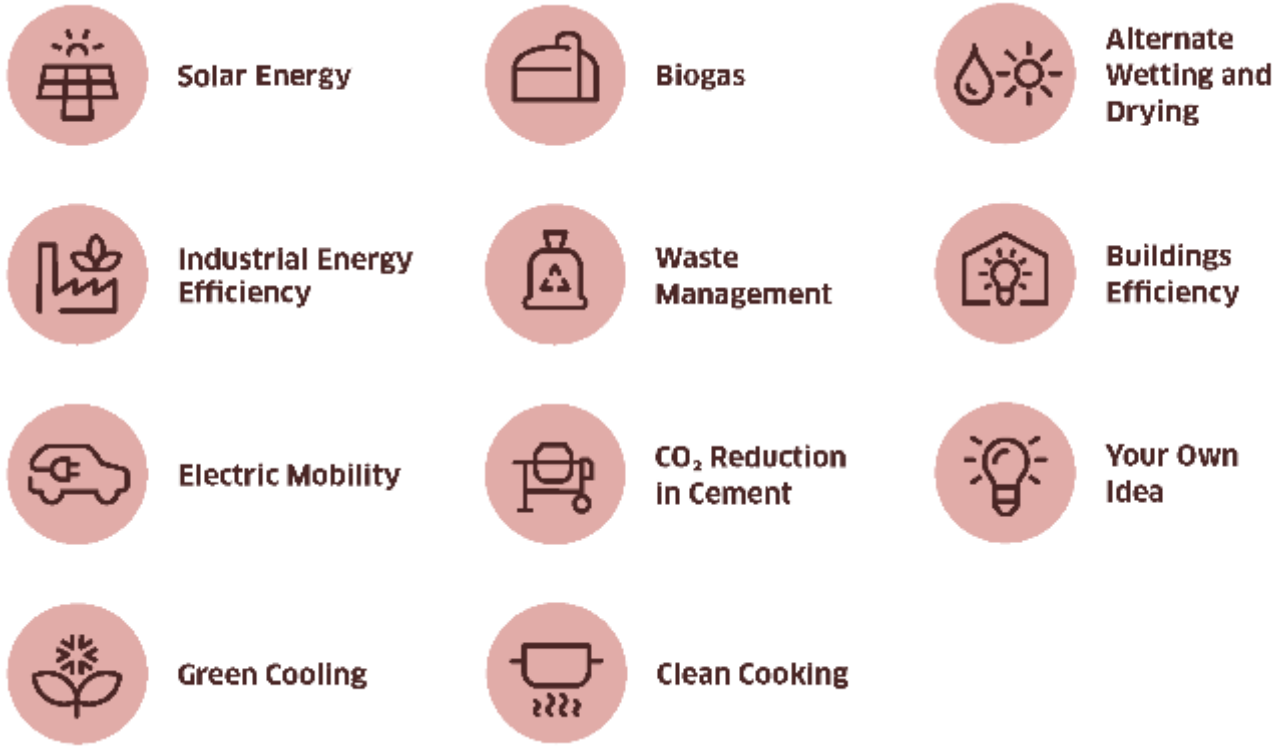
- Mandate and Activity
  - KliK Foundation obliged to procure ITMOs
  - 20M ITMOs, through purchase agreements
- Bilateral Climate Agreements with Switzerland (PA Art. 6.2)
  - Framework for transactions (transfer)
  - Human rights, environmental integrity, sustainable development

# Guidance Through Bilateral Climate Agreements

- **Switzerland** is a **pioneer** on the bilateral track (Art. 6.2) and signed already agreements with **several partner countries**, with more to follow.
- Bilateral Agreements set the **legal framework**, the **quality standards** and **procedural guidance** for transfers.

**Cooperation under bilateral climate agreement with Switzerland**

# Programme Types of Interest




- We are looking for **additional programmes** to the host country's **NDC**
- We are looking for **projects** that are unfinanceable without **ITMO** payments
- We **cannot** support already **implemented** programmes
- We are looking for **large programmes** (>0.25M tonnes cumulative until 2030)
- We **do not fund** programmes directly (we may help to invest capital or raise debt finance)

# KliK Portfolio Tunisia: Energy efficiency

- Improving **energy efficiency** in the chemical industry by installing a waste heat recovery system
- Detailed structuring of program under preparation (methodology, institutional structure, business case)
- **Bilateral agreement**
  Tunisia and Switzerland signed
- ITMO volume: **~0.20m $tCO_2e$**
- Duration: **2025-2030**


Photo: Groupe chimique tunésien

# KliK Portfolio Tunisia: Solar pumping and irrigation

- **Intelligent solar pumping and irrigation systems** for sustainable water management in Tunisia
- Detailed structuring of program under preparation (methodology, institutional structure, business case)
- **Bilateral agreement**
  Tunisia and Switzerland signed
- ITMO volume: **~0.30m $tCO_2e$**
- Duration: **2025-2030**

Photo: ENDA Tamweel

# What Are We Trying to Achieve?


- Engage **host country's business sector** to make **investments** in **green technology**
- **Green investments** must yield:
  - Direct cost savings
  - Quality increase
  - Improved working conditions (air quality, work safety…)
- Self-sustainability: No extra support needed after cooperative approach

# Benefits for the country of cooperation


- Co-benefits for the transferring country
- Access to measures that would otherwise not be available
- Increase domestic mitigation
- Capacity building
- Transformation

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# Switzerland's Article 6 experience: challenges and learnings for high integrity cooperation

**Mr Simon Fellermeyer, FOEN Switzerland**

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# Cooperative approach under Article 6.2: Benefits for participating countries

## Q&A and discussion with the audience

**Moderation: Mrs Ursula Flossmann-Kraus, KliK Foundation**

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