

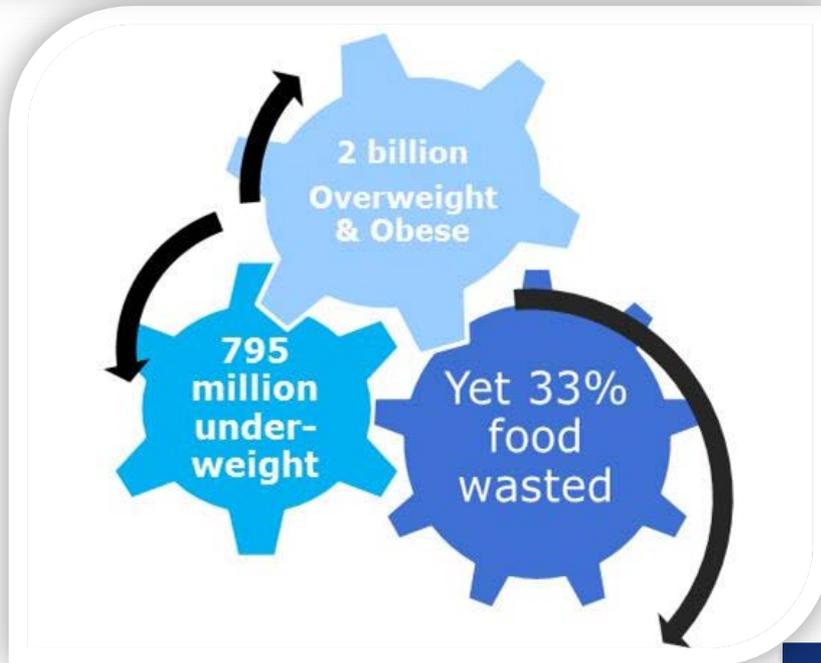
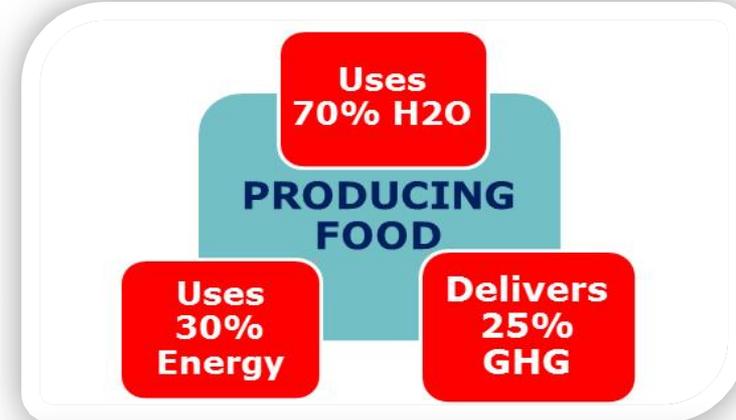


FOOD 2030

*Research & innovation
for tomorrow's
nutrition and food
systems*

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The Challenge



Political Opportunity

European Commission Priorities

10 priorities

01		A new boost for jobs, growth and investment.
02		A connected digital single market.
03		A resilient Energy Union with a forward-looking climate change policy.
04		A deeper and fairer internal market with a strengthened industrial base.
05		A deeper and fairer Economic and Monetary Union (EMU).
06		A reasonable and balanced free trade agreement with the United States.
07		An area of justice and Fundamental Rights based on mutual trust.
08		Towards a new policy on migration.
09		Europe as a stronger global actor.
10		A Union of democratic change.

Sources: European Parliament, European Commission

Sustainable Development Goals

THE GLOBAL GOALS
For Sustainable Development

COP21+

TOUS ENSEMBLE
POUR LE CLIMAT
cop21.gouv.fr #COP21

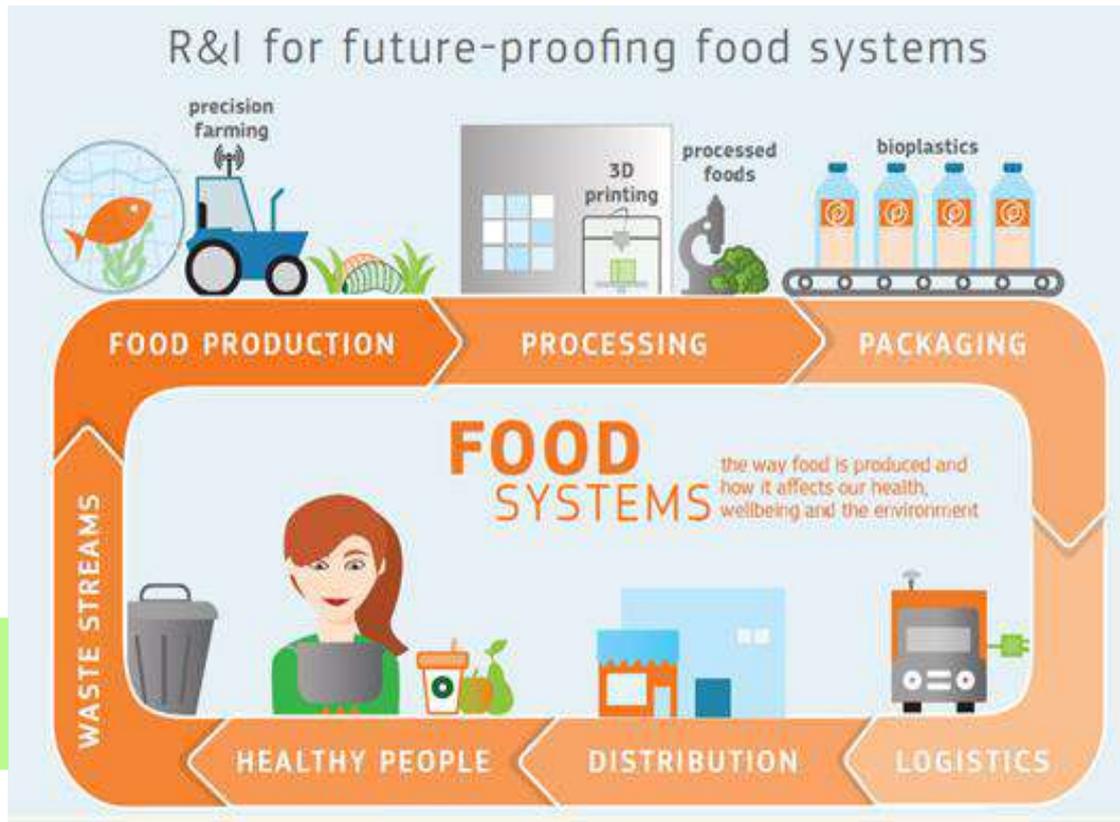
World Food Day 2017
Climate is changing.
Food and agriculture are too.

IPCC

IPCC | 14 April 2016 | 14:52

The IPCC's priorities for the next six years: 1.5C, oceans, cities and food security

The Food System



Future-proofing

By 2030

Sustainable

Resilient

Responsible

Diverse

Competitive

Inclusive

FOOD 2030 - Priorities



NUTRITION for sustainable and healthy diets



CLIMATE smart and environmentally sustainable food systems



CIRCULARITY and resource efficiency of food systems



INNOVATION and empowerment of communities

FOOD 2030 - Drivers



Research breakthroughs -> ICT, Food systems science & transdisciplinarity



Innovation and Investment -> Regional, Private sector collaboration, open innovation



Open Science-> Open access and data sharing; engagement, education & skills



International collaboration -> EU-Africa High Level Policy Dialogue on Food and Nutrition Security and Sustainable Agriculture, International Bio-economy Forum

FOOD 2030 – Conference Oct 2016

- High interest from all stakeholders
- Agreement to raise ambition
- Invitation by European Parliament
- Next steps and actions

Speeches and presentations available on:
ec.europa.eu/research/conferences/2016/food2030

Stakeholder Engagement

- **Next Big Events**

- FOOD 2030 R&I Conf (*World Food Day* – 16-17 Oct 2017)
- Bioeconomy Week (14-17 Nov 2017)
- 2nd FOOD 2030 High Level Event under Bulgarian EU-Presidency (2018)

Bio-fertilisers for Plants



Problem:

Overuse of non-renewable chemical fertilisers

The Goal:

Reduction of classic synthetic fertilizers during crop production

R&I Needs:

Improved nutrient recovery

Innovate and scale-up waste treatments

Improved nutrient up-take, seed inoculation

Relevant Policies:

Food security, Circular Economy, Climate action, Revision of Fertiliser Regulation

Response to SDGs:



Less Food Waste for Food Systems



Problem:

Reduction of food losses and waste

The Goal:

Less agricultural waste is produced, more is reused and linked to applications through the bioeconomy

R&I Needs:

Standardized food waste monitoring
Shorter, sustainable food supply chains
Valorisation/donation

Technological & social innovation

Relevant Policies:

Circular Economy, CAP modernisation, Climate action, EU Waste policies

Response to SDGs:



Alternatives to Meat



Problem:

Increased global demand for protein
High carbon footprint of animal husbandry

The Goal:

Increased healthy & sustainable protein consumption
Reducing greenhouse gas emissions

R&I Needs:

Identify, assess, scale-up new or alternative protein sources

Characterisation of nutritional value & functionalities

Relevant Policies:

Food security, Climate action

Circular Economy, Novel Food Regulation

Response to SDGs:



Aquaponics for Agricultural Circularity



Problem:

European consumers reject the use of aquaculture;
Need to feed growing cities
Limited land for food production

The Goal:

Ecologically friendly production of crop plants and fish:
use of non-renewable resources with very high efficiency as indicated by near zero waste discharge

R&I needs:

Marketing plan and efficient communication strategies
Raise awareness about this new technology
Introduction of aquaponics as an economic activity
and the organic certification of aquaponics products.

Relevant Policies:

Circular Economy, CAP modernisation

Response to SDGs:



Personalised Nutrition



Problem:

Unhealthy and unsustainable diets and eating behaviour have a negative effect on health, the environment and the economy

The Goal:

Develop personalised solutions to different population groups

R&I Needs:

Understanding behaviour, motivation, decision making – more social sciences

New dietary assessment methods

Technological development

Proof-of-principle studies to show effectiveness of personalised nutrition approaches

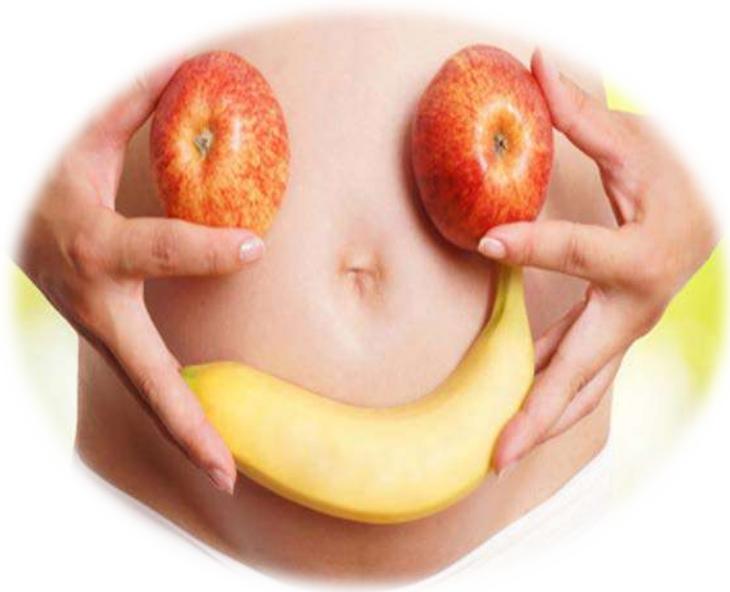
Relevant Policies:

Health strategy, Climate action, Jobs & growth

Response to SDGs:



Fighting obesity with proper pre- and post-natal nutrition



Problem:

>50% of world's adult population obese or overweight
Childhood obesity present already in early pregnancy

The Goal:

New products & feeding practices in the pre-natal & childhood periods in order to prevent obesity

R&I Needs:

Research in physiology, development & programming
Innovation in public health systems to enhance societal awareness & consumer behaviour

Relevant Policies:

European Health, European Global food security policy, Circular Economy

Response to SDGs:



Photosynthesis for Food & Energy



Problem:

Increasing food and energy demand and decreasing area of available fertile land

The Goal:

Increasing crop yields through enhanced (C4) photosynthesis. Increase alternative energy production through artificial photosynthesis

R&I Needs:

Genetic research to boost crop production for food. Synthetic biology for artificial photosynthesis

Relevant Policies:

Climate action, Jobs & growth, Circular Economy

Response to SDGs:



Towards a healthy and sustainable African Diet



Problem:

Access to sustainable and nutritious food in Africa

The Goal:

Resilient food systems even in times of crises & war

Climate change adaptation & mitigation

Eco-friendly low waste food for cities and export

R&I Needs:

Agricultural systems delivering local nutrition for all

Crop diversification for improved nutrition in line with local culture

Physiological knowledge of nutrition

Relevant Policies:

Africa – EU Partnership, EU as a global actor

Food Security, Climate action, Common Agricultural Policy

Response to SDGs:





**EU-AFRICA
HIGH LEVEL POLICY DIALOGUE
(HLDP)
ON
SCIENCE TECHNOLOGY AND
INNOVATION**

Yield gap?

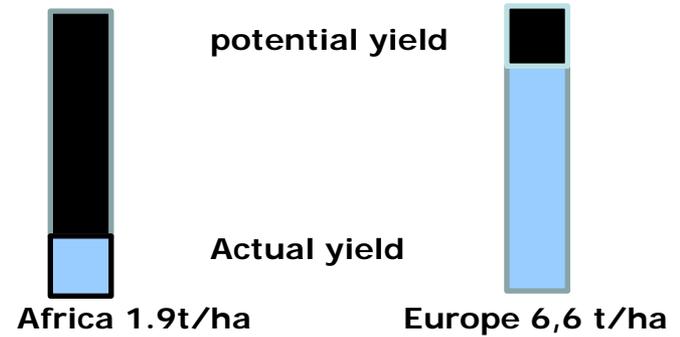
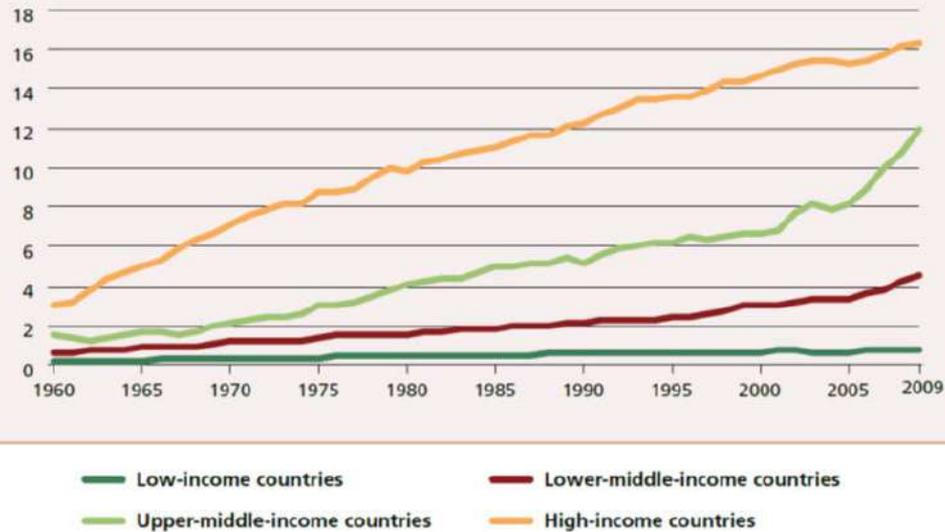


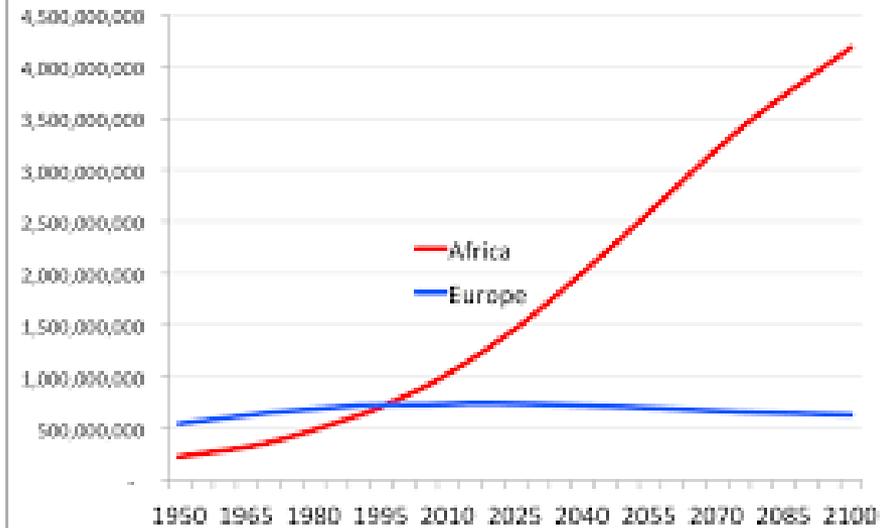
FIGURE 16
Public expenditures on agricultural R&D, by income group

Billion constant 2005 PPP dollars



Note: Data exclude countries in Eastern Europe and the former Soviet Union.
Source: Pardey, Chan-Kang and Dehmer, 2014.

UN 2012 Population Projections



*Food demand largely follows population, which will continue to shift to Asia and especially Africa
R&I highly spatially concentrated*

A disconnect between the geography of agricultural demand and the location of agricultural R&I



The High Level Policy Dialogue (HLPD) - 1

- in context of EU-Africa Joint Strategy (JAES) est. in 2007
- HLPD created within the STI cooperation component of JAES
- this platform endorsed in 2010 by 3rd EU-Africa Summit
- and launched in October 2011
- **major objective:** *"to build better common understanding, mutual trust and ownership of joint programmes between the two continents and above all to strengthen the overall cooperation"*



The High Level Policy Dialogue (HLPD) - 2

- **Operates on the basis of a Bureau**
 - **European Commission (EC) & African Union Commission (AUC)**
 - **Representatives of Member States from AU and EU:**
 - Algeria, Burkina Faso, Burundi, Cameroon, Congo Brazzaville, Egypt, Nigeria, South Africa, South Sudan
 - France, Germany, Portugal, Spain and EU Troika
 - **regular meetings** (including videoconferences)
- **and Plenary meetings** (with all Member States invited)
 - **November 2011** (Addis Ababa)
 - **November 2013** (Brussels)
 - **April 2016** (Addis Ababa)



Roadmap towards EU-Africa R&I Partnership on FNSSA

- Input prepared by **External Working Group** between April 2014 and April 2015
- **External consultation** on draft in February 2015
- Suggested focus areas:
 - **Sustainable intensification**
 - **Agriculture and food systems for nutrition**
 - **Expansion and improvement of agricultural markets and trade**
 - **Cross-cutting issues:** framework for improved coordination, innovation, capacity-building (Human Resources, organisational, institutional, financial, RI)

Priority areas

1. Sustainable Intensification

2. Agriculture and food systems for nutrition

3. Expansion and improvement of agricultural markets and trade

- **Ecological Intensification approaches**
- **Maintain / increase productivity through breeding, improving health and feed**
- **Animal and crop health incl. aquatic and inland fisheries**
- **Soil, water land and inputs management**
- **Marine planning and functional marine ecosystems**
- **Organisational innovations to facilitate research uptake**

Priority areas

1. Sustainable Intensification

2. Agriculture and food systems for nutrition

3. Expansion and improvement of agricultural markets and trade

- Research on improved value chains to deliver nutritious rich foods
- Improving nutritional value of crops
- Understanding consumer behaviour
- Public – Private partnerships to improve nutritional quality of foods

Priority areas

1. Sustainable Intensification
2. Agriculture and food systems for nutrition
3. Expansion and improvement of agricultural markets and trade

- **Surveillance, monitoring and diagnostic systems for sanitary and phytosanitary and food safety**
- **Science Agenda of mutually beneficial bio-economy innovations**
- **Reducing excessive fluctuations and improving resilience of food systems**
- **Global market chains and market power**

Horizon 2020



1. Health, demographic change and wellbeing

2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio-economy (€3.8 billion 2014-2020)

3. Secure, clean and efficient energy

4. Smart, green and integrated transport

5. Climate action, resource efficiency and raw materials

6. Inclusive, innovative and reflective societies

7. Secure societies

• **EU-Africa R&I Partnership on FNSSA**

Total direct investment (2014-2017): 70 MEUR

Clustering of existing relevant projects:

- **CAAST-NET Plus, RINEA, ProIntensAfrica, PAEPARD
(and possibly others)**

***EC announced further support: 44.5 MEUR over 3
years***

- **27 MEUR from Horizon 2020 WP2016-2017: ERANET COFUND;
RIA innovation; RIA earth observation; CSA RI**
- **17.5 MEUR from Pan-African Programme (African Union
Research Grants)**

Contribution of EU and AU countries: 23 MEUR

- **ERANET COFUND**



The LEAP Agri project : 30 partners from 18 countries



Africa: Algeria, Burkina Faso, Cameroun, Egypt, Ghana, Kenya, Senegal, South Africa (2), Uganda;

Europe: Belgium (3), Finland (2), France (4), Germany (2), Netherland (3), Norway, Portugal, Spain (2), Turkey;

-> A joint call launched 15 March 2017, close 15 June for cofounded Europe Africa research projects with a total budget of 27,6 million €

Next steps?

*EU-Africa HLPD working-group on FNSSA to **monitor** implementation and impact of EU-Africa R&I Partnership on FNSSA*

*Analysis of best possible **long-term model** of R&I Partnership on FNSSA*

*Reflection and mobilisation of **long-term funding***

Disseminating results of the R&I Partnership at:

- **EU-Africa High Level Policy Dialogue 2017, Brussels**
- **Stakeholder Conference 2017, tbc**
- **Africa-EU Summit, Ivory Coast, November 2017**

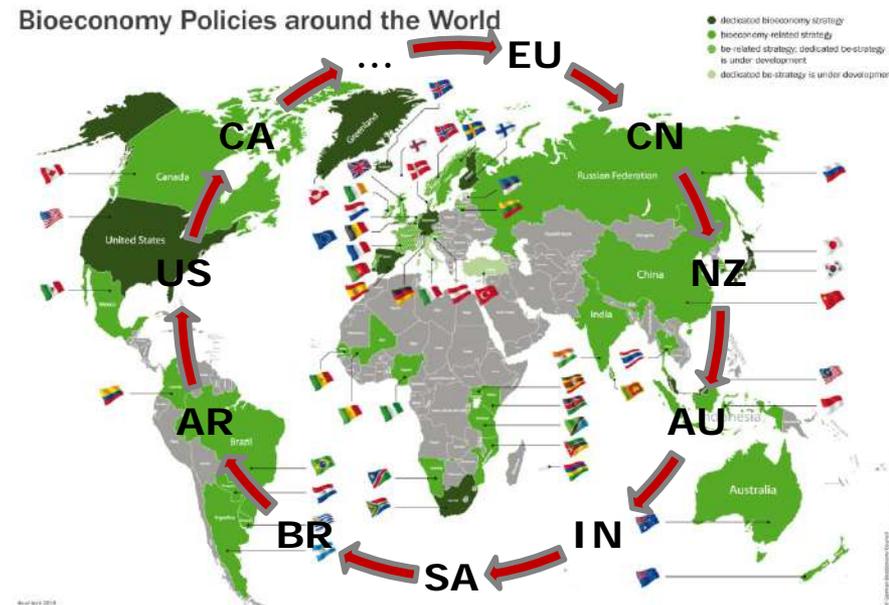
International Bioeconomy Forum

- Informal **flexible** and **multilateral network** for countries actively engaged in the Bioeconomy, and international organisations (OECD, FAO...)
- Focus on **Research and Innovation**: concrete R&I actions (e.g. microbiome) with balanced R+I activities, variable geometry participation
- R&I related **policy discussions** (e.g. data, indicators, investment)
 - *Commissioner Moedas announced the launching of the IBF on 13 October 2016 in the frame of the*
 - *Food 2030 Conference.*

Partner countries (variable geometry) showing interest up to now in the IBF process:
 Argentina, Australia, Brazil, Canada, China, India, New Zealand, South Africa, USA

International organisations (Int. Org.):
 OECD, FAO, European Forest Institute (EFI)....

EU Member States: regular involvement of JPIs, relevant ERA-NETs, SCAR etc.



*The **four thematic activities** which are currently under discussion and scoping are on:*

- 1. Microbiomes** (EU led mapping and scoping)
- 2. ICT in food systems including precision agriculture** (NZ led scoping)
- 3. Forestry** (expert discussion phase with participation of EU with the European Forest Institute, China, Canada, US)
- 4. Plant health** (informal scoping to start with US lead)

*Further **horizontal activities** are under discussions too, such as issues related to Bioeconomy indicators etc.*

Thank You



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