



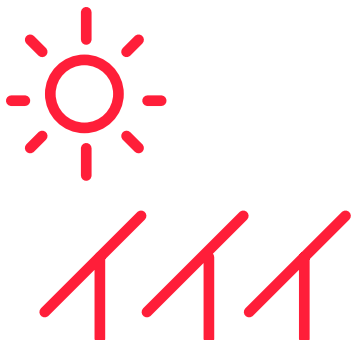
100% RENEWABLE ENERGY FOR SUSTAINABLE DEVELOPMENT

ACCESS TO ENERGY IS A PREREQUISITE FOR ENDING POVERTY

RE UNLOCKS ACCESS TO HUMAN RIGHTS AND PROVIDES SERVICES AT THE LOWEST POSSIBLE COSTS. TAPPING ITS ACCESS CAN BENEFIT THE MOST IMPOVERISHED AND ISOLATED COMMUNITIES

LIFTING MILLIONS OUT OF POVERTY

89 million people in Africa and Asia are getting access to energy through off-grid solar power. This provides enough power to lift 21 million individuals to the first rung of the energy ladder.



INCLUSIVE MARKET

The booming market of off-grid solar systems in Africa demonstrated how fast renewable energy could grow and reach even the remotest rural communities.



PRODUCTIVE ENERGY

RE can become a tool to generate income for rural households and enterprises.



RE ALSO ENABLES
**ENTERPRISE DEVELOPMENT
IN RURAL COMMUNITIES**
PROVIDING THEM WITH THE RESOURCES
TO ESCAPE EXTREME POVERTY AND HUNGER



100% RE TECHNOLOGIES ARE ENHANCING FOOD SECURITY AROUND THE WORLD

**100% RE CAN HAVE A DIRECT IMPACT ON FOOD SECURITY
BY PROVIDING ENERGY TO SUPPORT ALL SECTIONS OF
THE FOOD CHAIN, INCREASING CROP YIELDS IN THE MOST
IMPOVERISHED REGIONS OF THE WORLD**

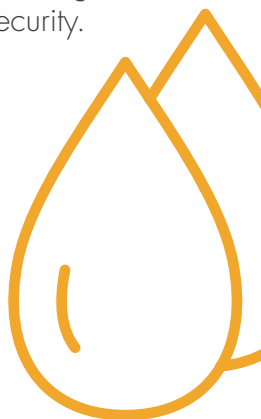
EVERY STEP OF THE FOOD CHAIN

100% RE technologies help communities provide energy for primary production, food processing and preservation as well as cooking.



WATER PUMPING STRESS

Water pumping for agriculture often puts stress on the electricity demand, especially during peak times and hence dangers food security.



RESILIENT FOOD SYSTEMS

Decentralized RE-based pumping options can create much more resilient communities and avoid blackouts due to excessive electricity demand, especially during extreme dry seasons.



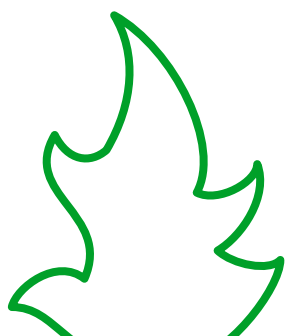
OFTEN SEEN AS HAVING NEGATIVE IMPACTS,
**BIOENERGY, WHEN
MANAGED SUSTAINABLY,
LOCALLY AND EFFICIENTLY**
CAN PROVIDE A LOCALISED SOLUTION TO
ENHANCING ENERGY AND FOOD SECURITY

ENSURE HEALTHY LIVES AND PROMOTE
WELL-BEING FOR ALL AT ALL AGES**100% RENEWABLES ARE CRITICAL IN
DECREASING AIR POLLUTION AND
PROVIDING ENERGY TO HOSPITALS**

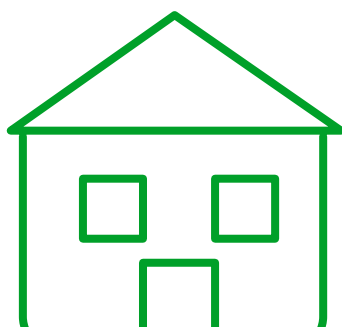
**BY TRANSITIONING TO 100% RENEWABLE ENERGY
COUNTRIES CAN REDUCE DISEASES RELATED TO OUTDOOR
AND INDOOR POLLUTION AND SIGNIFICANTLY SUPPORT
THE FUNCTIONING OF HEALTH FACILITIES IN RURAL AREAS**

**OUTDOOR
AIR POLLUTION**

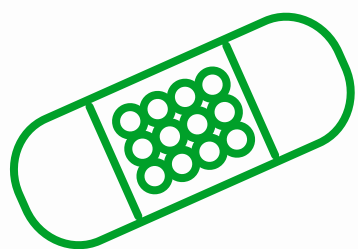
Outdoor air pollution, a health challenge that was estimated to cause 3 million premature deaths worldwide in 2012, can be addressed by transitioning from fossil fuel combustion to RE.

**INDOOR
AIR POLLUTION**

Indoor air pollution results in 4 million premature deaths. Transitioning to more efficient cookstoves and RE based cooking methods can play a crucial role in mitigating this health impact.

**ENERGY FOR
HEALTH CENTERS**

Health workers in electrified clinics have reported results such as fewer infections, fewer delays in providing life-saving care, more timely blood transfusions, and more successful child deliveries.



THERE ARE PLENTY OF SUCCESSFUL EXAMPLES OF
**ON-SITE RE GENERATION FOR
HOSPITALS PLAYING A KEY ROLE**
IN ENSURING ECONOMICALLY VIABLE
AND RELIABLE ELECTRICITY

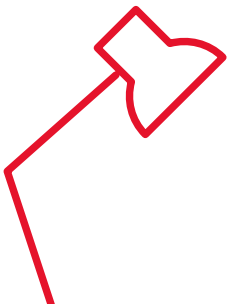


IMPROVED ACCESS TO ENERGY HAS A DIRECT CORRELATION WITH EDUCATIONAL ACHIEVEMENTS

**AND 100% RENEWABLE ENERGY IS THE FASTEST AND MOST
INCLUSIVE APPROACH FOR REACHING THAT**

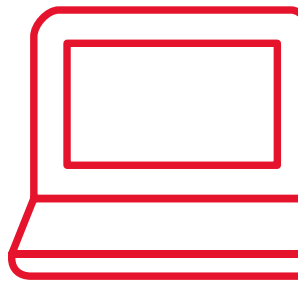
IT'S ALL ABOUT ACCESS

Renewable energy can provide access to millions of students in a fast and affordable way, without having to wait for the national infrastructure to be expanded or upgraded.



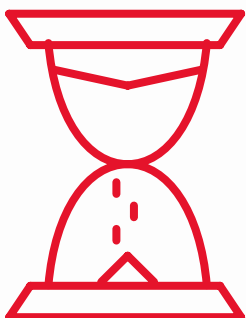
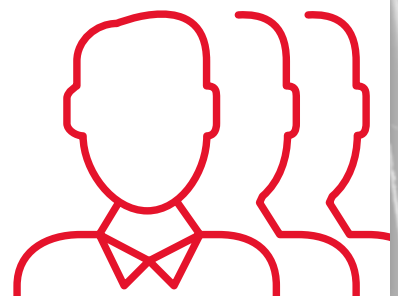
INFORMATION AND POWER

RE provides low cost electricity production to power computers and other devices to access information and facilitate communication.



ENERGY TO RECRUIT TEACHERS

The reliable and affordable source of electricity provided by RE can motivate teachers and qualified professionals to consider moving to these communities.



ACCESS TO RE OPTIONS FOR
COOKING AND ELECTRICITY CAN
**FREE UP TIME FOR STUDYING
AND ENSURE SAFETY**

FOR MANY CHILDREN WHO DEDICATE THEIR
TIME TO WOOD AND CHARCOAL COLLECTION

GENDER EQUALITY AND EMPOWER
ALL WOMEN AND GIRLS**100% RE CAN ENHANCE SUBSTANTIVE AND
PROCEDURAL RIGHTS FOR WOMEN AND GIRLS AND
ACHIEVE GENDER EQUALITY**

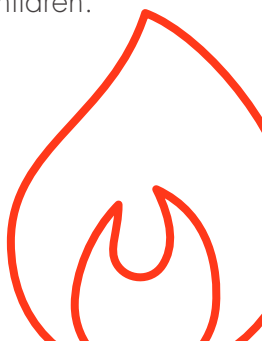
**RE FEATURES MORE GENDER EQUALITY THAN THE BROADER
ENERGY SECTOR. ACCORDING TO A SURVEY, WOMEN REPRESENT
AN AVERAGE 35% OF THE WORKFORCE, COMPARED TO ONLY
20-25% OF THE OVERALL ENERGY INDUSTRY'S WORKFORCE**

**TIME OF
COLLECTION**

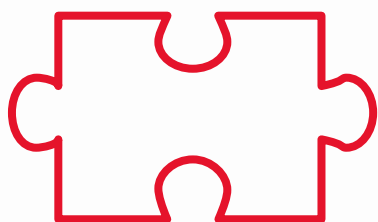
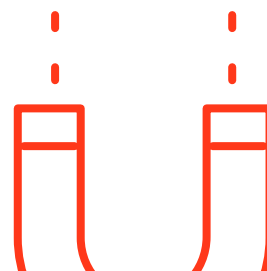
A reliable access to energy through RE would greatly decrease the amount of time women and girls spend providing energy for the household, which would increase the amount of time they spend on their education.

**EXPOSURE TO
SMOKE**

The adoption of clean cook stoves using clean and renewable fuel can prevent the majority of deaths and diseases attributable to indoor air pollution, which mainly affect women and children.

**INCLUSIVE
ENERGY**

As the energy sector transitions from fossil-fuel dominated systems toward more efficient, sustainable renewable-based systems, new opportunities for a more inclusive energy job market are emerging.



AS A SECTOR THAT REQUIRES A VARIETY OF
SKILLS ALONG THE ENTIRE VALUE CHAIN,
**RENEWABLES CAN GIVE
WOMEN A GREATER ROLE**
TO PLAY COMPARED TO
TRADITIONAL ENERGY SCENARIOS



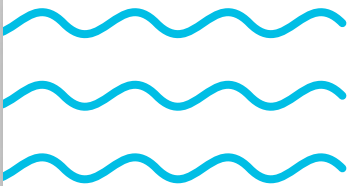
SDG 6

ENSURE ACCESS TO WATER
AND SANITATION FOR ALL**BUILDING A 100% RE INFRASTRUCTURE IS A
MEAN AND A PREREQUISITE TO ENSURE ACCESS
TO CLEAN WATER AND SANITATION FOR ALL**

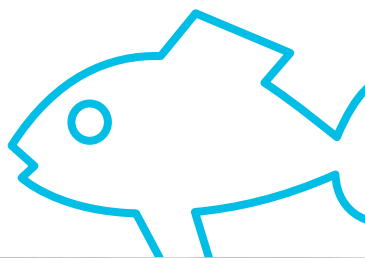
**IN COUNTRIES WHERE WATER SCARCITY IS ALREADY AN ISSUE, THE
REAL SOLUTION TO THEIR WATER AND ELECTRICITY CHALLENGES IS
A SHIFT FROM COAL AND NUCLEAR ENERGY TOWARDS RENEWABLE
ENERGY AND ENERGY EFFICIENCY**

**WATER PUMPING
WITH RENEWABLES**

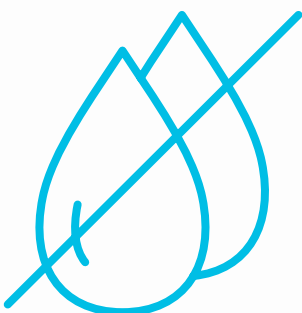
Renewable energy-based technologies can be an economic and resilient option to access, treat and pump water for multiple purposes from drinking to agricultural irrigation, even in the most remote and driest regions.

**AQUATIC LIFE
AND WATER QUALITY**

Coal mining can have detrimental impacts on aquatic life and the livelihoods of local populations. Locally produced Renewable energy can significantly improve the quality of water.

**MINE TAILINGS
POLLUTANTS**

Surface-mined coal produces large volumes of mine tailings containing pollutants that can leach into groundwater.



FROM A LIFE-CYCLE PERSPECTIVE POWER
GENERATION AND PROCESSING THROUGH
**RENEWABLE SOURCES ARE
UP TO 200 TIMES LESS
WATER-INTENSIVE**
THAN FROM FOSSIL-FUELS



SDG 7

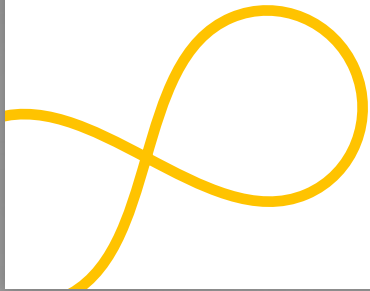
ENSURE ACCESS TO AFFORDABLE, RELIABLE,
SUSTAINABLE AND MODERN ENERGY FOR ALL

ACCESS TO RENEWABLE ENERGY IS A PREREQUISITE OF DEVELOPMENT AND FOR A LIFE OF DIGNITY

**TO ENSURE THAT ENERGY CAN CONTINUE TO PLAY ITS
FUNDAMENTAL ROLE IN DRIVING DEVELOPMENT AND
IMPROVING LIVELIHOODS ACROSS THE WORLD, WE NEED
TO SHIFT TO 100% RENEWABLE ENERGY**

SUSTAINABLE IS RENEWABLE

Sustainable energy must be defined as renewable energy, which safeguards human rights, respects planetary boundaries, supports local communities, and ensures a just distribution of benefits.



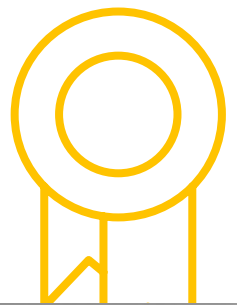
SHORT-SIGHTED APPROACH

It is short-sighted and dangerous to ignore the threats of climate change, environmental degradation and concentration of political and economic power linked to fossil-fuel-dependent development.



DRIVERS OF CHANGE

Governments across the developing world are pioneering this paradigm shift and are leading the charge with strong commitments and decisive action towards 100% renewable energy.



MORE THAN ONE BILLION PEOPLE DO NOT HAVE
ACCESS TO ENERGY SERVICES BUT THEY ARE
**ESSENTIAL TO OVERALL HUMAN
PROGRESS, SOCIAL WELFARE,
TECHNOLOGICAL ADVANCEMENT
AND HUMAN RIGHTS**

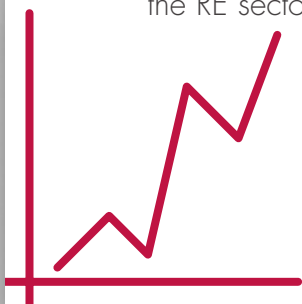
**SDG 8****PROMOTE INCLUSIVE AND SUSTAINABLE ECONOMIC
GROWTH, EMPLOYMENT AND DECENT WORK FOR ALL**

RE DEVELOPMENT HAS AN IMPRESSIVE EMPLOYMENT POTENTIAL THAT STEADILY INCREASES YEAR AFTER YEAR

**STUDIES ESTIMATED THAT DOUBLING THE SHARE OF
RENEWABLES BY 2030 COULD INCREASE EMPLOYMENT IN
THE SECTOR TO BEYOND 24 MILLION PEOPLE COMPARED TO
A BUSINESS AS USUAL SCENARIO (13.5 MIO.)**

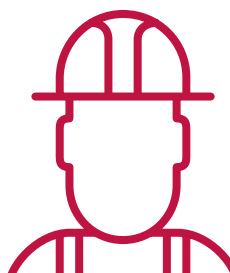
A TRANSITION TO MORE JOBS

The employment potential for each MW of installed capacity for renewable energy technology is consistently higher than for fossil fuels. For every job lost due to a phase out of fossil fuels, more jobs emerge in the RE sector.



GOOD LOCAL JOBS

Each section of the RE value chain requires skills and workforce capabilities, which stimulates local business and employment. In India, solar PV creates more jobs per unit of energy produced than any other energy source.



ENHANCING HUMAN WELL-BEING

RE also increases human well-being, taking into account environmental, social and economic dimensions. Doubling the share of renewables would increase this indicator by 3.7%.



UNLIKE TRADITIONAL CENTRALIZED FOSSIL
FUEL DEVELOPMENT RE CREATES HUGE
**OPPORTUNITIES FOR EMPLOYMENT
IN REMOTE RURAL AREAS**

REACHING IN AN INCLUSIVE MANNER THE
MOST MARGINALIZED COMMUNITIES

**SDG 9**

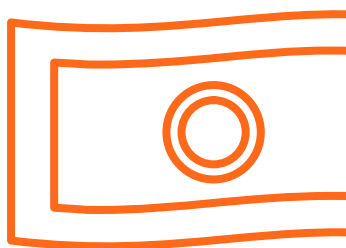
BUILD RESILIENT INFRASTRUCTURE, PROMOTE
SUSTAINABLE INDUSTRIALIZATION
AND FOSTER INNOVATION

PROMOTING INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION ENTAILS EXPANDING RENEWABLE ENERGY INFRASTRUCTURE

**DEVELOPING AN INDUSTRY REQUIRES RELIABLE ELECTRICITY.
RENEWABLE ENERGY CAN PROVIDE THAT THE CHEAPEST,
FASTEST AND IN THE MOST EFFICIENT WAY**

ATTRACTIVE INVESTMENT

RE attracts considerable amounts of investment especially in Global South countries which in return inevitably thrusts innovation, industry and infrastructure development.



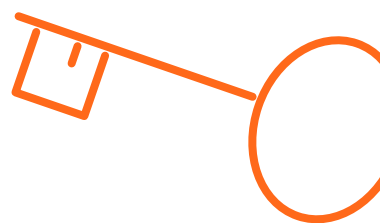
INVESTMENTS IN THE GLOBAL SOUTH

In 2015, investments in renewables in Global South countries outweighed those in industrialized economies. China, India and Brazil committed a total of \$156 billion, up 19% in 2014, while industrialized countries invested \$130 billion, down 8%.



CREATING VALUE AND ACCESS

Decentralised RE solutions can create value locally and boost local enterprises, which can progressively play an increasingly important role in extending access through the adoption of innovative business models.



A 100% RE FUTURE WILL REQUIRE
DECENTRALISED DEVELOPMENT DRIVEN BY
SMALL SCALE INVESTMENTS THAT
**ALLOW COMMUNITIES TO
CREATE THEIR OWN ENERGY,
USE IT AND SHARE IT.**



SDG 10 REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

100% RENEWABLE ENERGY REDUCES INEQUALITIES WITHIN AND AMONG COUNTRIES

100% RE IS MODULAR AND FLEXIBLE. IT ALLOWS ALL COUNTRIES TO HARVEST ABUNDANT AND CLEAN RENEWABLE ENERGY, DISTRIBUTED WITHIN THEIR OWN BORDERS, CLOSE TO THEIR COMMUNITIES AND ACCESSIBLE BY EVERYONE

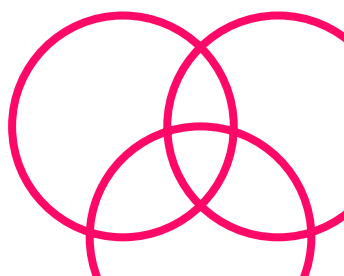
ENERGY PROSUMERS

With RE technologies anyone can become a *prosumer*, which enables citizens to become independent from other energy providers and provide access to energy at the necessary speed and scale as well as location



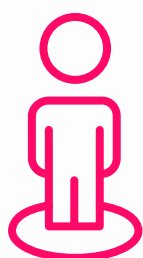
A FAIRER DISTRIBUTION

The decentralised nature of RE can play a major part in decreasing the inequality between urban and rural areas and inevitably lead to a much fairer and equitable distribution of resources across regions.



INTERGENERATIONAL JUSTICE

With 100% RE, current generations invest in the future providing cheap and sustainable energy for decades to come and it allows intergenerational justice by ensuring equal access to common resources.



THE TRANSFORMATION TOWARDS A 100% RE FUTURE MUST FOLLOW A UNIVERSALLY COHESIVE
**PEOPLE-CENTERED,
COMMUNITY-DRIVEN AND
FUTURE-JUST APPROACH**



SDG 11

MAKE CITIES INCLUSIVE, SAFE,
RESILIENT AND SUSTAINABLE**CITIES ARE THE PIONEERS AND THE MOST
PROMISING CHANGE AGENTS OF THE
100% RE MOVEMENT****SHIFTING TOWARDS A 100% RE FUTURE WILL IMPACT THE
RELATIONSHIP BETWEEN CITIES AND THEIR SURROUNDING
RURAL AREAS, ENABLING THE CREATION OF UNIQUE
SYNERGIES THAT CAN BENEFIT BOTH****REDUCING
POLLUTION**

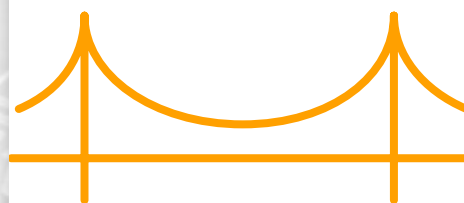
Renewable energy can significantly reduce pollution in cities. 98% of cities in low- and middle income countries with more than 100'000 inhabitants do not meet WHO air quality guidelines.

**SUSTAINABLE
TRANSPORT**

A shift to 100% RE transport can have a hugely beneficial impact on cities. Traffic congestion, which affects Global South countries the most, has a wide range of negative effects on economic growth, productivity, health and well-being.

**RURAL-URBAN
SYNERGIES**

Large cities have the know-how while rural areas count on large areas to produce RE. Cooperation between a city and its surrounding area helps both in terms of sustainable energy development and climate protection.

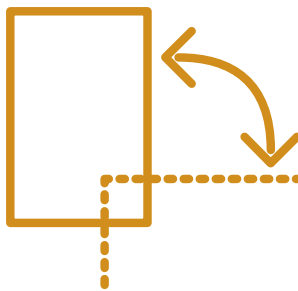
**RENEWABLE ENERGY CAN
INCREASE THE RESILIENCE
OF CITIES AND MAKE THEM
LESS DEPENDENT FROM
EXTERNAL RESOURCES**

100% RENEWABLE ENERGY ALLOWS SUSTAINABLE AND EFFICIENT NATURAL RESOURCE MANAGEMENT

**LIMITING GLOBAL WARMING TO 1.5°C REQUIRES 85%
OF FOSSIL FUEL RESERVES TO REMAIN IN THE GROUND.
TRANSITIONING TO 100% RE IS THEREFORE INEVITABLE
IN ORDER TO MEET THIS TARGET**

TURNING WASTE INTO RESOURCES

In low-income countries 65% of the waste is organic. There is a lot of potential for these countries to create renewable energy from waste, which can be treated to produce biogas and be used as a source of energy.



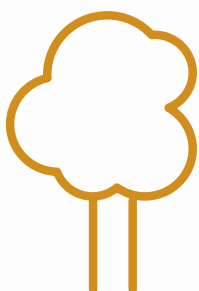
DOMESTIC BIOGAS SYSTEMS

Domestic biogas production systems have demonstrated a wide range of positive impacts: they decrease GHG and pollutant emissions, they are cost-effective, and, when used for cooking, reduce firewood usage significantly.



ENHANCING FOOD SECURITY

With additional logistical and operational efforts to support domestic biogas systems, the daily feeding rate in some countries could gradually be increased from 2 to 5 kg, to produce 150 minutes of cooking time.



WITH HIGH RATES OF POPULATION GROWTH,
**WOOD-BASED PRODUCTS
WILL BECOME LESS AND
LESS SUSTAINABLE**

REGARDLESS OF HOW EFFICIENTLY IT IS
HARVESTED, PRODUCED, OR CONSUMED



A TRANSITION TO 100% RE TO MITIGATE THE MOST DEVASTATING EFFECTS OF CLIMATE CHANGE IS EVER MORE URGENT

**IMPLEMENTING THE PARIS AGREEMENT
REQUIRES A RAPID SHIFT TO 100% RENEWABLE
ENERGY IN ALL COUNTRIES**

EMISSIONS MUST FALL STARTING NOW

To keep global warming below 2 degrees Celsius, emissions need to reach net zero by 2070 and they must fall steeply, starting immediately. This can be done only through a complete shift from fossil fuels to RE sources.



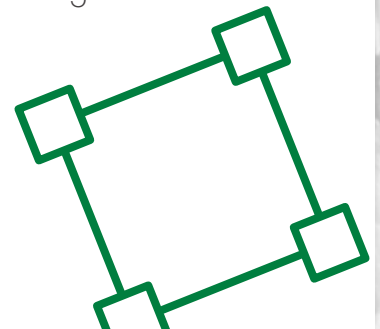
EMISSIONS FROM THE ENERGY SYSTEM

CO2 emissions from fossil fuel use are the main contributor to total GHG emissions and, the global energy system accounts for approximately three-fifths of all anthropogenic GHG emissions.



BUILDING RESILIENCE BY DIVERSIFICATION

100% RE increases resilience in the face of climate change, by decreasing the dependence from remote energy resources or increasing energy diversity through a distributed and decentralized generation.



A MAJOR RESTRUCTURING OF THE CARBON INTENSIVE ENERGY SECTOR IS NEEDED AND
**RE OFFERS AN IMMEDIATE
SOLUTION TO REDUCE GHG
EMISSIONS CONSIDERABLY**

100% RENEWABLE ENERGY IS INEVITABLE FOR CONSERVING AND SUSTAINABLY USING OCEANS, SEAS AND MARINE RESOURCES

**ENERGY PRODUCTION CAN DIRECTLY AND
INDIRECTLY IMPACT THE SEAS AND OCEANS ON
WHICH MUCH OF LIFE DEPENDS**

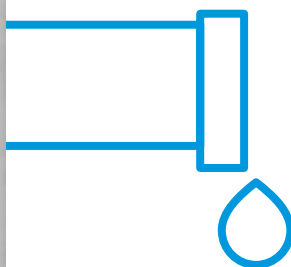
OCEAN ACIDIFICATION

100% RE has a considerable beneficial effect on limiting ocean acidification and therefore in preserving marine ecosystems.



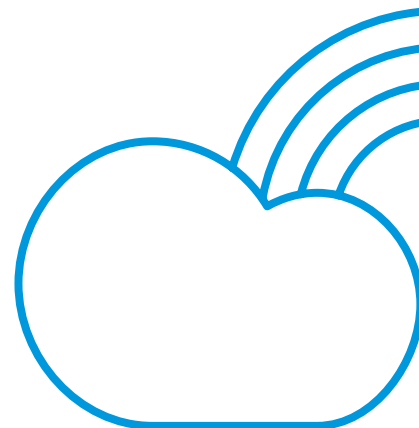
EXPLORATORY OIL POLLUTION

100% RE helps reducing oil pollution. Currently, oil exploration contaminates streams and rivers, destroys forests and leads to biodiversity loss.



A MUCH NEEDED TRANSITION

100% Renewable Energy protects communities whose employment and livelihoods depend on marine resources.



TRANSITIONING TO 100% RE
IS FUNDAMENTAL TO
**CONSERVE AND USE
OCEANS, SEAS AND MARINE
RESOURCES SUSTAINABLY**

**SDG 15**

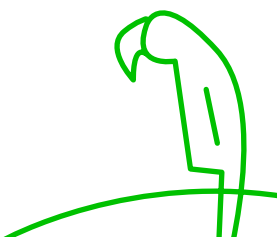
SUSTAINABLY MANAGE FORESTS, COMBAT
DESERTIFICATION, HALT AND REVERSE LAND
DEGRADATION, HALT BIODIVERSITY LOSS

100% RENEWABLE ENERGY IS ESSENTIAL TO MANAGE FORESTS SUSTAINABLY, COMBAT DESERTIFICATION AND HALT AND REVERSE LAND DEGRADATION AND BIODIVERSITY LOSS

**AS CLIMATE CHANGE IS THE GREATEST LONG-TERM THREAT
TO LIFE ON LAND, THE TRANSITION TO 100% RE IS A
PREREQUISITE TO PROTECT IT**

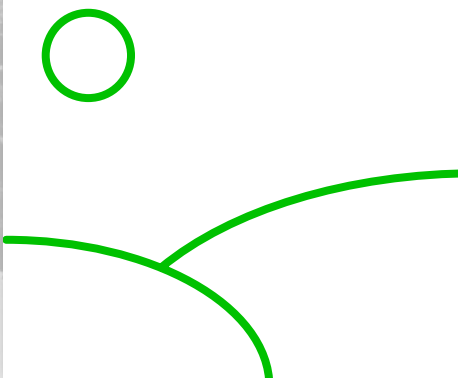
MITIGATING CLIMATE CHANGE

100% RE is essential reduce global warming. Climate change can shift between 5 to 20% of the Earth's terrestrial ecosystems, in particular cool conifer forests, tundra, scrubland, savannahs, and boreal forest.



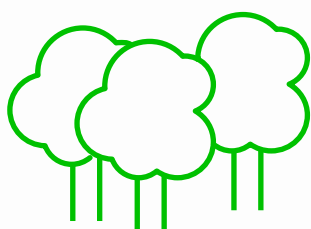
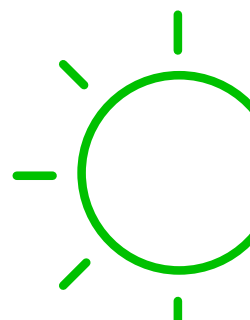
MITIGATE DESERTIFICATION

100% RE helps mitigating climate change induced desertification, which has huge impacts on biodiversity.



ENHANCE SUSTAINABLE SUSTAINABLE

Renewable based solutions for cooking are already available and can provide a better option for communities to alleviate the stress that the use of wood, crop residues and untreated coal puts on their ecosystems.



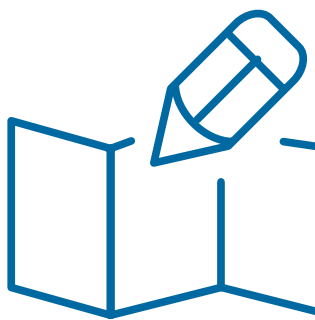
IT HAS BEEN PROVEN THAT RENEWABLE
ENERGY OPTIONS HAVE A CONSIDERABLY
**LESS DAMAGING IMPACT
BOTH ON WATER AND
LAND ECOSYSTEMS**

100% RENEWABLE ENERGY PROMOTES JUST, PEACEFUL AND INCLUSIVE SOCIETIES

**BY REDUCING OUR DEPENDENCY ON FOSSIL FUELS AND
INSTEAD DECENTRALIZING THE ENERGY STRUCTURE, A
TRANSITION TOWARDS 100% RE CAN IMPROVE ENERGY
AUTONOMY OF COUNTRIES, REDUCE CURRENT CONFLICTS
AND PREVENT THE EMERGENCE OF NEW ONES**

SUPPORTING ENERGY INDEPENDENCIES

100% RE Renewable Energy change the static concept of energy exporter vs. energy importer and transition countries. Countries can be producers of their own energy demand.



REDUCING DOMESTIC CONFLICTS

100% Renewable energy promote local development, self-determination and identity, while ensuring communities' control over local environmental impact mitigation and management.



BUILDING ENERGY DEMOCRACIES

The flexible and modular nature of RE allows going beyond national security of energy supply and rather bringing energy resources and infrastructure under public or community ownership or control.



ENERGY SYSTEMS SHOULD SERVE THE
NEEDS OF THE WORLD'S PEOPLES,
**AN ENERGY TRANSITION TO
100% RE WILL BE ADVANCED
BY A SHIFT TO PUBLIC AND
COMMUNITY CONTROL**