



United Nations
Convention to Combat
Desertification

Navigating food-energy-environment tradeoffs through Land Degradation Neutrality (LDN)

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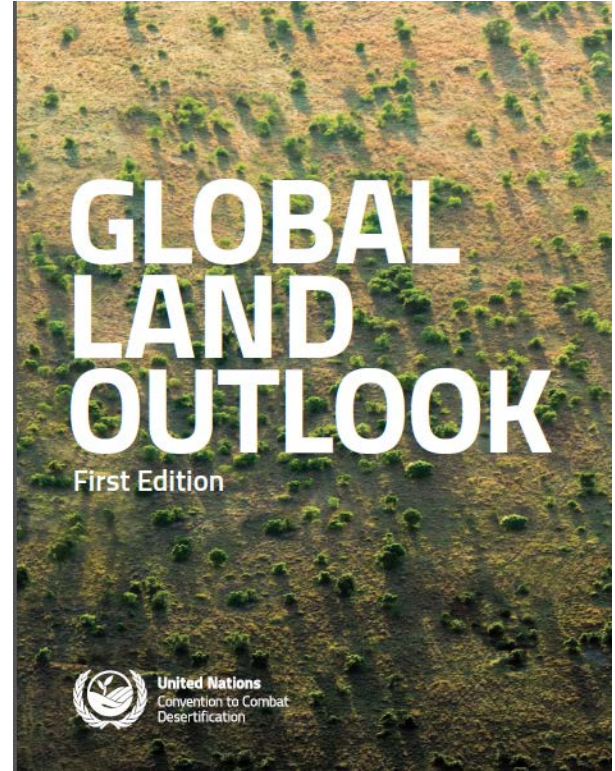
Discussion Forum 2: Global Bioenergy Partnership

1 December 2018
Bonn, Germany



Barriers to achieving Agenda 2030:

- **Land is finite in quantity. Competing demands for its goods and services are increasing pressures on land resources in virtually every country.**
- **1/3 of the land is degraded mostly in the last 20 years**
- **Over 1.3 billion people trapped on degrading agricultural land.**
- **Consumption of natural resources doubled in 30 years**
- **3 planets to meet 2050 natural resource demands**



Land can accelerate many SDGs...



...but SDGs compete for the same land resources.

Renewable energy potential is tremendous

- Renewable energy has great potential to mitigate climate change impacts and reduce reliance on finite energy resources

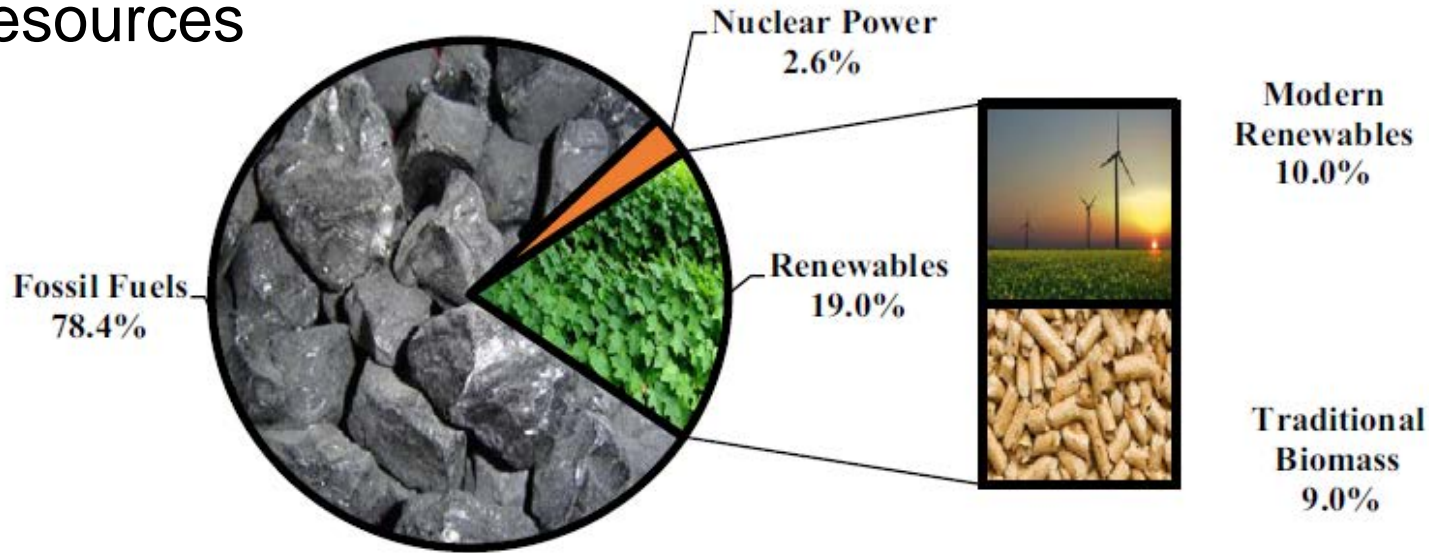


Fig. 1. Estimated share of renewable energy in global final energy consumption.

Adil Edrisi and Abhilash (2016)

However, renewable energy also has tradeoffs

- The food-energy-environment “trilemma”
- Potential environmental impacts of renewable energy development:
 - Competition for land / increasing land scarcity
 - Risk of undesirable land use / land cover change
 - Degradation or disruption of valuable ecosystem services
 - Biodiversity loss
 - Habitat fragmentation

Murphy-Mariscal et al. 2018 &
Hernandez et al. 2014



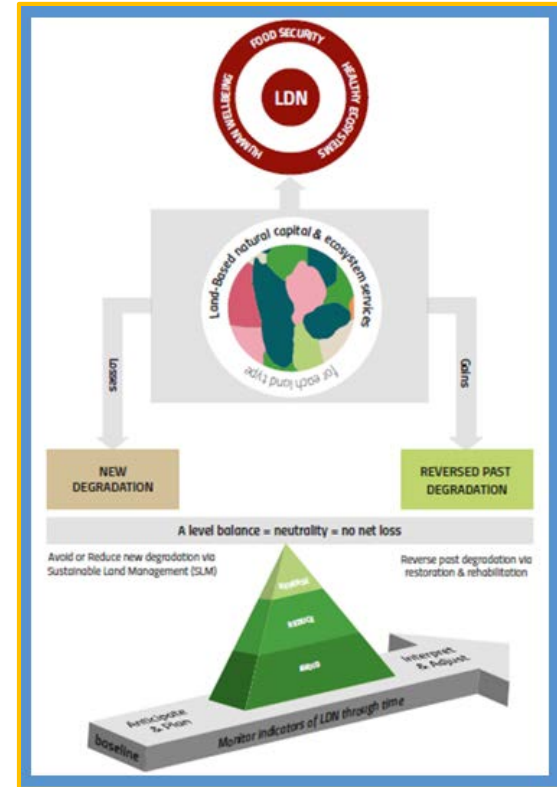
Restoration of *degraded lands* for bioenergy

- ❖ Biomass plantations on degraded lands can help restore those lands while supplying significant amounts of bioenergy.
- ❖ Restoration of this kind can also provide employment opportunities, ecosystem services and carbon storage.
- ❖ Planting with high-yielding wood or grass species can allow bioenergy to be extracted without conflicting with food production.

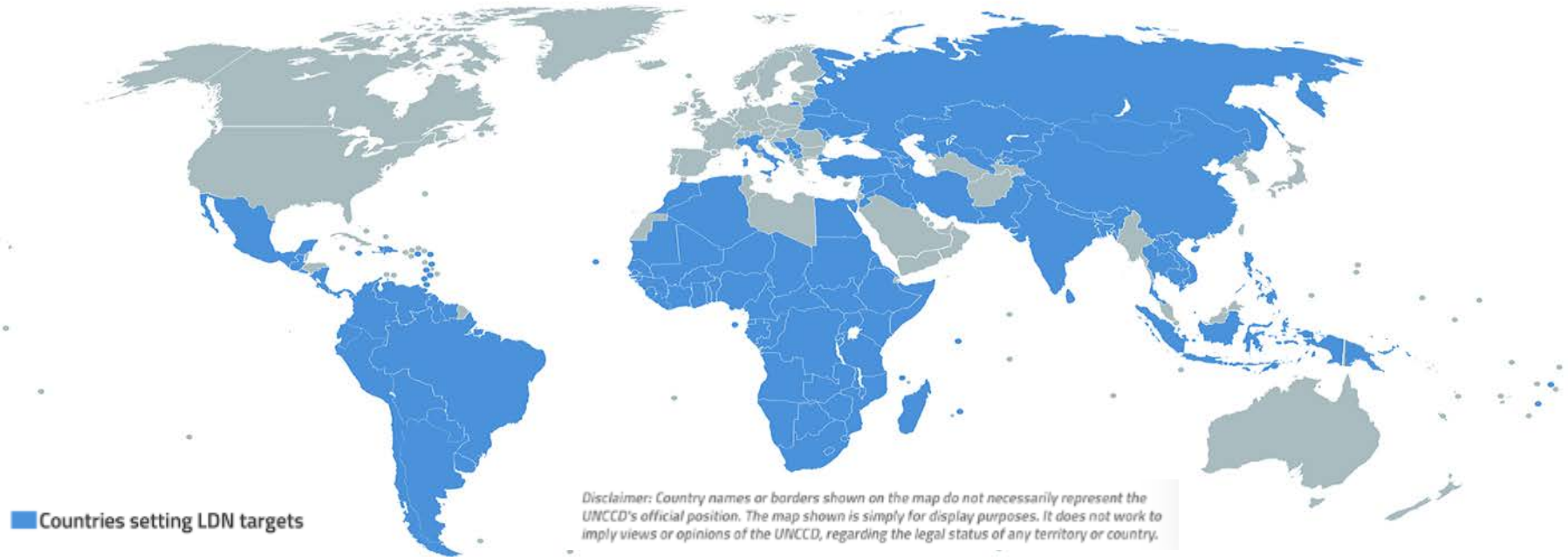
Land Degradation Neutrality

- **Land Degradation Neutrality (LDN)** provides a framework which **can help navigate renewable energy trade-offs**
- LDN is about keeping **land in balance**
- LDN seeks to maintain **natural capital** and the **ecosystem services** that flow from it
- LDN involves **counterbalancing** future land degradation (anticipated **losses**) through planned measures to achieve equivalent **gains** elsewhere within the same **land type**

<https://knowledge.unccd.int/publication/ldn-scientific-conceptual-framework-land-degradation-neutrality-report-science-policy>



Countries are embracing LDN



119 countries have committed to set LDN targets so far

60 countries have validated targets

25 countries target adopted by Governments



Thank you!

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Further information



- ***Global Land Outlook***
<https://knowledge.unccd.int/glo>
- ***Scientific Conceptual Framework for Land Degradation Neutrality. A Report of the Science-Policy Interface.***
<http://www2.unccd.int/publications/scientific-conceptual-framework-land-degradation-neutrality>
- ***Land in balance: The scientific conceptual framework for Land Degradation Neutrality. Environmental Science & Policy***
<https://doi.org/10.1016/j.envsci.2017.10.011>