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European Bioeconomy Congress

Łódz, Poland
7 October 2019

European Bioeconomy: challenges and opportunities

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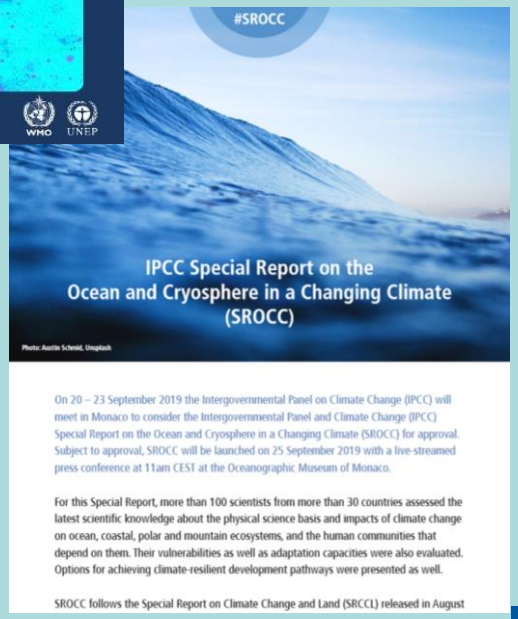
European Commission
DG Research and Innovation
Healthy Planet

Climate crisis

- ✓ Global warming has reached 1°C above preindustrial level and is increasing at approximately 0,2°C per decade
- ✓ Since the previous IPCC report the assessed level of risk increased in most areas of concern
- ✓ Tipping points remain a critical issue and not yet fully incorporated in risk analysis

➔ ***Reaching the Paris Agreement goals is still possible but requires an unprecedented transition (scale and speed)***



- ✓ The global ocean has now warmed without pause since 1970. The waters have taken more than 90% of the extra heat generated by humans over the past decades
- ✓ Sea level was once rising mainly due to thermal expansion, now because of the melting of Greenland and Antartica
- ✓ Acidification of Oceans due to increased levels of CO_2 – even at 1,5°C 90% of corals will disappear

➔ ***If we reduce emissions sharply, consequences for people and their livehoods will still be challenging but more manageable - Adaptation***

Climate change and citizens

Climate Action Summit: EU to lead global fight against climate change
Survey shows strong support from citizens

by Laura Maanavilja and Anna Johansson, DG CLIMA

25/09/2019 | 14 1

The UN Climate Action Summit started on Monday, and the EU is there with a strong story to tell: a story of longstanding commitment, delivering on our promises and preparing for a climate-neutral future. New Eurobarometer surveys show that citizens across the EU strongly support ambitious action on climate and clean energy.

▶ Across the EU, citizens back action for the climate

Clear and unmistakable message

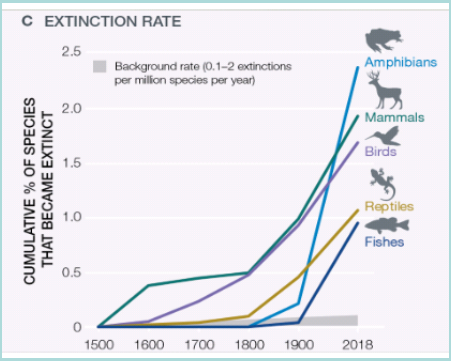
This is an emergency!

Need for a just transition!

Biodiversity under threat

- ✓ By 2010, 34% of global biodiversity had been lost. Projection 38-46 % by 2050

➔ ***More species of plants and animals are threatened of extinction now than at any other time in human history***



- ✓ 75% of the land area is very significantly altered. Projection 90% by 2050
- ✓ Land degradation negatively impacts well being of 3.2 billion people
- ✓ 66% of the ocean area is experiening increasing cumulative impacts

➔ ***Climate change, nature deterioration and quality of life for all are interconnected challenges. They are not competing but synergetic objectives***

2019: Drought in Poland

Systems need to be made sustainable

Exemple: Freshwater systems

OECD Studies on Water

English — Also available in French — Hide / Show Abstract

ISSN: 2224-5081 (online)
ISSN: 2224-5073 (print)
http://dx.doi.org/10.1787/22245081

70% of total freshwater withdrawal in Agriculture

Water Risk Hotspots for Agriculture

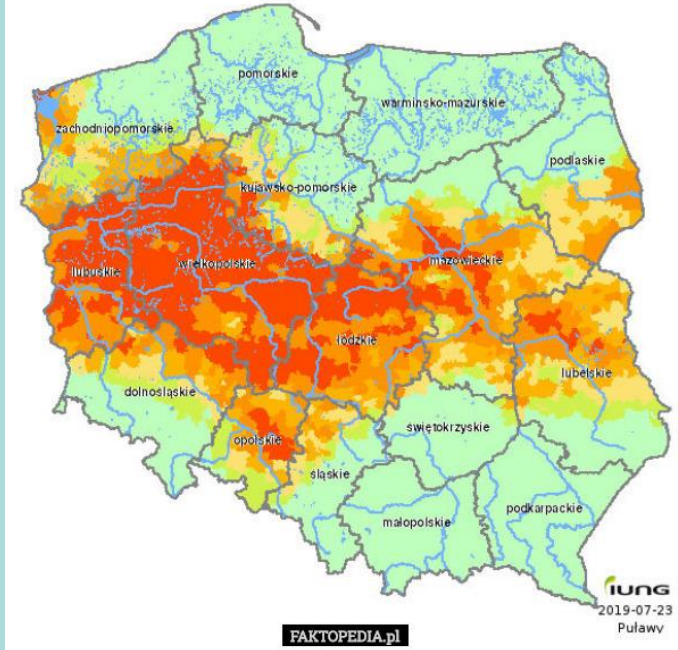
English
Click to Access: PDF READ

OECD
25 Sep 2017
Pages: 196
ISBN: 9789264279551 (PDF) ;9789264279544(print)
http://dx.doi.org/10.1787/9789264279551-en — Hide / Show Abstract

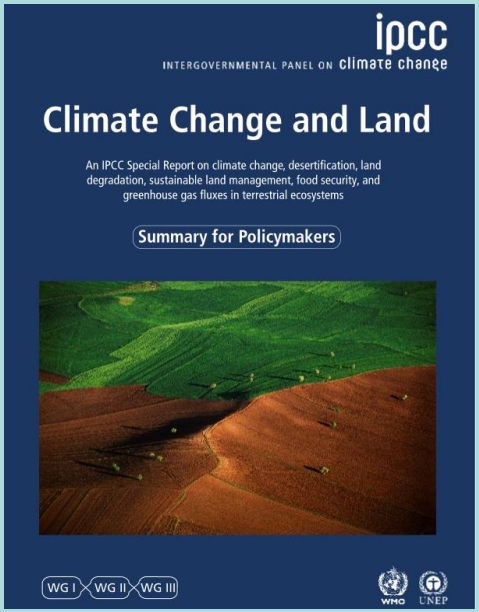
Agriculture is expected to face increasing water risks that will impact production, markets, trade and food security - risks that can be mitigated with targeted policy actions on water hotspots. This report develops the hotspot approach, provides an application at the global scale, and presents a mitigation policy action plan. The People's Republic of China, India and the United States are identified as countries facing the greatest water risks for agriculture production globally.

A global simulation shows that, in the absence of action, water risks in Northeast China, Northwest India and the Southwest United States in particular could have significant production, price and trade consequences. Agriculture water risks could also result in broader socio-economic and food security concerns. Farmers, agro food companies, and governments can all play a role in responding to water risks at hotspot locations. A three-tier policy action plan is proposed to confront water risk hotspots, encompassing targeted responses, adapted national policies, strengthened market integration and international collaboration.

http://www.oecd-ilibrary.org/agriculture-and-food/water-risk-hotspots-for-agriculture_9789264279551-en

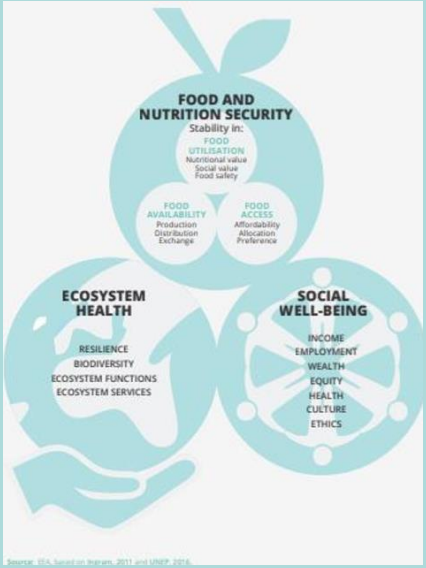


W okresie 21 maja - 20 lipca na większości obszarów Polski występowała susza, która w niektórych rejonach kraju była katastrofalna.

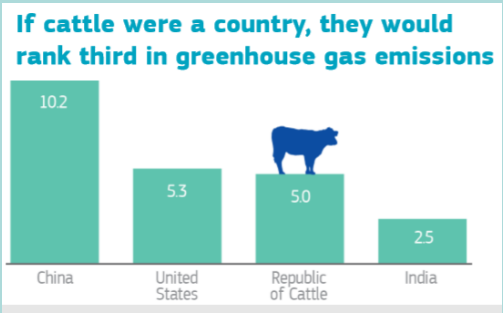


- ✓ Land plays an important role in the climate system
- ✓ Better land management can contribute to tackling climate change but it is not the only solution
- ✓ Land already in use could feed the world and provide biomass, but early, far-reaching systemic transformation (and trade offs) are required
- ✓ The report set options to tackle land degradation and prevent or adapt to desertification

➔ ***Land must remain productive to maintain food security as the population increases and the negative impacts of climate change on vegetation increase***



- ✓ **One third of food produced is lost or wasted**
- ✓ Some dietary choices require more land and water and cause more GHG emissions. Report calls for balance diets



➔ ***The world is best placed to tackle climate change when there is an overall focus on sustainability***

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We need to design sustainable systems

Example: Plastics economy

Under business-as-usual, the ocean is expected to contain 1 ton of plastic for every 3 tons of fish by 2025, and by 2050, more plastics than fish (Ellen Mc Arthur 2016).
https://www.ellenmacarthurfoundation.org/publications/the-new-plastics-economy-rethinking-the-future-of-plastics

http://www.thebookblog.co.uk/2015/03/all-the-refuse-of-the-world/

A Union that strives for more – Political Guidelines for the next European Commission 2019-2024

European Green Deal

*« Becoming the **world's first climate neutral continent** is the greatest challenge an opportunity of our times. It involves taking decisive actions now. We will need to **invest in innovation and research**, redesign our economy and update out industrial policy »*

*« We need to invest **record amounts** in cutting-edge research and innovation, using the full flexibility of the next EU budget to **focus on the areas with the greatest potential.** »*

- A just transition
- A Sustainable Europe Investment Plan
- More ambitious targets from 2030
- Preserving Europe's natural environment

"To help us achieve our ambition, **I will propose a European Green Deal in my first 100 days in office"**

EU Bioeconomy strategy aims to achieve….

(October 2018)

- Link the **sustainable use of renewable biological resources** for food, feed, bio-based products and bioenergy, with the **protection and restoration of biodiversity, ecosystems and natural capital** across land and water.
- Step up action to ensure that the Bioeconomy provides a **long-term balance of social, environmental and economic gains**.

…. HOW?

- A **system-wide approach**, expanding beyond research and innovation
- delivering on policies across sectors, **addressing trade-offs**
- strengthening **circularity** and **sustainability**
- **delivering for the citizens** - on jobs, sustainable growth, well-being - and on planetary health
- in **local contexts**, valorising local resources and adapted to local needs

Europe's bioeconomy
weaving it all together

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Bioeconomy: driving EU Policy Priorities

- **Job creation** – e.g. biobased industries could create up to 1 million jobs by 2030 (industry estimate), in particular in rural and coastal area
- **Climate mitigation** – through use of bio-energy/ bio-based materials/ecosystems services; e.g. the use of 1 ton of wood instead of 1 ton of concrete in construction can lead to 2.1 ton CO_2 reduction
- **A renewed and strengthened EU industrial base** – Global leadership position in bio-chemicals and substitutes for fossil raw materials (plastics, packaging, cosmetics, consumer goods) based on research and innovation
- **Circular economy** – e.g. cutting food waste, recycling of high value organic waste
- **Healthy ecosystems and biodiversity** – e.g. through restoring degraded soils

Actions

1

STRENGTHEN AND SCALE-UP THE BIO-BASED SECTORS, UNLOCK INVESTMENTS AND MARKETS

- **Mobilise** stakeholders in **development** and **deployment** of **sustainable bio-based solutions**
- Launch the **EUR 100 million** Circular Bioeconomy Thematic **Investment Platform**
- **Analyse enablers and bottlenecks** for the deployment of **bio-based innovations**
- Promote and develop **standards, labels and market** uptake of **bio-based products**
- Facilitate the **development of new sustainable biorefineries**
- Develop substitutes to fossil based materials that are **bio-based, recyclable and marine biodegradable**

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Actions

2 DEPLOY LOCAL BIOECONOMIES RAPIDLY ACROSS EUROPE

- **Launch a Strategic Deployment Agenda** for sustainable food and farming systems, forestry and bio-based products
- **Launch pilot actions for the development of bioeconomies** in rural, coastal and urban areas
- **Support regions and Member States** to develop Bioeconomy Strategies
- **Promote education, training and skills** across the bioeconomy

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Actions

3 UNDERSTAND THE ECOLOGICAL BOUNDARIES OF THE BIOECONOMY

- **Enhance knowledge** on biodiversity and ecosystems
- **Monitor progress** towards a sustainable bioeconomy
- **Promote good practices** to operate the bioeconomy within **safe ecological limits**
- **Enhance the benefits** of biodiversity in **primary production**

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The Bioeconomy in recent policy developments

- EC Communication „**A clean Planet for all – A strategic long-term vision for a prosperous, modern, competitive and climate neutral economy**“:
  - central role of the bioeconomy for a carbon neutral future (need for a sustainable food system, role as carbon sink)

- EC reflection paper „**Towards a sustainable Europe by 2030**“
  - highlights the vital role of the food systems to achieve sustainable development and key SDGs (2,12,13) and the bioeconomy for balancing economic, social and environmental objectives in achieving SDGs.

- Supported by 2019 reports from IPCC and IPBES

- Key for the implementation of the ‘**Green Deal**’ of Commission President-elect von der Leyen

Horizon 2020
calls / opportunities

Last H2020 calls

Societal Challenge 2 « Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy »

Opening: 15 October 2019, deadlines: 22 January 2020 / 8 September 2020

Four calls will open soon:

- **Sustainable Food Security** [14 topics, 173 M EUR]
- **Blue Growth** [3 topics, 52 M EUR]
- **Rural Renaissance** [8 topics, 88 M EUR]
- **Food and Natural Resources** [19 topics, 208.7 M EUR] **NEW; bio-based focus!**

See full information at: http://ec.europa.eu/research/participants/portal/desktop/en/home.html

Bio-based Industries Joint Undertaking
Call 2020 (in preparation)
Tentative opening: April 2020
Tentative deadline: September 2020
See more: https://www.bbi-europe.eu/participate/participate

Last BBI JU call

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Horizon Europe (2021-2027) framework programme

to strengthen the EU's scientific and technological bases and the European Research Area (ERA)

to boost Europe's innovation capacity, competitiveness and jobs

to deliver on citizens' priorities and sustain our socio-economic model and values

The Commission proposes a budget of € 100 billion for Horizon Europe.

- European Parliament and Council reached a common understanding on Horizon Europe on 19 March 2019, and the European Parliament approved the agreement at the plenary on 17 April 2019 – the last plenary before the parliamentary elections.

- Budget, synergies and third country association still pending, depending on the overall MFF negotiations.

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The Bioeconomy in Horizon Europe

Cluster 6: Food, bioeconomy, natural resources, agriculture and environment

7 Intervention Areas	• Environmental observation • Agriculture, forestry and rural areas • Circular systems • Food systems	• Biodiversity and natural resources • Seas, oceans and inland waters • Bio-based innovation systems in the EU Bioeconomy

- **Addressing under one cluster the interlinked challenges** of eco-systems, health of our planet, sustainable agricultural, forest and marine production, bio-based systems, and sustainable consumption

- **Bringing together the concepts of circular economy, bioeconomy and blue economy**, with a coherent contribution of R&I to EU policies in these areas

- Proposed **€10** billion budget for this cluster.

- **Potential EU Public-Private Partnership** on "Circular Bio-based Economy for Europe" – on-going Impact Assessment. Public Consultation open until 6 November.

See more: https://ec.europa.eu/info/designing-next-research-and-innovation-framework-programme/what-shapes-next-framework-programme_en?pk_campaign=rtd_news

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Thank you for attention

Dziękuję za uwagę