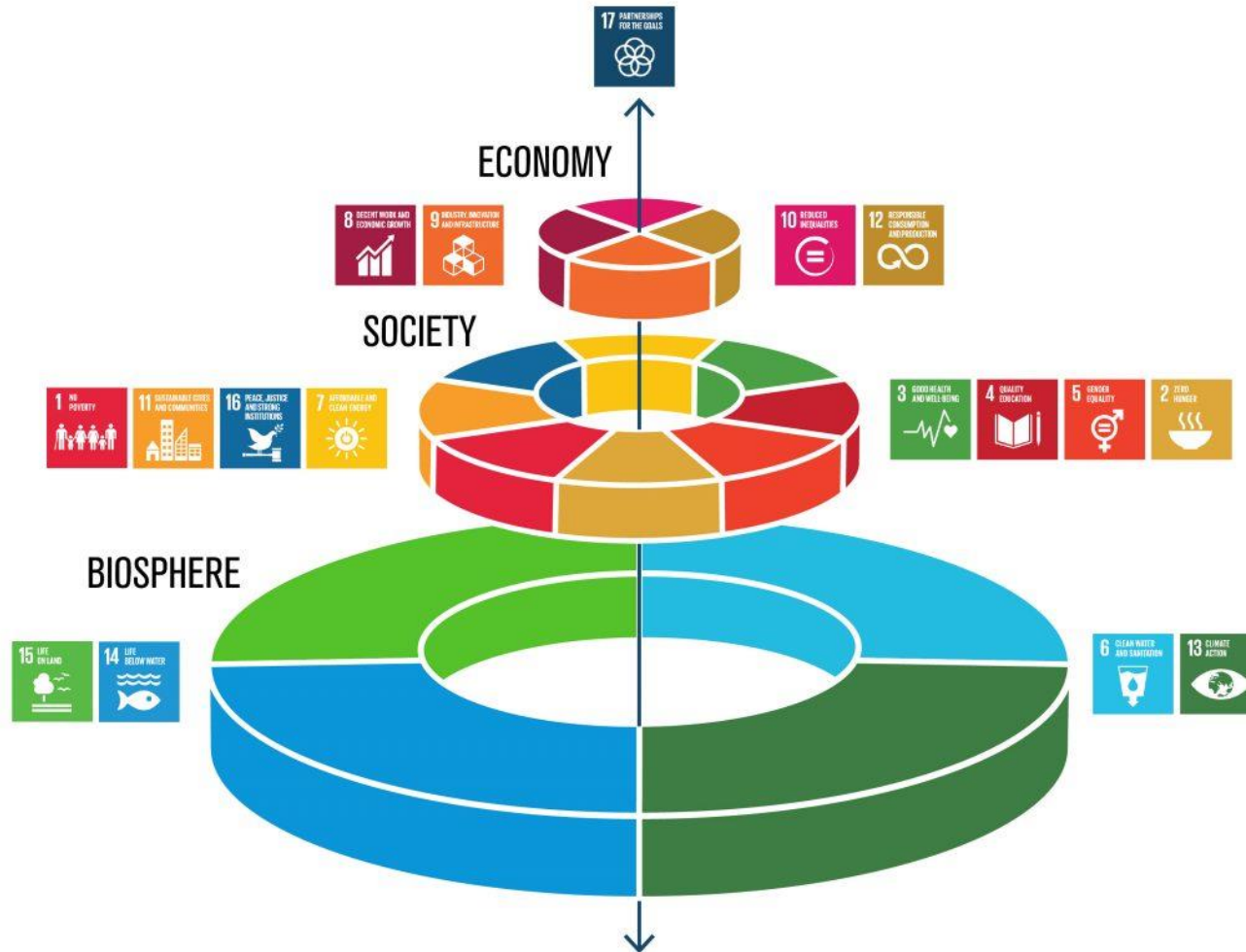# Statistics and UN Sustainable Development Goals

Johanna Laiho-Kauranne,
Vice President and Director of Statistics
Natural Resources Institute Finland

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Global review of reaching SDGs

Graphics by Jerker Lokrantz/Azote

Agenda 2030 and Sustainable Development Goals (SDGs)

- Agenda 2030 was approved in the UN General assembly in 2015
  - 17 goals; 169 subgoals
  - 250 indicators
- UN Statistical Comission approved in 2017
- SDGs on the agenda in other international organsations e.g. OECD and EU level.
- Many countries have national SDG policies
- In Finland, Agenda 2030 integrated into national policy goals. Also new national indicators have been defined in 2017
- National SDG indicator portal has been published 02/2019

An assessment of where OECD countries stand

June 2017

OECD
BETTER POLICIES FOR BETTER LIVES

Statistics and UN SDG require co-creation from NSIs & survey industry to work forward on

MEASURING INDICATORS

BUILDING DATABASIS

DEVELOPMENT OF METHODS

DISSEMINATION OF KNOWLEDGE

WIDENING NARRATIVES

EVALUATING PROPOSALS FOR IMPROVEMENT

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Luke Statistics Programme & SDGs regarding the legal obligations & new pilots for UN needs

Johanna Laiho-Kauranne   **3/13/2019**   © Natural Resources Institute Finland

Luke's statistical responsibilities in relation to the UN SDG indicators

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Global food supply and food security

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

World hunger is on the rise again:
815 million people were undernourished in 2016, up from 777 million in 2015

2000   2015   2016
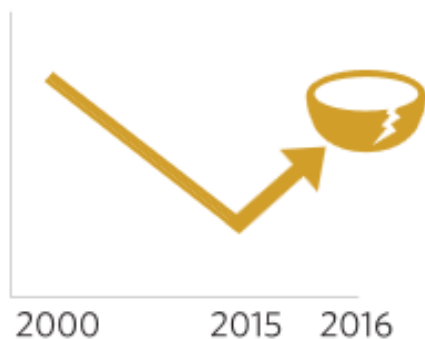
Stunting, wasting and overweight still affected millions of children under age 5 in 2017

151 million
51 million
38 million

Stunting   Wasting   Overweight
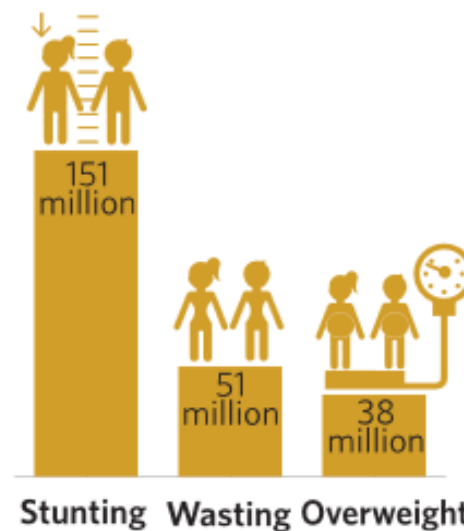
Statistical scenarios prerequisites:
Agricultural & population statistics
Farm to fork statistics
Health statistics
Food balance sheets

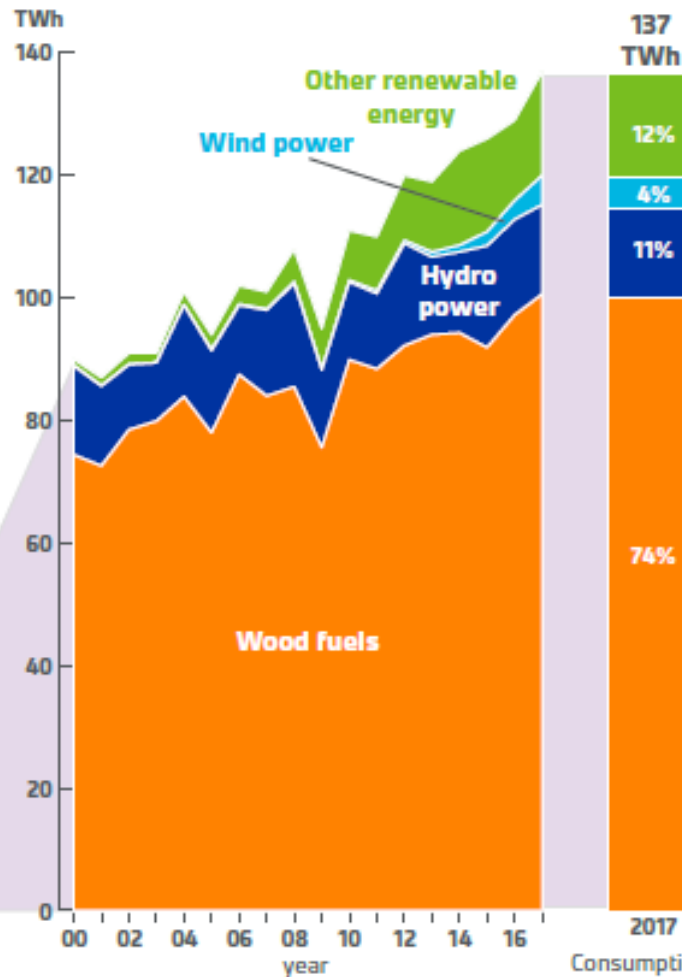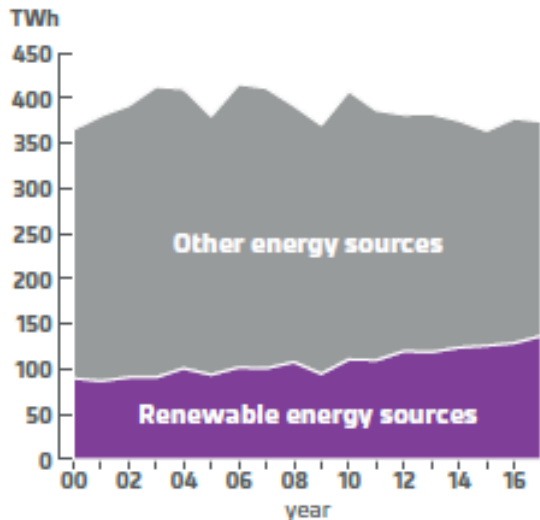The Sustainable Development Goals Report
2018

3/13/2019

https://unstats.un.org/sdgs/report/2018/overview/

TOTAL RENEWABLE ENERGY CONSUMPTION BY ENERGY SOURCE

From year 2000 the consumption of renewable energy has increased over **50%**

In 2017 the share of renewable energy was **37%** of total energy consumption

TWh

450
400
350
300
250
200
150
100
50
0

00 02 04 06 08 10 12 14 16
year

Other energy sources

Renewable energy sources

TWh
140

120

100

80

60

40

20

0

00 02 04 06 08 10 12 14 16
year

Other renewable energy

Wind power

Hydro power

Wood fuels

137 TWh

12%

4%

11%

74%

2017
Consumption of renewable energy

The consumption of **other renewable energy** and **wind power** has increased in the 2000s

Compared to 2016, the consumption of **wind power** has increased over **55%**

Other renewable energy includes here heat pumps, solar energy and other biofuels

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Climate and energy issues

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

55 per cent of renewable energy was derived from modern forms in 2015
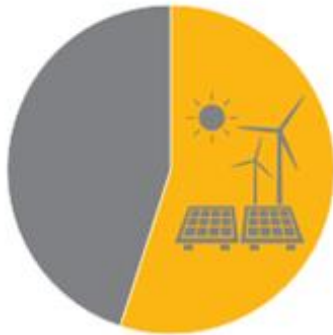
4 in 10 people still lack access to clean cooking fuels and technologies

Statistical scenarios prerequisites:
Usage of energy
Sources of energy used & combined
Techniques applied
Dependency on the

The Sustainable Development Goals Report
2018

Climate and energy issues

Goal 13: Take urgent action to combat climate change and its impacts

2017 was the **most costly** North Atlantic hurricane season on record

The **majority of countries** have ratified the **Paris Agreement** and provided nationally determined contributions (NDCs)

175 — Ratified Paris Agreement

168 — NDCs

Statistical scenarios prerequisites:
- Unambigious and comparable statistics are needed
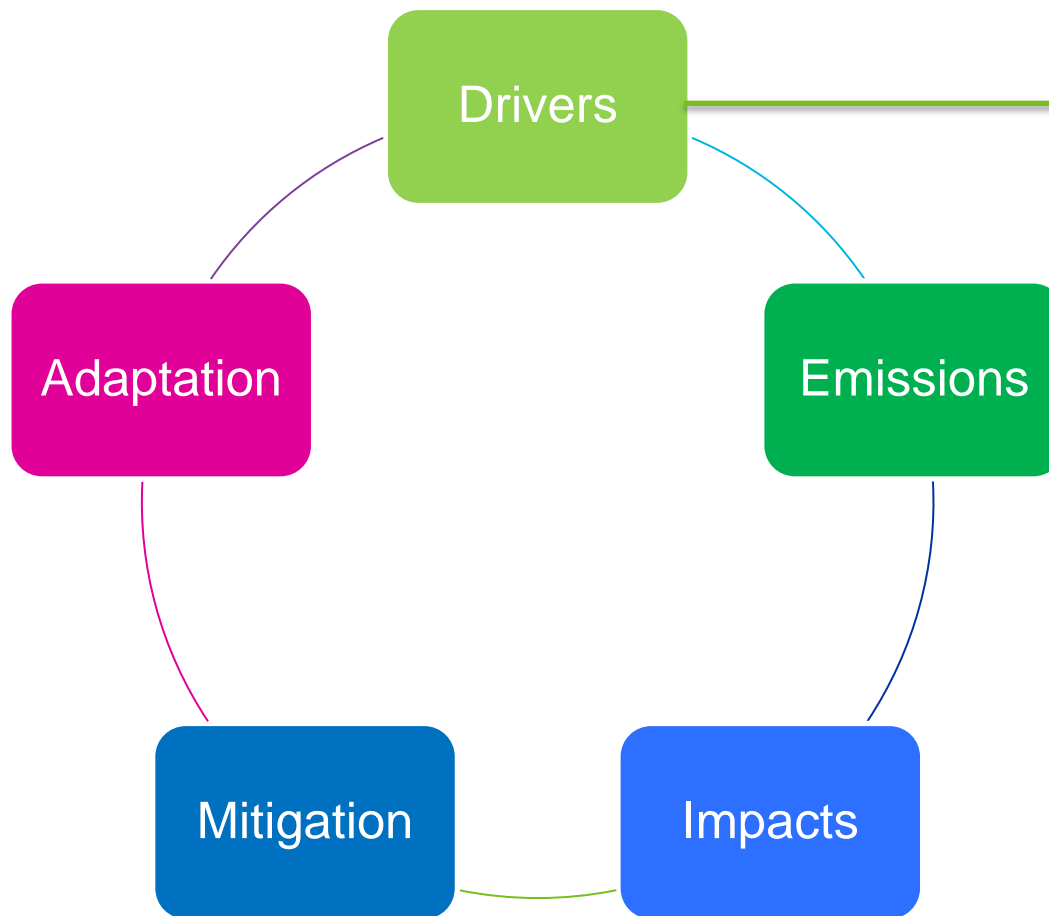- UNECE Climate change statistics and indicators (ongoing development)

The Sustainable Development Goals Report **2018**

/13/2019

UNECE Climate change-related statistics – **Drivers**
Existing indicators available in Finland on
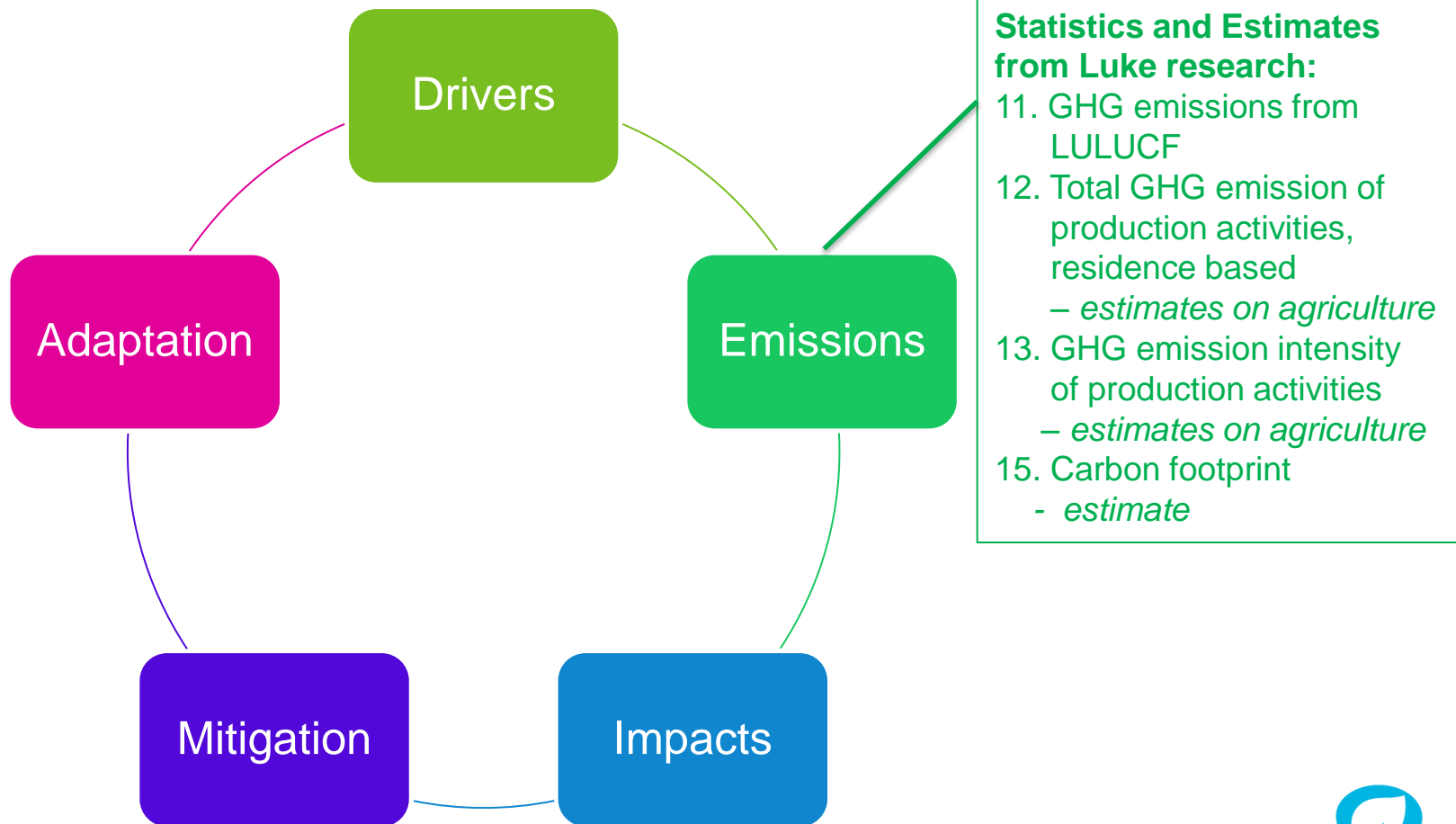

Statistics:
1. Total primary energy consumption
2. Share of fossil fuels in primary energy consumption:
   - share in agriculture; share in household energy use for heating
3. Land use/cover change
7. Cattle stock
8. Energy consumption by households / capita
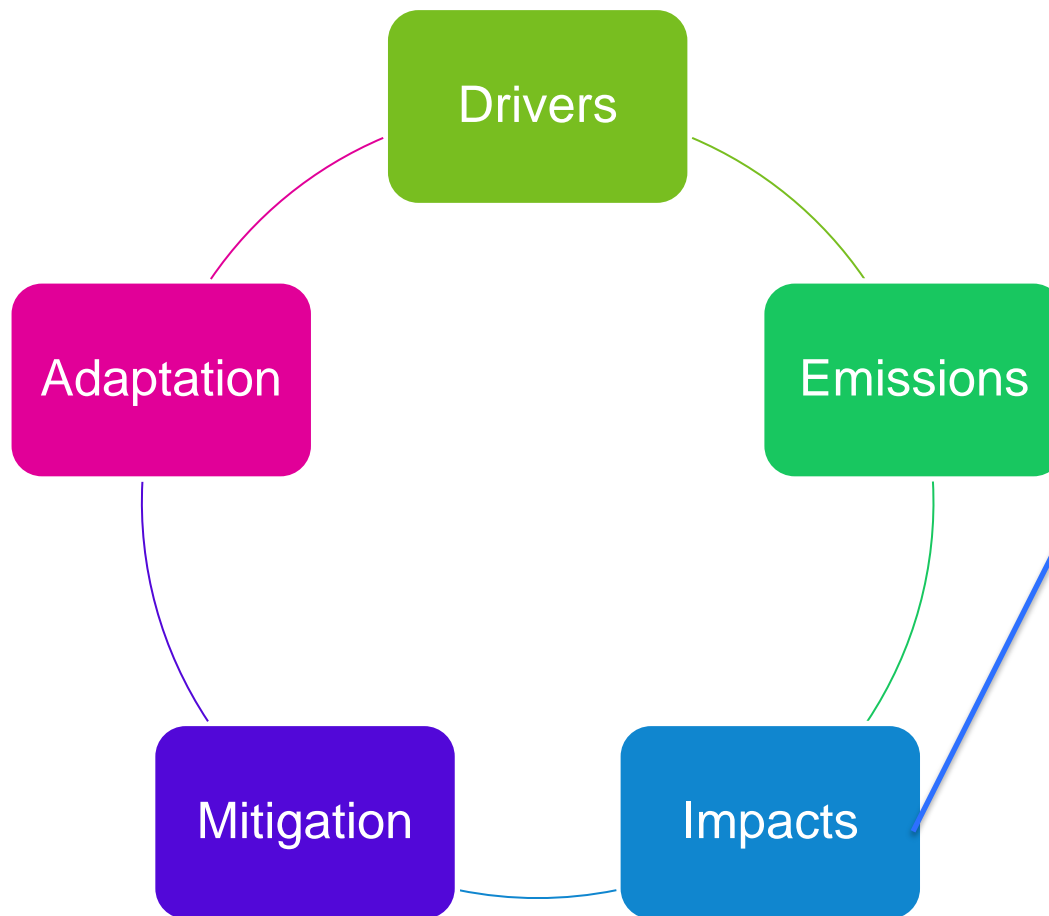   - share of wood energy in small scale housing

Drivers

Emissions

Impacts

Mitigation

Adaptation

14.3.2019

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UNECE Climate change-related statistics - **Emissions**
Existing indicators available in Finland on

Statistics and Estimates from Luke research:
11. GHG emissions from LULUCF
12. Total GHG emission of production activities, residence based
    – *estimates on agriculture*
13. GHG emission intensity of production activities
    – *estimates on agriculture*
15. Carbon footprint
    - *estimate*

Drivers

Adaptation

Emissions

Mitigation

Impacts

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UNECE Climate change-related statistics - **Impacts**
Existing indicators available in Finland on

Statistics:
16. Mean temperature
17. Change of precipitation pattern

Estimates from Luke research:
18. Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
    - estimated irrigation for agriculture
19. Cumulative number of alien species
    - research forest pathogens and alien species
20. Carbon stock in soil
21. Proportion of land that is degraded over total land area

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UNECE Climate change-related statistics - **Mitigation**
Existing indicators available in Finland on

Drivers

Emissions

Adaptation

Impacts

Mitigation
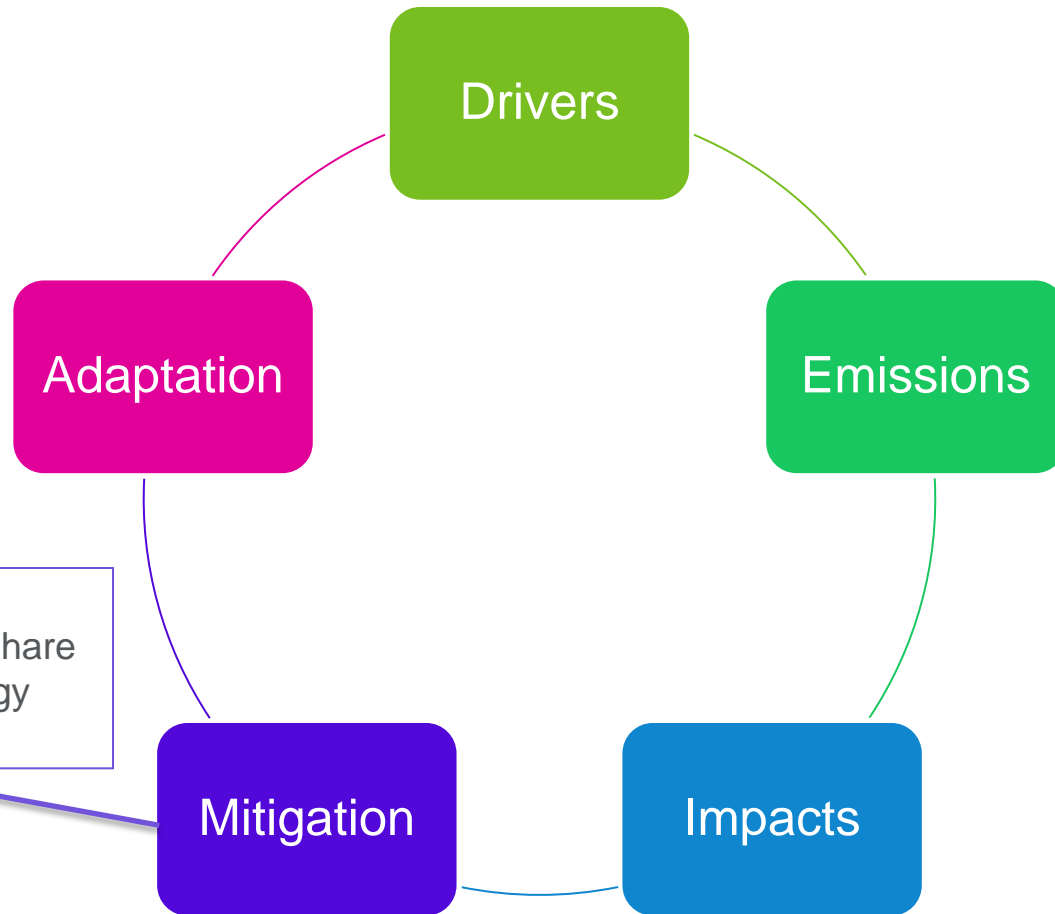
Statistics:
29. Renewable energy share in the total final energy use/consumption

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UNECE Climate change-related statistics – **Adaptation**
Existing indicators available in Finland on
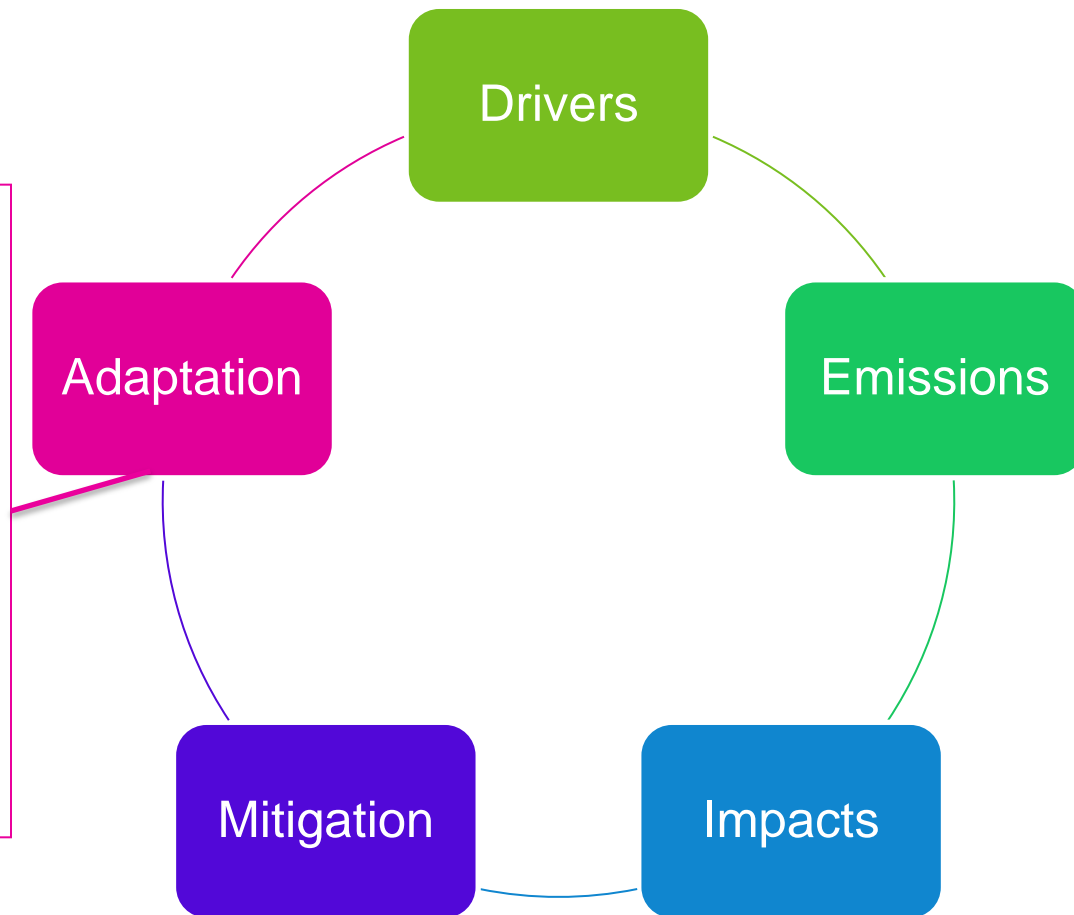
36. Change in water use efficiency over time
38. Progress towards sustainable forest management
   - forest protection
39. Proportion of agricultural area under productive and sustainable agriculture
   - % under green manure

Drivers

Emissions

Impacts

Mitigation

Adaptation

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Usage of natural resources

Goal 6: Ensure availability and sustainable management of water and sanitation for all

3 in 10 people lack access to safely managed drinking water services

6 in 10 people lack access to safely managed sanitation facilities
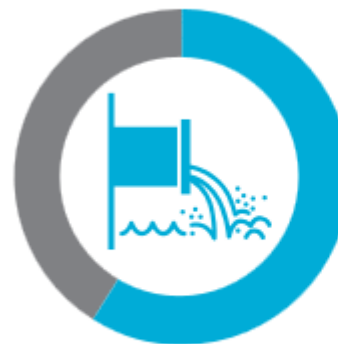
Data from 79 countries show **59 per cent** of all wastewater are safely treated

Statistical scenarios prerequisites:
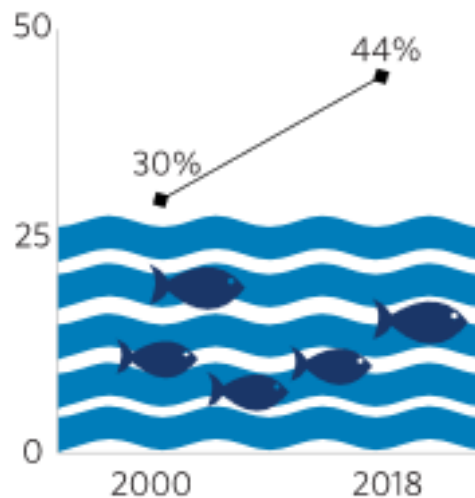Importance of high quality water statistics

The Sustainable Development Goals Report
2018

https://unstats.un.org/sdgs/report/2018/overview/
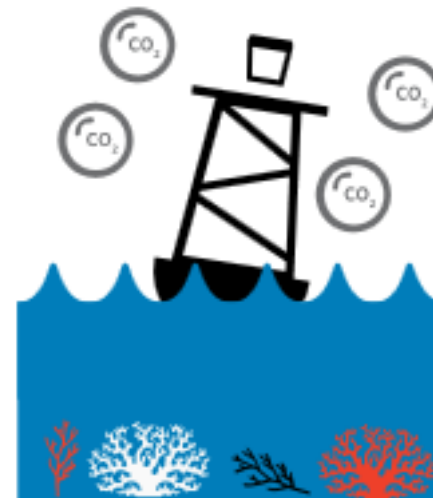
Usage of natural resources

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Mean coverage of **marine KBAs increased** between 2000 and 2018

KBA, Key biodiversity areas

Open ocean sites show **current levels of acidity have increased by 26 per cent** since start of Industrial Revolution

Statistical scenarios prerequisites:
Importance of high quality
Marine & fresh water fishery statistics
linked to research

The Sustainable Development Goals Report
2018

Usage of natural resources

Goal 12: Ensure sustainable consumption and production patterns

Globally by 2018, **108 countries** had national policies on sustainable consumption and production

93 per cent of the world's 250 largest companies are now reporting on sustainability

Statistical scenarios prerequisites:
Challenge to measure food waste in the entire food chain
Circular economy enforces to develop statistical system to cover material streams across domains

3/13/2019

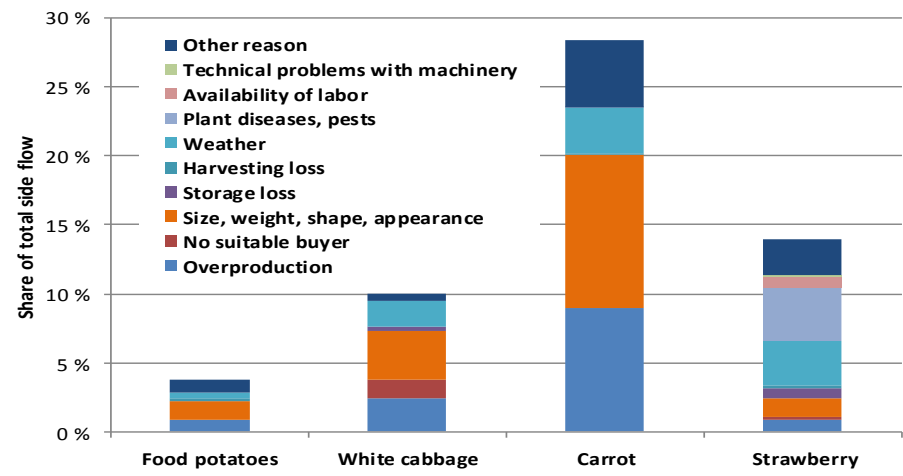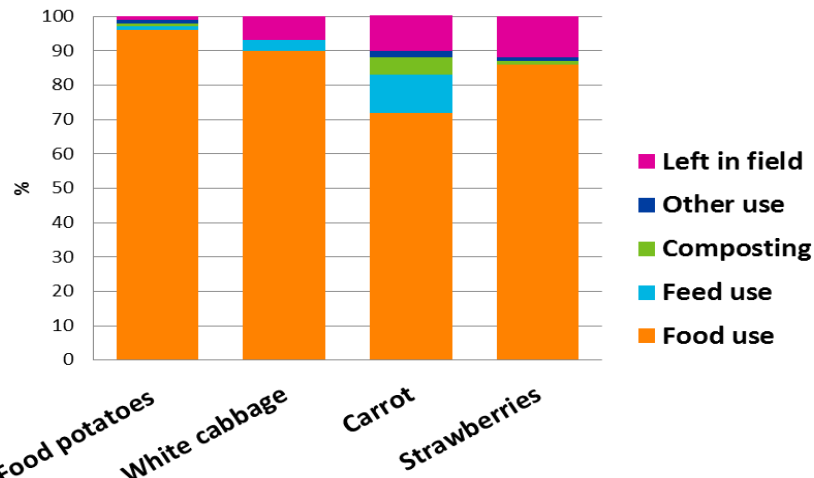The Sustainable Development Goals Report
2018

Usage of natural resources – Global Food Loss index

According to the FUSIONS study:
- around **88 million tonnes** of food are wasted annually in the European Union,
- with associated costs estimated at **143 billion euros**.

UN General Assembly adopted in 2015 a target of halving per capita food waste at the retail and consumer level, and reducing food losses along production and supply chains.

Statistics on foodwaste in the food chain are challenged to understand the reasons

Left in field
Other use
Composting
Feed use
Food use

Share of total side flow in the primary production (including both harvested and unharvested yield)

Legend:
- Other reason
- Technical problems with machinery
- Availability of labor
- Plant diseases, pests
- Weather
- Harvesting loss
- Storage loss
- Size, weight, shape, appearance
- No suitable buyer
- Overproduction

Reasons, why part of the yield is not used as food (including reasons at harvest and after harvest)

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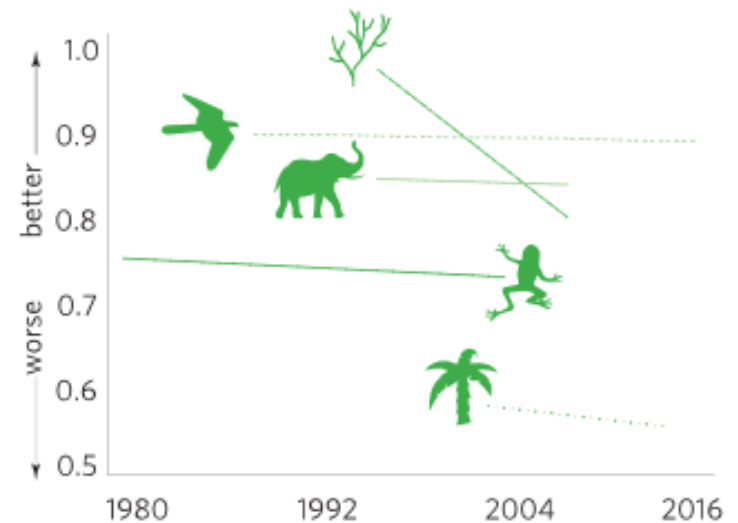NATURAL RESOURCES
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Usage of natural resources

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Land degradation threatens the security and development of all countries

The Red List Index shows alarming trend in **biodiversity decline** for mammals, birds, amphibians, corals and cycads
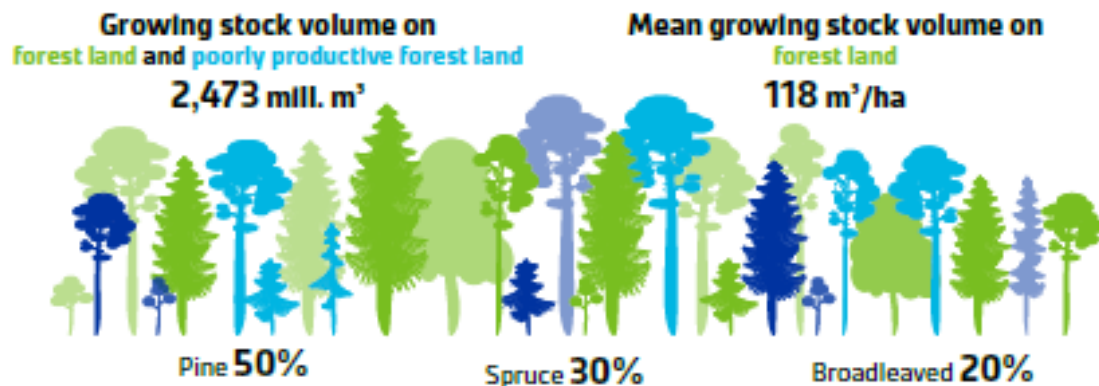
Statistical scenarios prerequisites:
Importance of national forest inventories & assessing the sustainable management of forestry with statistical facts

The Sustainable Development Goals Report
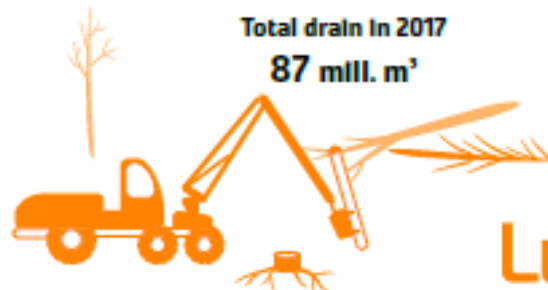**2018**

Usage of natural resources
– Sustainable management of forests

Growing stock volume on
forest land and poorly productive forest land
2,473 mill. m³

Mean growing stock volume on
forest land
118 m³/ha

Pine **50%**   Spruce **30%**   Broadleaved **20%**

Biomass of living trees on
forest land and poorly productive forest land
1,745 mill. t

Annual increment of growing stock on
forest land and poorly productive forest land
107 mill. m³
4.7 m³/ha

Decayed and dead trees on
forest land
5.7 m³/ha

Total drain in 2017
87 mill. m³

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Rural-urban development

Products exported by **SIDS** facing zero tarrifs increased by **20 per cent** between 2010 and 2016

SIDS= Small island developing states

Remittances to low- and middle-income countries represented **over 75 per cent** of total global remittances in 2017

$466 billion

Statistical scenarios prerequisites:
Develop informative indicators of rural livelihoods utilising existing national household surveys.
RuLIS – Rural Livelihoods Information System by FAO, WB and IFAD

The Sustainable Development Goals Report
2018

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https://unstats.un.org/sdgs/report/2018/overview/

Luke's research of circular bioeconomy in relation to the SDG indicators

Johanna Laiho-Kauranne

3/13/2019

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Luke's research of circular bioeconomy in relation to the SDG indicators

1 NO POVERTY
IMPACT on Farm & forestry & fishery income & profitability incl other gainful activities enable access to wellfare

2 ZERO HUNGER
Reasonable value of primary production and sustainable food system

3 GOOD HEALTH & WELL-BEING
Healthy food and environment

4 QUALITY EDUCATION
Education level of farm & forestry holders, business skills and digital transformation

5 GENDER EQUALITY
Ownership and access to by gender
Pilot for FAO

6 CLEAN WATER AND SANITATION
Irrigation systems, water balance and managing risk & impact to natural waters

7 AFFORDABLE AND CLEAN ENERGY
Energy efficient production systems & chains and clean techniques for biobased energy

8 DECENT WORK AND ECONOMIC GROWTH
Farm, forest & fishery labour, value for work & profitability, Work conditions and health

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Volumes and value of circular industries, usage of technoligies and innovations

10 REDUCED INEQUALITIES
Rural development and access to natural resources

11 SUSTAINABLE CITIES AND COMMUNITIES
Monitoring the development of city farming and food factories

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Food loss at farms & fisheries –
Pilots for FAO

14 CLIMATE ACTION
Building resilience for Climate Change; focus on: Drivers, Emissions, Impacts, Mitigation & Adaptation,

14 LIFE BELOW WATER
Profitability and conditions on fisheries; Quality of waters and health of fish stocks

15 LIFE ON LAND
Forest management; sustainable levels of removals of wood & forestry work & protection of forests Land use & land cover

16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Trust to statistics and governmental institutiona and cross-organisational processes

17 PARTNERSHIPS FOR THE GOALS
Luke's Research programs have strong collaboration and the Statistical Program is part of the official statistics

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UN SDG Puzzle
The interdependences and holistic approach to the sustainable development

Johanna Kohl   3/13/2019   © Natural Resources Institute Finland

UN SDG Puzzle
Luke research focus of actions

24.1.2019 Johanna Laiho-Kauranne   3/13/2019   © Natural Resources Institute Finland

Luke's viewpoint to UN SDG indicators

- Statistics & research provide tools for monitoring the challenges of sustainable development

- Co-creation required on the solutions for difficult to measure aspects of the SDGs

- Informed decision making requires understanding of the complexity of sustainable development

- Recognising the interlinkages of various components enables uilding solutions

- With fact based findings require full picture and building **#MoreTogether**

Johanna Leiho-Kauranne
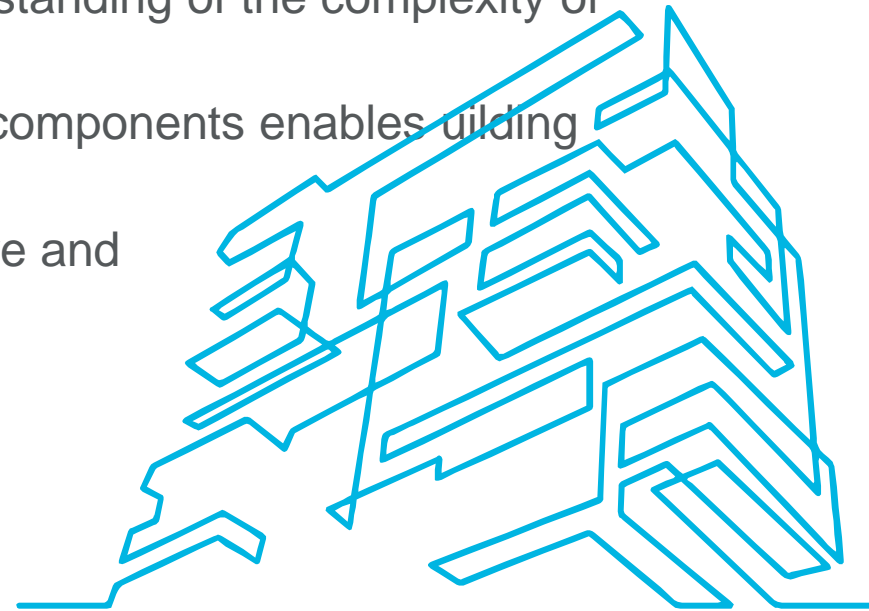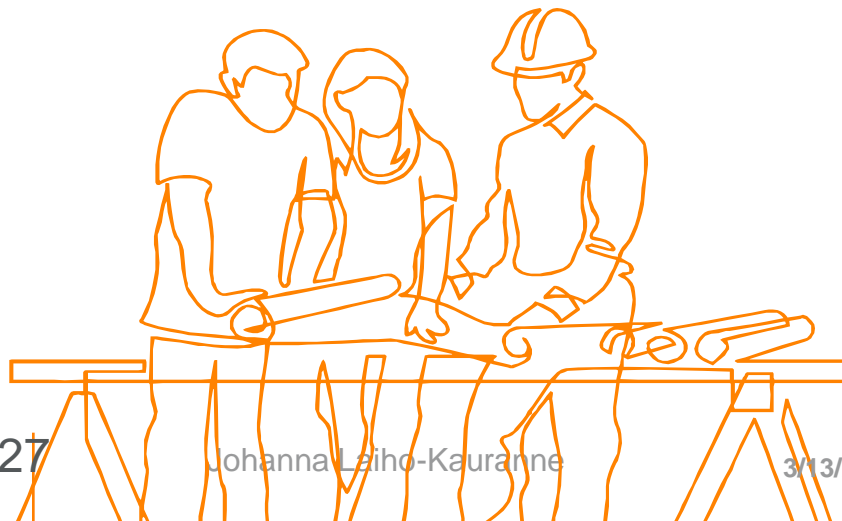
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Challenges we face today
- Can be solutions for tommorrow

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Thank you!

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14.3.2019