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Stakeholder Forum- 22nd Feb.2023
Series Nr. 4: SDG 7 & 8 Energy and Sustainalbe Economic Growth

Synergies and Trade Offs for SDG 7 & 8

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Director, CSEND, Geneva

PART I: SDG 7

SDG 7 aims to ensure that everyone has access to affordable, reliable, sustainable and modern energy

Energy is important for all three dimensions of sustainability

- **Social:** energy is one of the most basic human needs (cooking, heating, health)
- **Environmental:** energy production and use has major environmental impacts
- **Economic:** the use of energy increases productivity and raises living standards

3 Outcome targets (4 indicators)
2 Implementation targets (2 indicators)

Target 7.1: Universal access to modern energy

- **7.1.1:** Population (%) with access to electricity
- **7.1.2:** Population (%) using clean fuels and technology

Target 7.2: Increase global share of renewable energy

- **7.2.1:** RE share (%) of total final energy consumption*

Target 7.3: Double the improvement in energy efficiency

- **7.3.1:** Energy intensity (MJ of energy used per USD of GDP)

Target 7.a: Increased research, technology and investment

- **7.a.1:** Financial flows to developing countries [for this]*

Target 7.b: Expand infrastructure and technology

- **7.b.1:** RE electricity capacity in developing countries*

*** IRENA provides data for calculation of these three indicators. Other data from World Bank, WHO, IEA, UNSD.**

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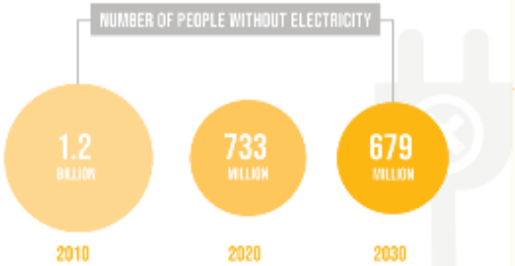
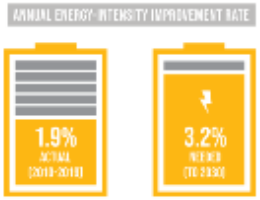
7 ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

IMPRESSIVE PROGRESS IN ELECTRIFICATION HAS SLOWED

DUE TO THE CHALLENGE OF REACHING THOSE HARDEST TO REACH



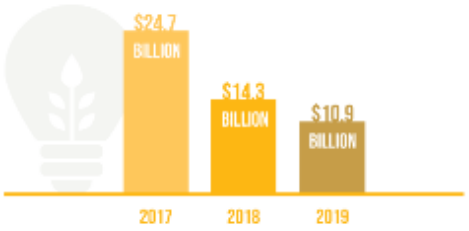
PROGRESS IN ENERGY EFFICIENCY NEEDS TO SPEED UP TO ACHIEVE GLOBAL CLIMATE GOALS



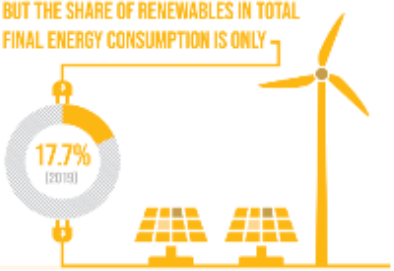
2.4 BILLION PEOPLE

STILL USE INEFFICIENT AND POLLUTING COOKING SYSTEMS (2020)

INTERNATIONAL FINANCIAL FLOWS TO DEVELOPING COUNTRIES FOR RENEWABLES DECLINED FOR A SECOND YEAR IN A ROW



TOTAL RENEWABLE ENERGY CONSUMPTION INCREASED BY A QUARTER BETWEEN 2010 AND 2019, BUT THE SHARE OF RENEWABLES IN TOTAL FINAL ENERGY CONSUMPTION IS ONLY

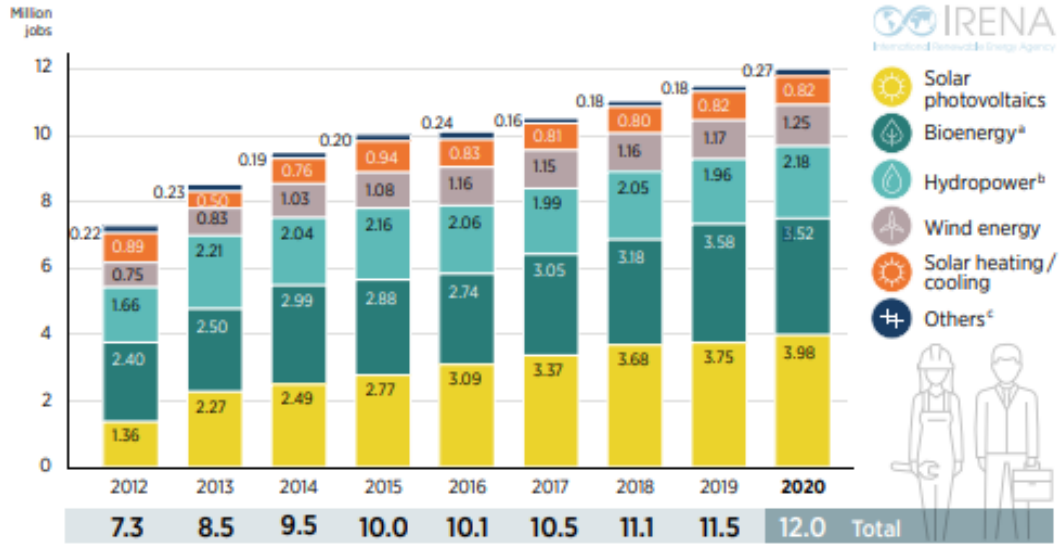


THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2022: UNSTATS.UN.ORG/SDGS/REPORT/2022/

Just Energy Transition -

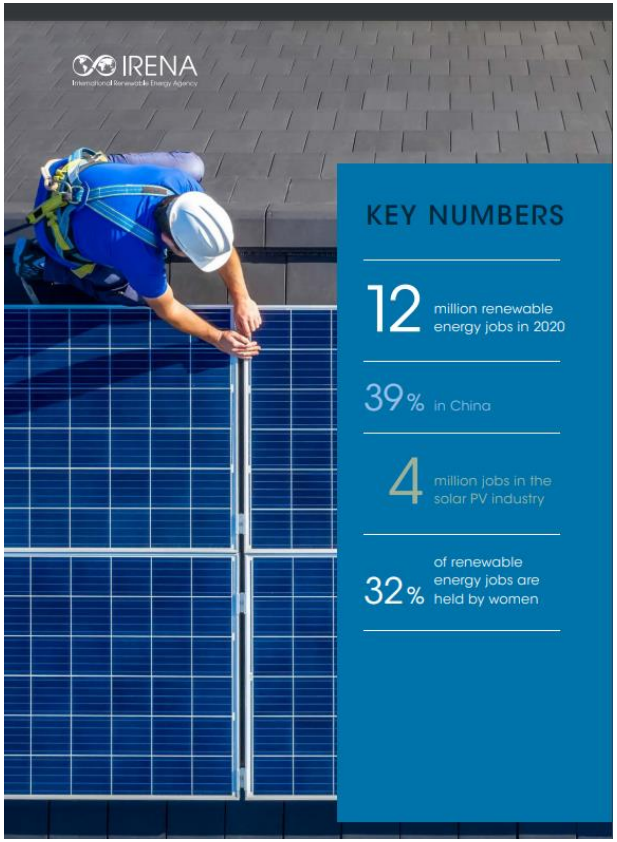
- ENERGY AND JOBS TO POWER THE FUTURE (ITC, 2021)
- Renewable Energy and Jobs: Annual Review 2021 (IRENA)

Figure 1. Global renewable energy employment by technology, 2012-20



a Includes liquid biofuels, solid biomass and biogas.
b Direct jobs only.
c "Others" includes geothermal energy, concentrated solar power, heat pumps (ground based), municipal and industrial waste, and ocean energy.

Source: IRENA jobs database.



https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/Oct/IRENA_RE_Jobs_2021.pdf?rev=98960349dbab4af78777bc49f155d094

Skills Needed for Energy Transition

- Despite positive trends and recent developments, skills gaps and shortages are increasing and likely widespread across countries unless proactive measures are taken.
- In high-income countries, including those even with well-developed skills anticipation systems, a lack of both technical and transferable core skills remains a significant recruitment barrier for employers, while developing countries are especially challenged by deficiencies at higher skills levels.
- Many of the most significant changes in skills and occupations in the green economy are taking place at higher skill levels, requiring university education.
- This represents a critical barrier for many low-income countries, where university graduates and high-level skills in general tend to be in short supply. These may constitute a constraint on the net-zero transition.

RENEWABLE ENERGY AND JOBS – ANNUAL REVIEW 2021

SDG 8:
Decent Work and Economic Growth

- *"Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all".*
- A total of 12 targets and 17 Indicators to measure progress
- 10 out of the 12 targets focus on the intended outcomes
- There are also two targets for "means of Implementation", which are necessary actions to support the attainment of the Goal

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PART II: SDG 8

SDG 8:
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SDG 8: *"Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all".*

Target 8.1: Sustainable economic growth

Target 8.2: Diversify, innovate and upgrade for economic productivity

Target 8.3: Promote policies to support job creation and growing enterprises

Target 8.4: Improve resource efficiency in consumption and production

Target 8.5: Full employment and decent work with equal pay

Target 8.6: Promote youth employment, education and training

Target 8.7: End modern slavery, trafficking, and child labour

Target 8.8: Protect labour rights and promote safe working environments

Target 8.9: Promote beneficial and sustainable tourism

Target 8.10: Universal access to banking, insurance and financial services

Target 8.a: Increase aid for trade support

Target 8.b: Develop a global youth employment strategy

https://en.wikipedia.org/wiki/Sustainable_Development_Goal_8#Targets,_indicators_and_progress

Progress made

According to the 2022 SDG report all targets under SDG 8 were severely affected by COVID-19:

- Growth in GDP per capita remained below the 7% target;
- Labour productivity fluctuated widely;
- The global unemployed rate is still above pre-pandemic level;
- The number of children working as child labourers grew by 8.4 million since 2016;
- Youth education and training suffered enormously from COVID induced disruptions.

However, all indicators have improved in 2022.

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8 DECENT WORK AND ECONOMIC GROWTH

PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

THE PANDEMIC

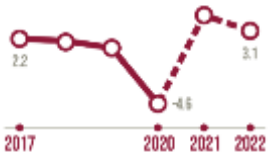
HAS LED TO THE LOSS OF THE EQUIVALENT OF

255 MILLION FULL-TIME JOBS

ABOUT **4X** THE NUMBER LOST DURING THE GLOBAL FINANCIAL CRISIS (2007-2009)

ECONOMIC RECOVERY IS UNDER WAY

GLOBAL REAL GDP PER CAPITA (2017-2022)



BUT FOR MANY COUNTRIES, ECONOMIC GROWTH IS EXPECTED TO RETURN TO PRE-PANDEMIC LEVELS ONLY IN **2022 OR 2023**

1.6 BILLION INFORMAL ECONOMY WORKERS → WHO LACK A SOCIAL SAFETY NET, → **WERE SIGNIFICANTLY AFFECTED** → BY THE PANDEMIC

INTERNATIONAL TOURIST ARRIVALS

FELL FROM 1.5 BILLION IN 2019 TO **381 MILLION** IN 2020 –

INTERNATIONAL TOURISM IS NOT EXPECTED TO RETURN TO 2019 LEVELS FOR UP TO **4 YEARS**

PANDEMIC WILL LEAD TO **AN INCREASE IN YOUTH NOT EMPLOYED, IN SCHOOL OR IN TRAINING**

THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2021: UNSTATS.UN.ORG/SDGS/REPORT/2021/

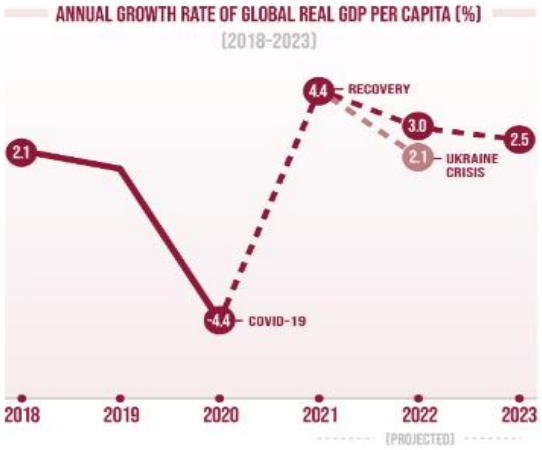
8 DECENT WORK AND ECONOMIC GROWTH

PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

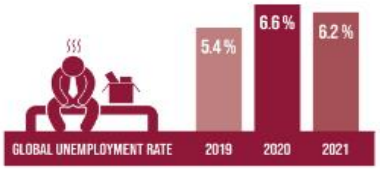
IS HAMPERED BY:

- NEW WAVES OF COVID-19
- RISING INFLATION
- SUPPLY-CHAIN DISRUPTIONS
- POLICY UNCERTAINTIES
- LABOUR MARKET CHALLENGES

GLOBAL ECONOMIC RECOVERY IS FURTHER SET BACK BY THE UKRAINE CRISIS



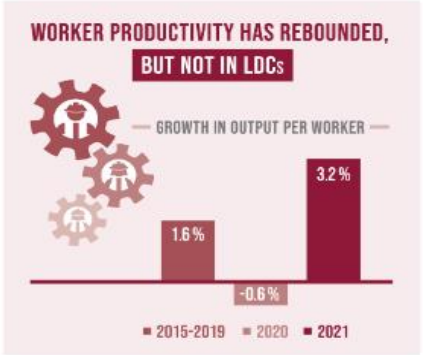
TO REMAIN ABOVE PRE-PANDEMIC LEVEL UNTIL AT LEAST 2023



1 IN 10 CHILDREN ARE ENGAGED IN CHILD LABOUR WORLDWIDE

160 MILLION TOTAL CHILDREN (2020)

WORKER PRODUCTIVITY HAS REBOUNDED, BUT NOT IN LDCs



THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2022: UNSTATS.UN.ORG/SDGS/REPORT/2022/

Experience: Asia

8 DECENT WORK AND ECONOMIC GROWTH

Achieving SDG 8 in Asia demands businesses to end exploitative labour practices especially in industries relying on the informal sector

https://thepurposebusiness.com/insights/sdg8-followsustainachieve

SDG 8: Challenges

- Economic growth is likely to increase CO2 emissions, thereby negatively affecting the environment-related SDGs.
- Economic growth does not automatically create jobs; if it does, those jobs may not be decent.
- The targets under SDG 8 cover two of the four dimensions of decent work – social protection and social dialogue are excluded (partly covered under SDGs 1, 3 and 16);
- The SDG indicators are not always consistent with the respective targets (example: target 8.3 and indicator 8.3.1);
- The informal economy, which occupies 60 % of the global labour force, is not adequately addressed in SDG 8.

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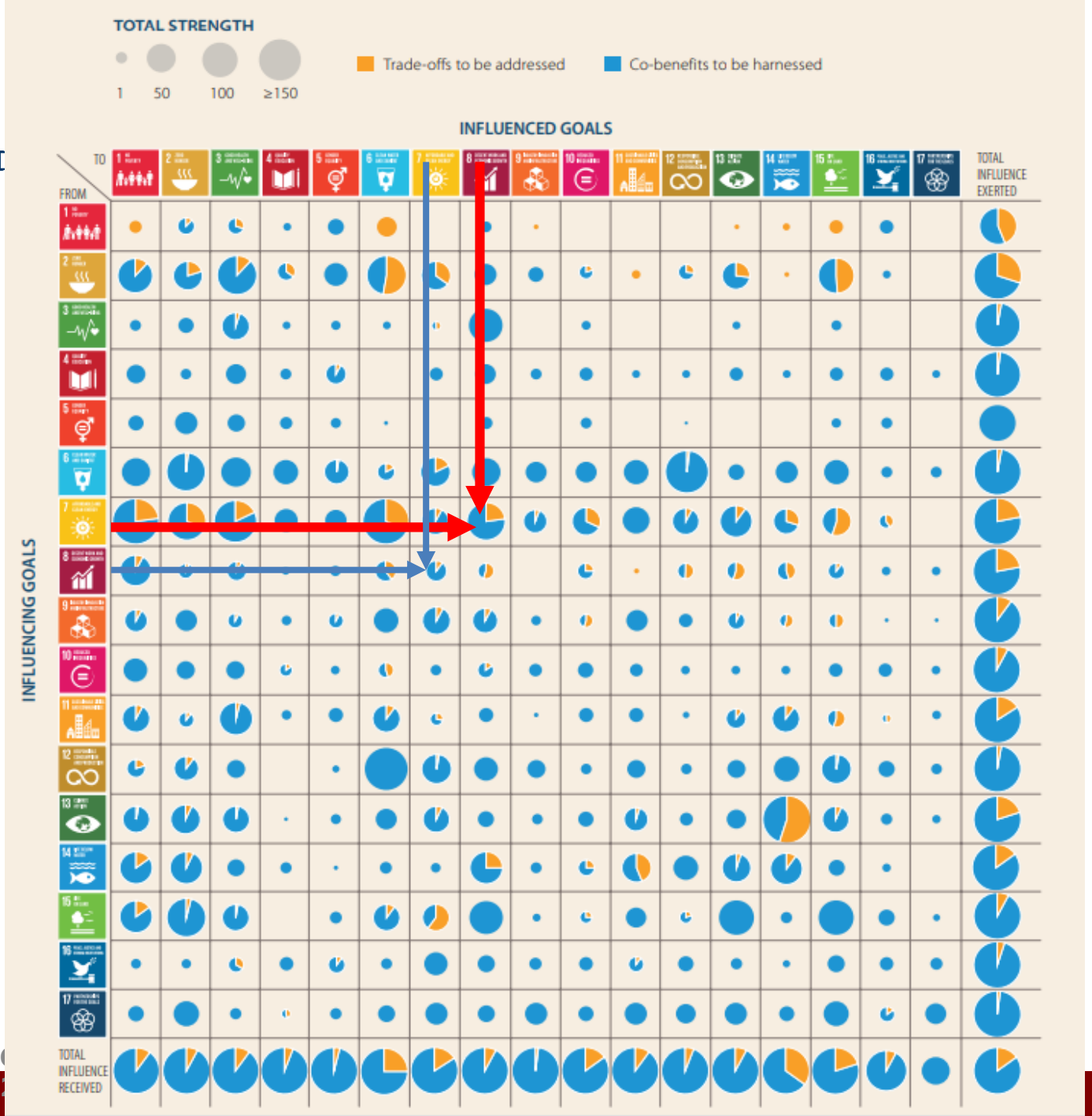
PART III: Transitions



Trade-offs & Co-Benefits

GSDR, P.6
using the
7-point scale developed by
the International Council
for Science (ICSU)26

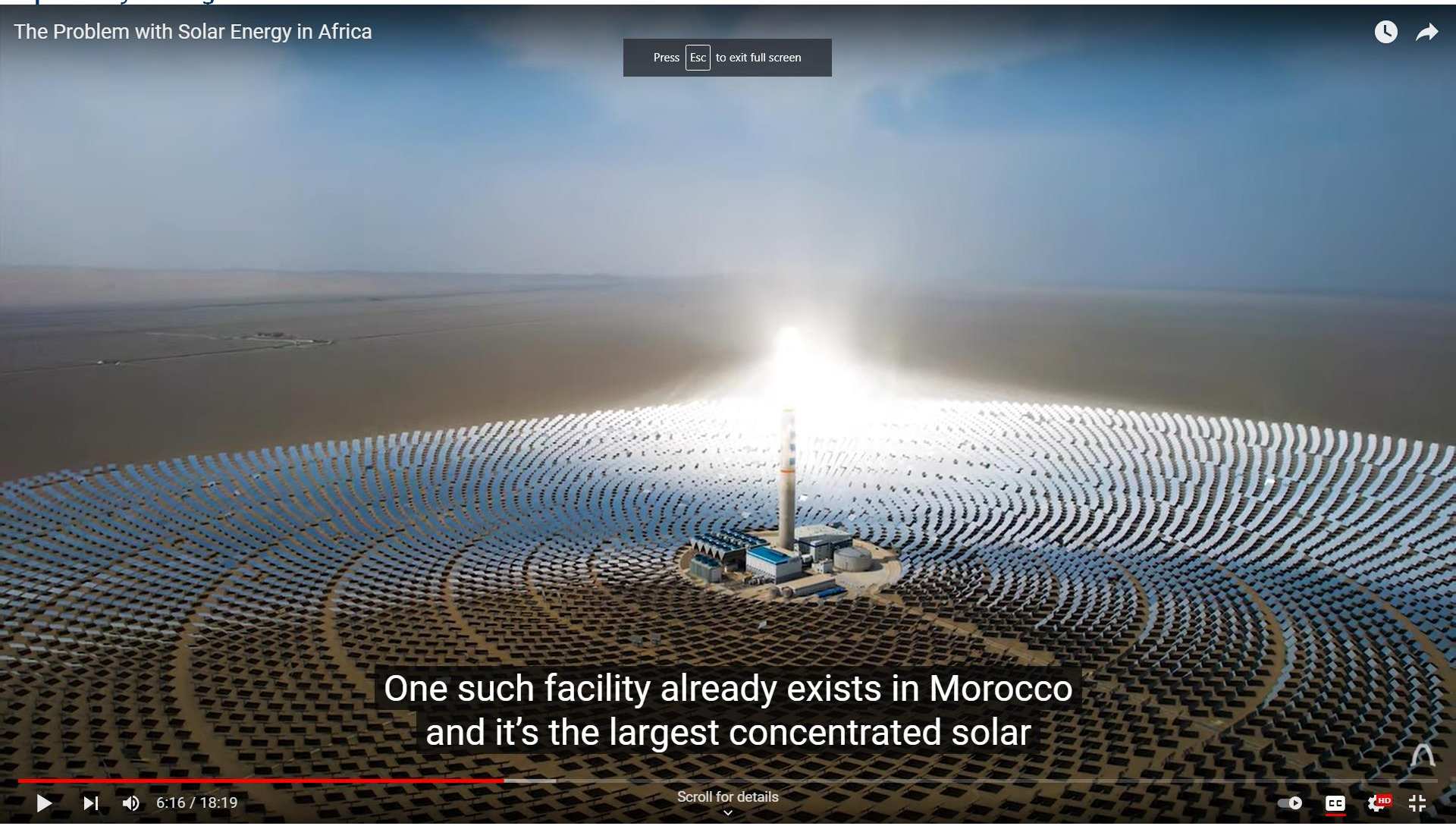
https://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf

Trade offs & Synergies

Trade Off: Zero Hunger (SDG 2); overuse of pesticides to increase crop production resulting in environmental pollution (SDG 15)

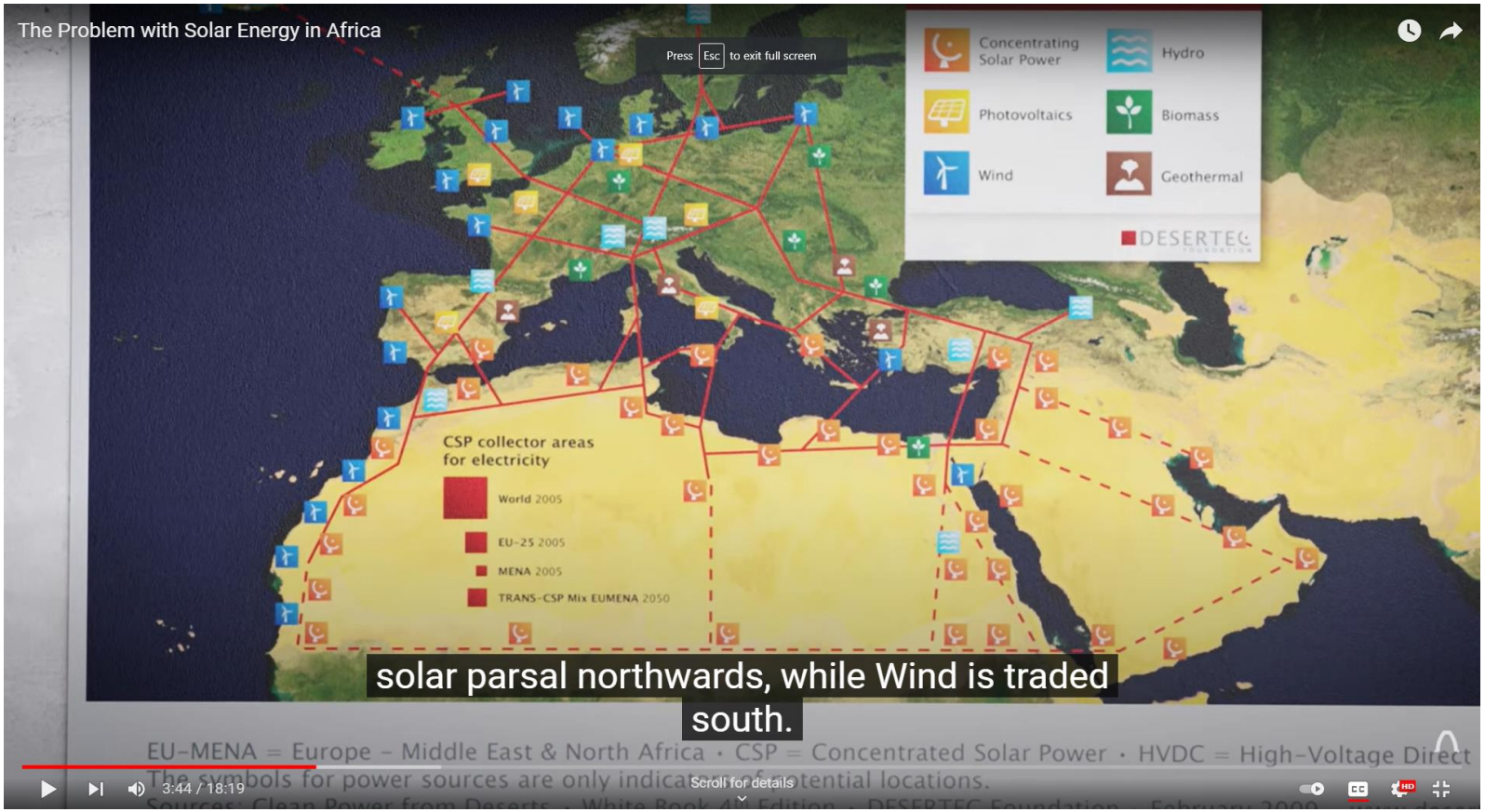
Synergy: Purifying industrial water and stop wasting industrial water (SDG 6) generating better health in population (SDG 3)

Energy Transition – All continents



Solar energy grids- africa (https://youtu.be/7OpM_zKGE4o)

- Who invests, controls grid, sells at what price, how much to local companies and CSO communities? Any anti-monopoly laws?



Africa unplugged- off grid solar power

The Economist, 29th Oct. 2016, Gakenke

https://www.economist.com/middle-east-and-africa/2016/10/29/africa-unplugged

Untold Stories

- ***If Solar Panels Are So Clean, Why Do They Produce So Much Toxic Waste?***
  https://www.forbes.com/sites/michaelshellenberger/2018/05/23/if-solar-panels-are-so-clean-why-do-they-produce-so-much-toxic-waste/?sh=525a2f44121c
- ***The problem of solar panel disposal "will explode with full force in two or three decades and wreck the environment" because it "is a huge amount of waste and they are not easy to recycle."***
- **"Contrary to previous assumptions, pollutants such as lead or carcinogenic cadmium can be almost completely washed out of the fragments of solar modules over a period of several months, for example by rainwater."**
- **Between 60 and 90 percent of electronic waste is illegally traded and dumped in poor nations. (UNEP report)**

When Hurricane Maria hit Puerto Rico September 2017, the nation's second largest solar farm, responsible for 40 percent of the island's solar energy, lost a majority of its panels. Other effects included cadmium contained in the panels which is highly toxic and hazardous to health.

(Source: American Experiment, https://www.americanexperiment.org/the-environmental-disaster-of-solar-energy/)

CC solutions *within* WTO rules and agreement

(R Saner, "Greening WTO")

https://www.feem.it/m/publications_pages/20163231141134FinalPublished.pdf

- **Green TRIMS+**

  (favour Low Carbon Investment, recruit local workers and engineers, offer training)

- **Green TRIPS++**

  (Compulsory licencing of Green High Tech, patent sharing, knowledge sharing)

- **Green tri-sectoral Plurilateral** ***(Energy, Environment & Trade +Dev., e.g. local procurement, local assured share of electricity generated through renewables)***

Hydrogen for an energy dense fuel with zero carbon dioxide

https://energycentral.com/news/hydrogen-push-mapping-indo-russian-trajectories-%E2%80%93-analysis

Hydrogen fuel= water split into hydrogen and oxygen by electrolysis process which needs <u>electricity</u>

Solar and wind	Green hydrogen
Fossil fuels-coal and oil	Brown/grey hydrogen
Carbon sequestration	Blue hydrogen
Nuclear	Pink hydrogen
Biomass or plastics	White hydrogen

Challenge ahead till 2030

“Sustainable Development Goals (SDGs): Are we successful in turning trade-offs into synergies?”

Christina Kroll, Anne Warchold & Prajal Pradhan
Bertelsmann Stiftung, Palgrave Communications Open Access, 2019

We need to help each other!

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Thank You!!!