

2-3 JUNE 2022

**STOCKHOLM** +

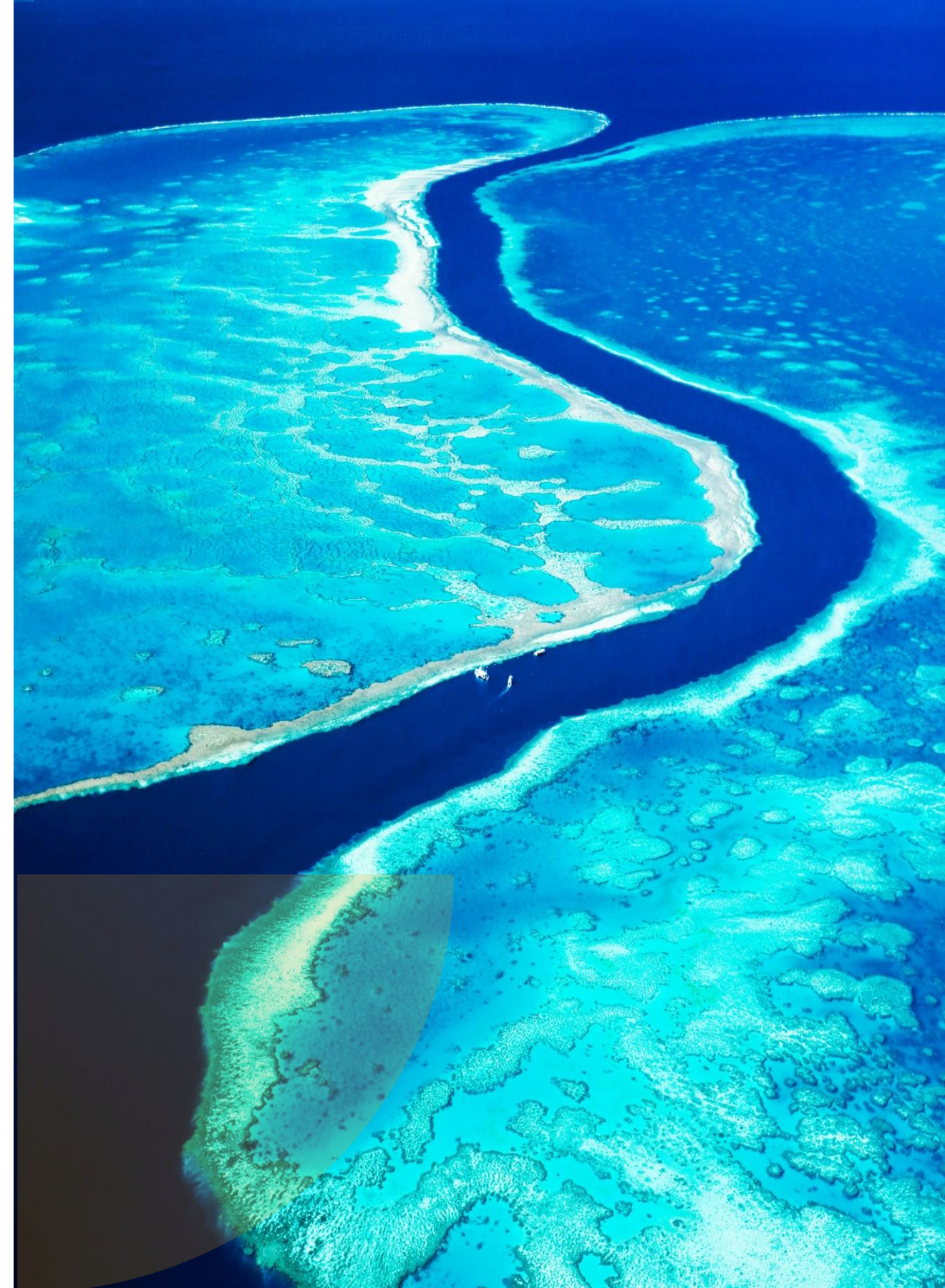
A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



# Somaliland Consultation

## Energy, Environment and Infrastructure

Date: 27-28<sup>th</sup> March 2022





## Content

- Introduction of Stockholm 50+
- Objectives of the Consultation
- Environmental problems facing in Somaliland – Drought
- Exploring Renewable/Green Energy
- Discussions



**#Stockholm50**

[www.stockholm50.global](http://www.stockholm50.global)

2-3 JUNE 2022

**STOCKHOLM** +  
A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



- The UN General Assembly Has Agreed Through Two Resolutions To Convene An International Meeting Entitled “Stockholm+50: **“A Healthy Planet For The Prosperity Of All – Our Responsibility, Our Opportunity”**,
- In Stockholm On 2<sup>nd</sup> And 3<sup>rd</sup> June 2022, During The Week Of World Environment Day
- The Meeting Will Commemorate The 50 Years Since The Convening Of The UN Conference On The Human Environment.
- Overall objective: Is To Help Accelerate The Implementation Of The Sustainable Development Goals (SDGs) During The Decade Of Action Including Through A Sustainable Recovery From The COVID-19 Pandemic

2-3 JUNE 2022

**STOCKHOLM** +

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



## Consultation Process Objectives

- Stimulate inclusive debates on Stockholm+50 Leadership Dialogue themes;
- Build a shared global vision on how to achieve a healthy planet and prosperity and accelerate progress on the Sustainable Development Goals and Multilateral Environment Agreements through an inclusive green recovery;
- Offer clear recommendations for governments, civil society and private sector that advance national and sectoral policies that integrate climate concerns and nature-based solutions including through NDCs, Green Economy/Green Recovery and SDG frameworks
- Amplify the voices of the poor and other marginalized groups; and
- Influence local and global debates that consider the perspectives of all stakeholders.

2-3 JUNE 2022

**STOCKHOLM** +

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



## Causes of Environmental Problems

- **Some 95 percent of Somaliland's 1.6m urban residents - about half the total population - use charcoal as their main source of cooking energy.** This amounts to an annual consumption of some two million bags and up to 2.5 million trees, according to a 2007 report by the Academy for Peace and Development (APD)
- The production of charcoal is exported to Saudi Arabia and the United Arab Emirate (UAE) solely for tobacco smoking using “Shisha” had a negative deforestation impact.
- The production and export of charcoal resulted in a colossal deforestation that resulted in desertification (Hamza, Buri M., 2012)
- Exhaust gasses such as CO<sub>x</sub> and NO<sub>x</sub>
- As a result of global warming and the temperature change is causing many unpredictable environmental problems

2-3 JUNE 2022

**STOCKHOLM** +

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



## Major Environmental Problems

The key environmental challenges in Somaliland are related to women and children, natural resource degradation and democratic instability. Most challenged areas are:

### **Deforestation**

- **Deforestation**, with its devastating effects, is one of the most debated issues in the country. Unfortunately the attention afforded to this issue either by the government, development agencies, private sector, and direct resource users is minimal or non-existent

### **- Land degradation**

As a result of overall decline in biomass production, reduced ground cover, litter and organic matter, and the resultant soil compaction, large tracts of land became exposed to increased water runoff and erosion processes (rill and gully erosion

- Increasing aridity and overgrazing

-

# Continue.

- Climate change and Droughts  
Remarkable increase of temperatures in higher altitude ecological zones and elsewhere compared to earlier periods is being experienced in many parts of the country
- Garbage and pollution  
With rising urban populations, the inadequate municipal services and low public awareness, waste litter has been crowding the streets of all major urban centers.
- Unsustainable fishing practices  
As Somaliland's terrestrial ecosystems continue to be degraded and over-exploited on onehand, and human needs continue to increase on the other, more and more people are determined to earn a living from the sea

2-3 JUNE 2022

**STOCKHOLM** +

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



## Effects of the environmental challenges

- Somaliland's major environmental challenges constitute over dependency on trees for energy and charcoal exports,
- Increasing population pressures and urbanization and natural resource based conflicts.
- Degradation of water catchments, rangelands, agricultural lands and the marine environment, and
- Combined with illegal fishing and logging remain critical and urgent issues to address
- Extreme poverty has become widespread and large numbers of people are unable to meet basic food requirements.



2-3 JUNE 2022

**STOCKHOLM** +

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



## Environmental Policy

- **A Conference of Paris 21 in 2015 - United Nations Framework Convention on Climate Change (UNFCCC)**
- **Nationally Determined Contributions ( NDCs) key instrument guiding response to climate change**
- **National Adaptation plan – Boosting Green Energy**
- **Somaliland National Environment Policy** - The state shall give a special priority to the protection and safeguarding of the environment, which is essential for the well being of the society, and to the care of the natural resource

2-3 JUNE 2022

**STOCKHOLM**

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



## **Green Growth**

**Green Growth means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.**

**How can we sustain growth without damaging the environment?**

**Reconciling the Environment and, agro-tech, Industrialization policies etc.?**

2-3 JUNE 2022

**STOCKHOLM**

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



## Energy Situation

- The National Energy Policy estimates that 80.7% of Somaliland urban households and industry have access to electricity whereas 20.3% rural and nomadic households have access to electricity.
- These figures are slightly below the target outcome indicators of the NDP II.
- However, access does not necessarily mean good quality as majority of households and institutions receive low quality electricity supply with low voltage and varying frequency resulting in frequent and prolonged periods of blackouts
- The national Energy Policy estimates the total installed capacity is 150MW. Majority of the installed capacity is found in Hargeisa

2-3 JUNE 2022

**STOCKHOLM**

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



## Energy Legal and Policy Environment

- The Somaliland Electrical Act was passed by the parliament in 2018 and signed off by the President.
- The Somaliland Electricity Commission is appointed and they are currently operational to regulate the sector.
- The Power Master Plan Development based on NDP II. It captures the current situation within the Somaliland power sector as well as suggests most efficient ways for improvement in this area.
- The national energy policy to reflect the current transformation of the sector as well as be alignment with the national Development plans and the promotion of the alternative energy opportunities
- **SDG 7 “affordable, reliable, sustainable and modern energy for all”** by 2030. It's three core targets are the foundation for our work: Ensure universal access to affordable, reliable and modern energy services

2-3 JUNE 2022

**STOCKHOLM** +

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



## Where do we get Energy from now?

- Somaliland relies on **fuel wood and charcoal, and imported petroleum** to meet its energy needs and it accounts for 82% of the country's total energy consumption. It suffers from lack of electricity in rural areas
- Somaliland depends on **imported petroleum for electricity production** and in 2015 97 per cent of the electricity was produced by oil (AFREC, 2015)
- According to a study by the African Development Bank, **Somalia and Somaliland has the highest resource potential of any African nation for onshore wind power and could generate between 30,000 to 45,000 MW.**
- Solar power could potentially generate an excess of 1,000 kWh/m<sup>2</sup>

2-3 JUNE 2022

**STOCKHOLM**  
A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



**Why do we need renewable energy resources?**

**Why can't we just continue to use non-renewable resources**

RENEWABLE ENERGY



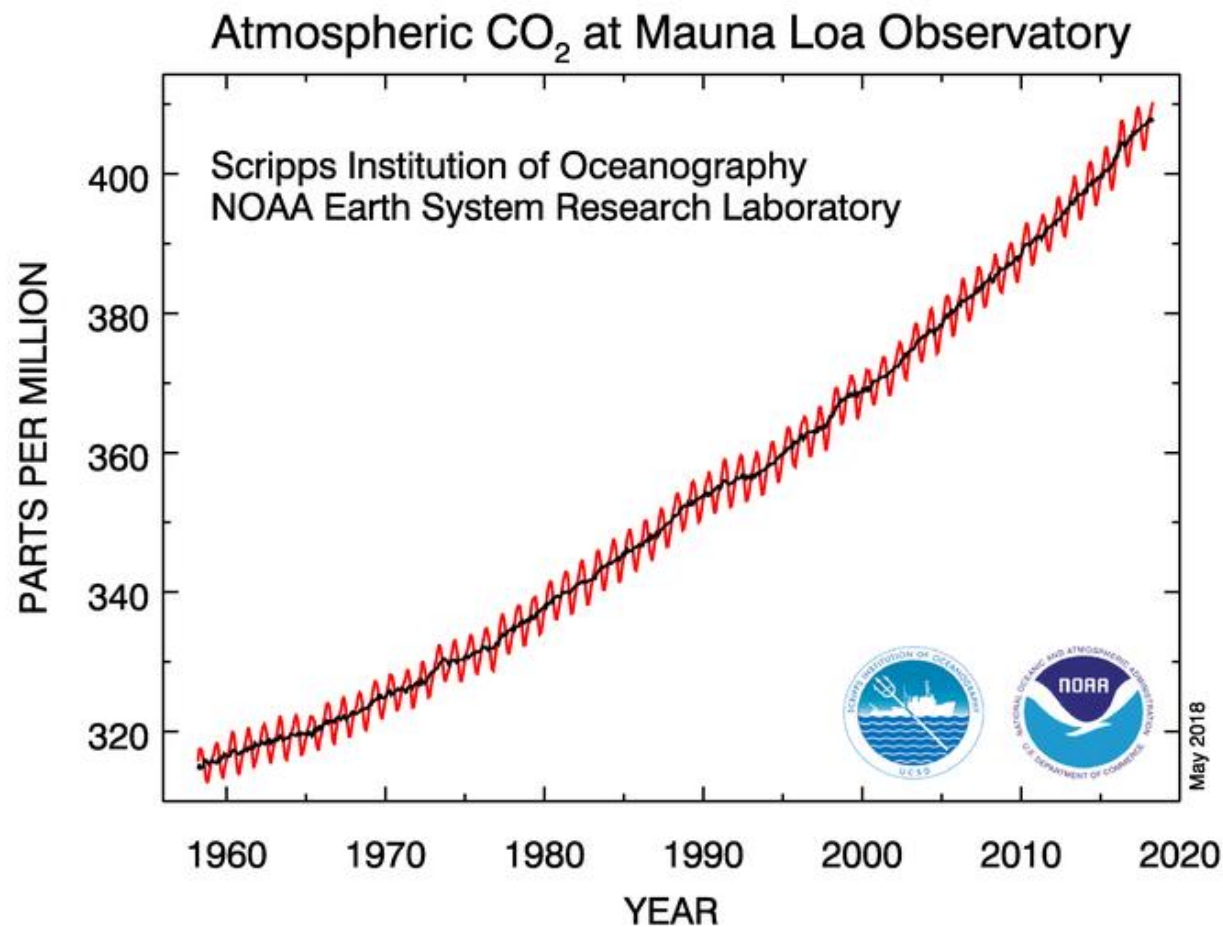
2-3 JUNE 2022

**STOCKHOLM** +

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



## WHY DO WE NEED REWEWABLE ENERGY



- CO<sub>2</sub> is at 407ppm (Oct 2018) increased by 90ppm in the last 70 years
- Global warming ~1.1°C in the past 200 years
- Ocean acidification
- Rising sea level ~3.2mm each year
- Decreasing ice sheet mass
- Retreating glaciers
- Decreasing Arctic ice at a rate of 13% each decade

**Renewable energy is crucial for mitigating climate change**

2-3 JUNE 2022

**STOCKHOLM**

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
– OUR RESPONSIBILITY, OUR OPPORTUNITY



# RENEWABLE ENERGY

## Domestic Resources

- **Wind:** Somaliland is considered to have the highest potential for on-shore wind energy among all African countries. Average wind speeds reach up to 11.4 m/s.
- **Solar:** Solar irradiation is very high, ranging from 5 to 7 kWh/m<sup>2</sup>/day and over 310 sunny days per year.
- **Hydro:** Generation potential of exists but not being explored.
- **Biomass:** Biomass is a major source of fuel, though forest cover has been significantly reduced (to just 6.7 million hectares) due to overexploitation for charcoal production and firewood.
- **Gas:** Estimates of proven reserves of natural gas are 200 billion cubic feet.
- **Coal:** Coal deposits were discovered in the 1980s; however, the coal was of poor calorific value. Further exploration and analysis is required.
- **Oil:** Exploration activities were put on hold as a result of political instability in 1991. However, estimated oil reserves are expected to be as high as 110 billion barrels.



2-3 JUNE 2022  
**STOCKHOLM**

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



Propeller  
Blade

### Wind farm

- Strong winds
- Clear hilltop
- Turbines in prevailing wind direction

Tower

Wind turbine

#Stockholm50

[www.stockholm50.global](http://www.stockholm50.global)

WIND ENERGY

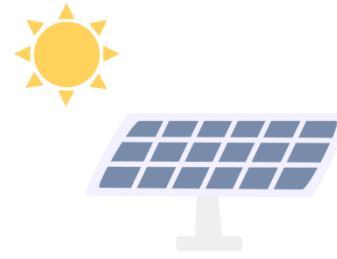
2-3 JUNE 2022  
**STOCKHOLM**  
A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



WIND ENERGY  
Egal International  
Airport

2-3 JUNE 2022  
**STOCKHOLM**

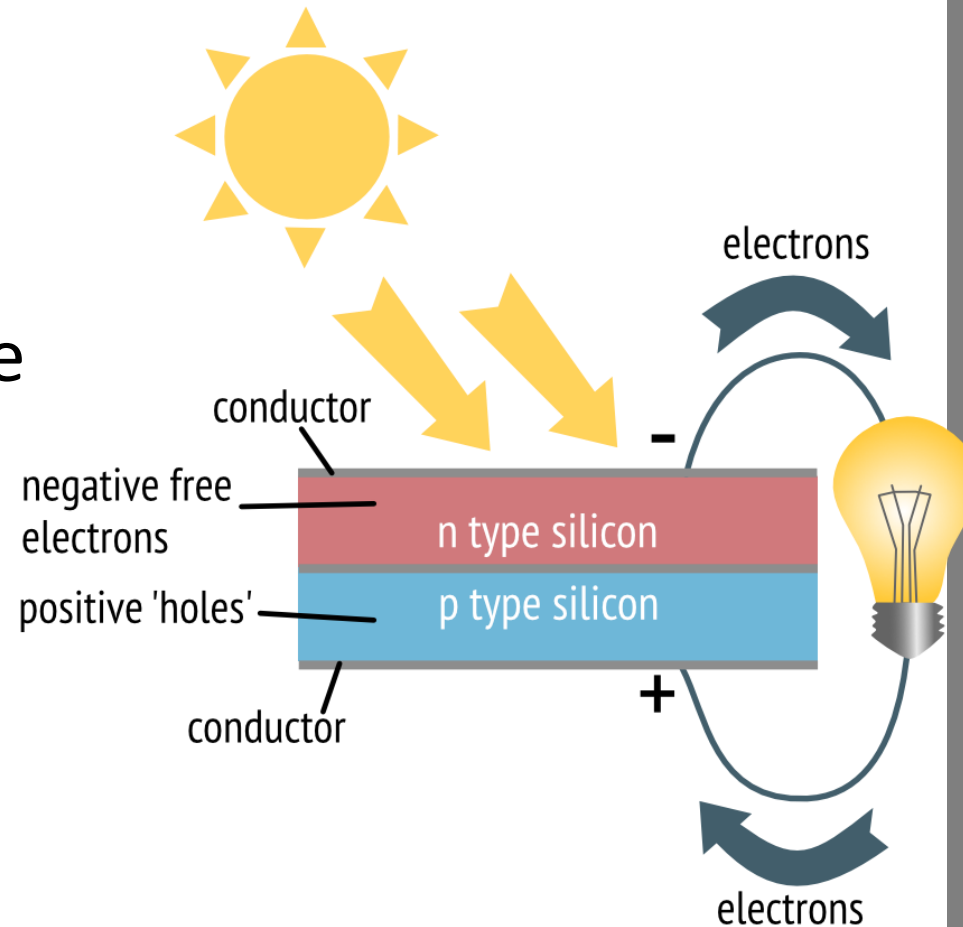
A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



**Thermal solar panels** are used to generate heat energy,

**Photovoltaic (PV) cells** made from silicon turn sunlight directly into electricity

**2%** of total electricity was generated by Solar PV in the SL in 2017 (100% by renewables in total)



SOLAR ENERGY

#Stockholm50

[www.stockholm50.global](http://www.stockholm50.global)

2-3 JUNE 2022  
**STOCKHOLM**  
A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



700 KW of Clean Energy (solar) to Berbera City

SOLAR ENERGY



## Other key stone projects

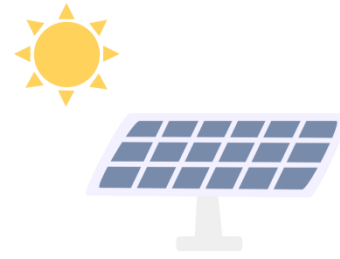
- **Bacado Sompower**
- **HECO**
- **Badhan BEC)**
- **Hospitals ( Buroa/Elafweyn/Buhoodle etc**

**#Stockholm50**

[www.stockholm50.global](http://www.stockholm50.global)

SOLAR ENERGY

2-3 JUNE 2022  
**STOCKHOLM**  
A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



- **Geothermal energy** = heat energy from the Earth
- Water is pumped down into hot rock where it is heated.
- Steam can then be used to heat buildings directly or to generate electricity by spinning a turbine.



GEOHERMAL  
ENERGY

**#Stockholm50**

[www.stockholm50.global](http://www.stockholm50.global)

2-3 JUNE 2022

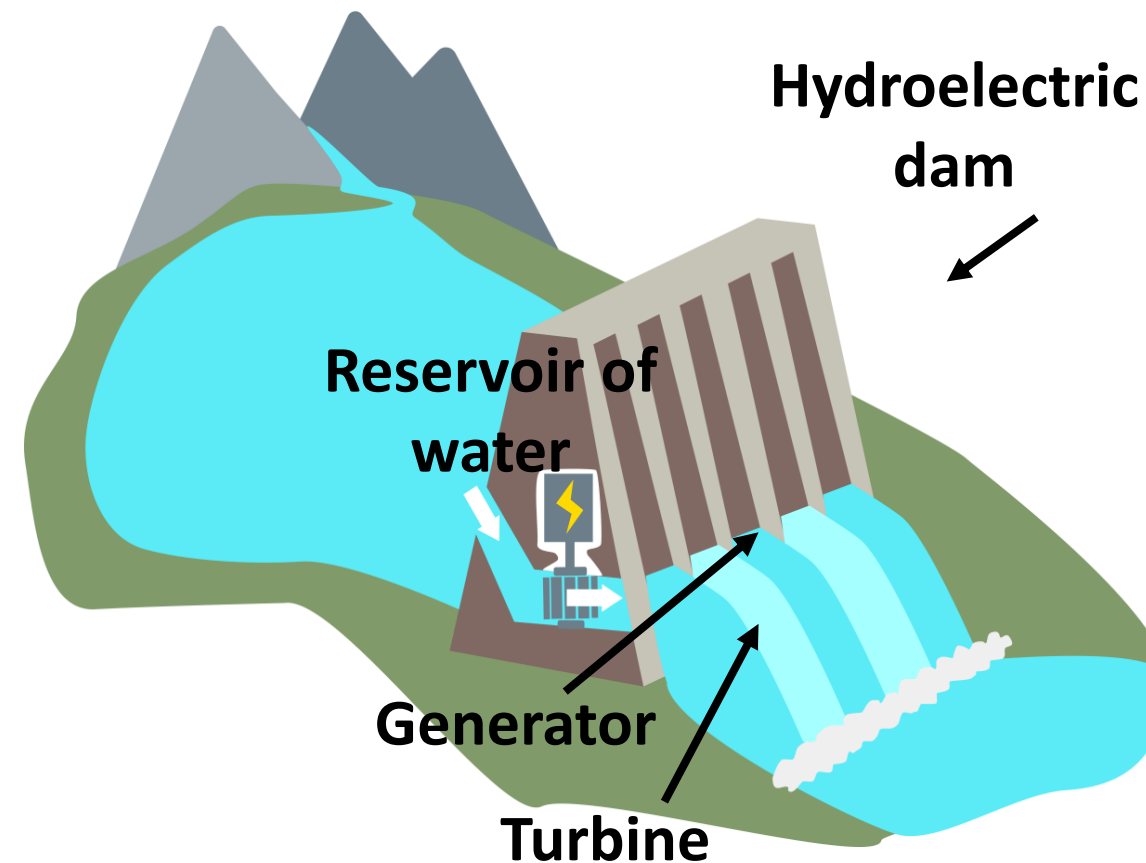
**STOCKHOLM** +

A HEALTHY PLANET FOR THE PROSPERITY OF ALL  
- OUR RESPONSIBILITY, OUR OPPORTUNITY



- **Hydroelectric power** harnesses the **kinetic energy of** running water.

- Water flows downwards with **gravity** to spin a **turbine**.
- More reliable than solar and wind power.
- Hydroelectric dams are very **expensive** and can **harm wildlife**.





- **Biofuel** - either directly from **plants** or from **waste**.
- Main UK sources are **wheat** and **cooking oil**
- **Bioethanol** – used as fuel and as a petrol additive to increase octane and lower carbon emissions
- **Biodiesel** – used as fuel and used to reduce levels of particulates and carbon monoxide in diesel powered vehicles



**Biofuel**





## The Challenges Renewable Energy Sources Face

The most significant and well-known obstacle to renewable energy adoption right now is cost, in particular, the costs associated with building and installing facilities like solar or wind farms.

Others are...

- **Inadequate solar initiative's research,**
- **lack of technological know-how,**
- **short-term policies,**
- **lack of awareness and**
- **political instability**

**#Stockholm50**

[www.stockholm50.global](http://www.stockholm50.global)



**Research one renewable energy resource used in the Somaliland to answer the following questions:**

- a) How is this energy resource used to generate electricity? – include a simple diagram
- b) How much of the Somaliland's electricity is currently generated from this resource, and how has this changed over time?
- c) What are the positives of using this energy resource?
- d) What are the negatives of using this energy resource?



#Stockholm50

[www.stockholm50.global](http://www.stockholm50.global)

## Solutions and Recommendation

- **Infrastructure:** the lack of crucial infrastructure, including roads, bridges, and telecommunications, are keenly felt by Somali entrepreneurs who must instead rely on ingenuity, or pay high costs and even postpone planned investments. Addressing the infrastructure gap in the Somali region could be a way to catalyze investments in the energy sector.
- **Improved Training and Education Opportunities** - Building technical capacity
- **Governance** - Developing strong institutional frameworks will likely be an arduous but necessary process for the Somali region. Somaliland governments have already begun to focus attention on the development of the renewable energy sector and electricity utilities in general. NDPII included provisions for renewable energy promotion
- **Effective Technology Transfer**
- **Information Collection and Feasibility Studies**
- **Better Cooperation and Integration among Stakeholders**

# Discussions Questions

- How can we create synergies with Nationally Determined Contributions (NDCs) and linked Nature, Climate, Energy and other SDG Themes and Frameworks?
- How can we practically implement the Nationally Determined Contribution (NDC) processes and National Adaptation Plans (NAPs) in the country context?
- What can we do to overcome challenges of Renewable Energy?
- Where are we in terms of developing National Biodiversity Strategy and Action Plans (NBSAPs)
- How can we work jointly to achieve the objectives of other Multilateral Environmental Conventions and linked SDGs and NDPII.
- How can we ensure resilient is achieve Post-COVID socio-economic and green recovery plans;