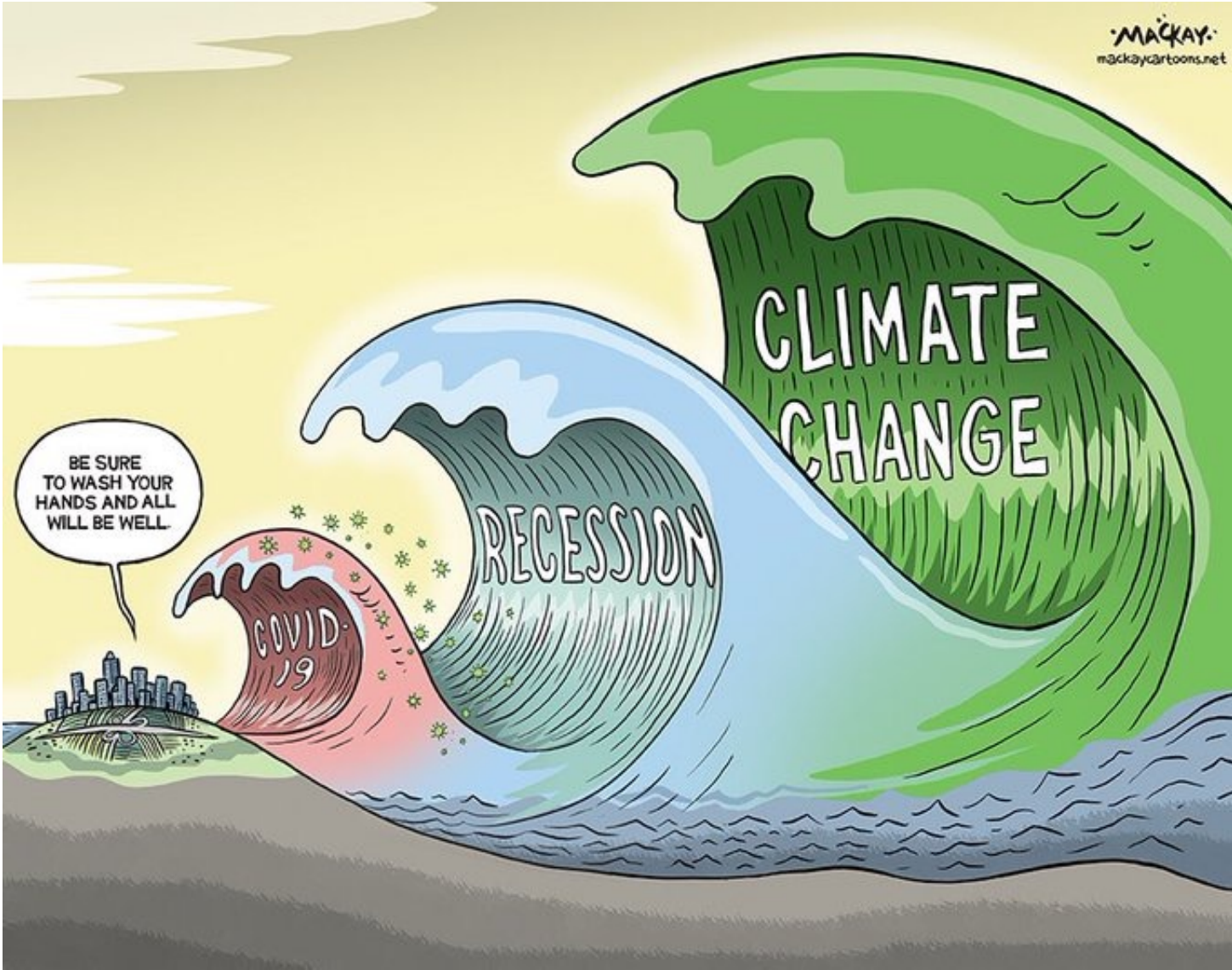




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Estonian Islands: Perspectives for Bioeconomy

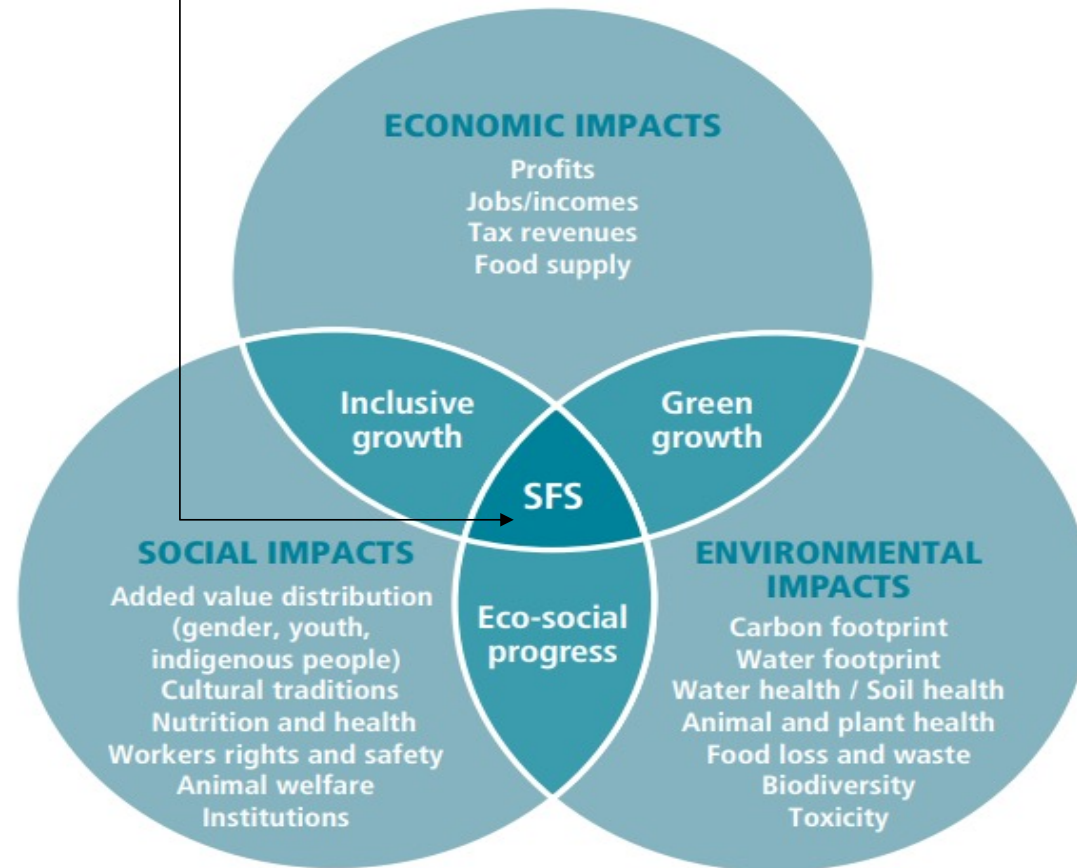
Siim Tiidemann
Ministry of Rural Affairs



EU Green Deal



Sustainable food system

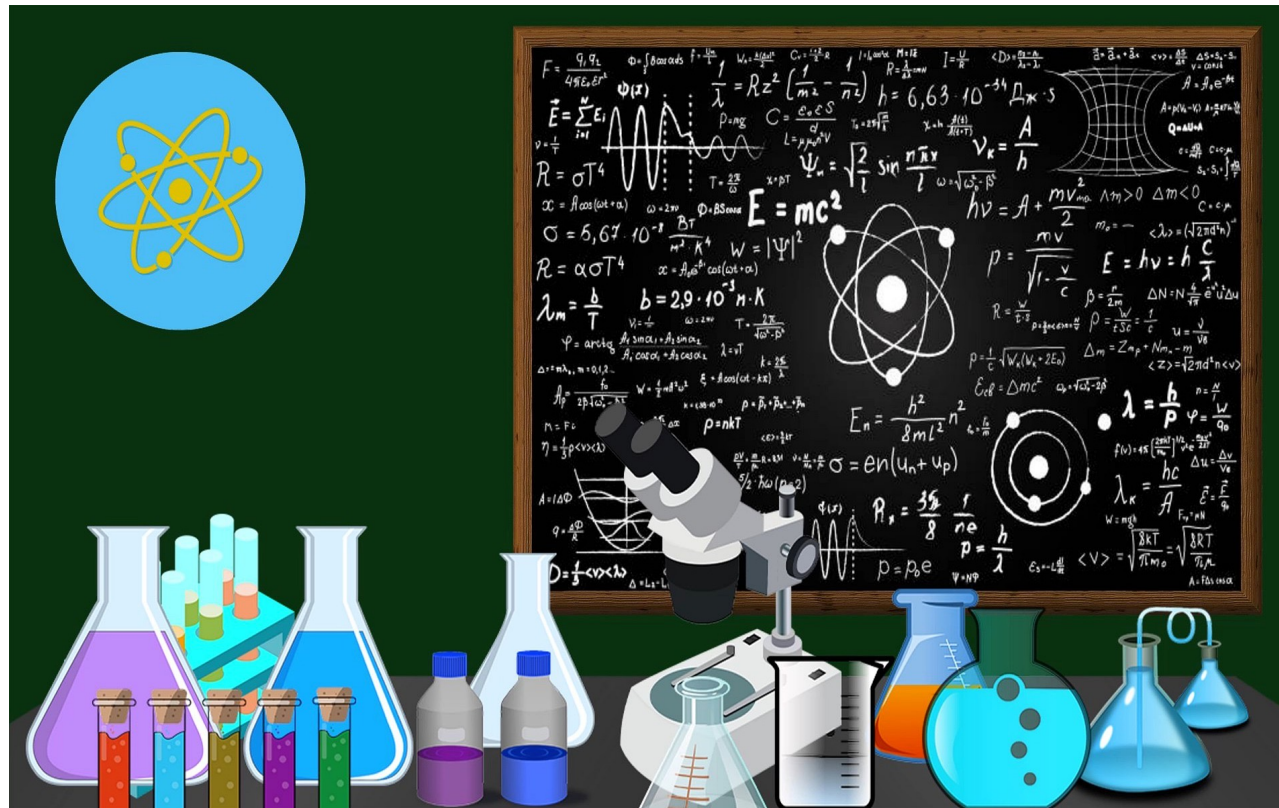


Source: Adapted from FAO, 2014.

Productivity and innovation



Future of food?



Allikas: pixabay.com

Bioeconomy

- The production and conversion of **renewable biomass** mainly into food, feed and other bio-based products and bioenergy
- Includes (and interlinks) agriculture, forestry, fisheries and aquaculture, the food, fiber and paper industries, and in part the chemical, biotechnology and energy industries
- **Cascading use** of biomass is favored in the bioeconomy: bio-resources are processed on the basis of the highest value-added priority
- New production and consumption patterns that take into account the **ecological boundaries**
- The use of **residues** and **by-products** as a valuable resource



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Estonian bioeconomy value chain

- Bioeconomy accounts for:
 - ~**10%** of the sales revenue of Estonian enterprises
 - ~**10%** of the value added
 - ~ **10%** of the employment
 - 17%** of the exports of Estonian companies
- In the **forest and timber** and **agriculture and food** value chains, a total of ~ **90%** of the value added of the Estonian bioeconomy is currently generated (*Kers et al 2020*)



General bioeconomy readiness in region

- The region is strong for its biomass availability (incl. „blue“ biomass)
- Well developed organic farming (e.g. Hiiu County, where nearly 2/3 of all agricultural land is organic)

But...

- Low demographics in the region, low SME birth rate and innovation

Forestry biomass production (kg/capita)



Agricultural biomass production (kg/capita)

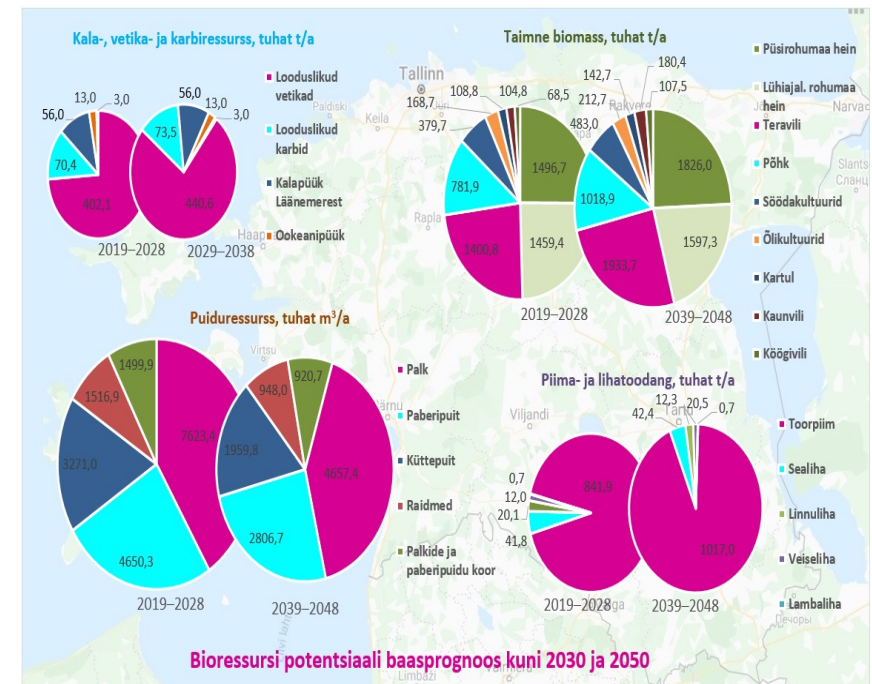


Blue biomass production (kg/capita)



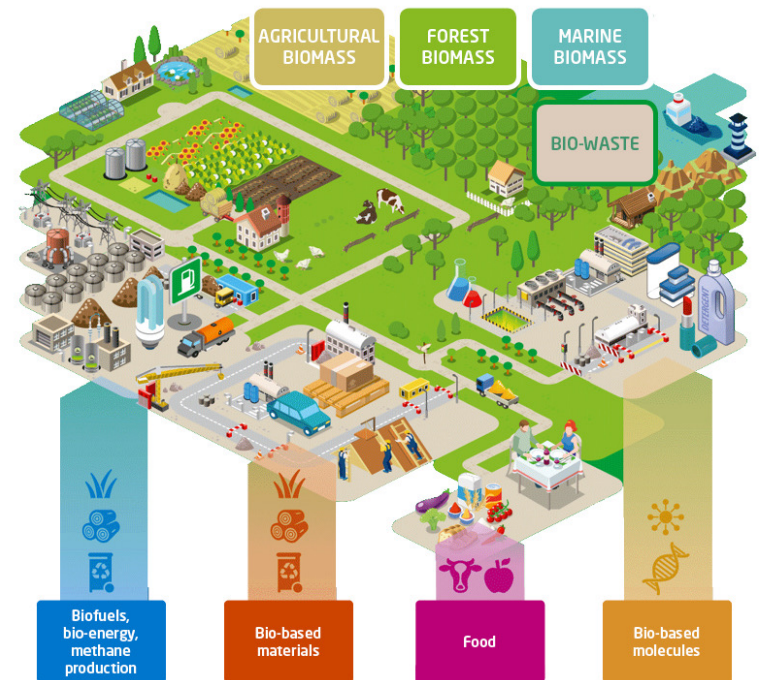
Bioresource potential forecast

- The baseline scenario estimates that Estonia's **wood** resource will **decrease** significantly by 2050 compared to the current decade, while **plant biomass, meat and milk production will increase**
- The availability of **fish, algae and shellfish** resources will change **only slightly** (*Kers et al 2020*)



Bioeconomy perspectives on islands

- Resource paradox: lot of biomass per capita, but too little to participate in mass production, thus:
 - Emphasis on development of smaller/modular biomass technologies and (inter-sectoral) clusters for joint bioresource valorisation
 - Circular business models where the residues and by-products are used to meet local energy demand and -security as well as, for example, production of biomaterials, chemicals etc



Bioeconomy perspectives

- Build on what is already well developed – F ex organic farming – and move forward: digital and AI solutions (organic products fresh to the consumer, marketing, reduction of waste etc)
- Make use of little or unutilized bioresources, e.g. wool
- Finding a unique niche is possible – learn from success stories from the backyard, e.g. Est-Agar, Suckõrs



Policy background for local bioeconomy development

- Regional entrepreneurship and innovation policy that supports (small-scale) experimentation and innovation and spread of ICT in all bioeconomy sectors
- Support for rural diversification: bioeconomy as one of several job opportunities
- Number of different funds: Fisheries, CAP, regional funds, recovery plan

CAP 2021-27

Tõhustada arukat, vastupidavat ja mitmekesist põllumajandussektorit, mis tagab toiduga kindlustatuse

Edendada keskkonnahoidu ja kliimameetmeid ning panustada liidu keskkonna- ja kliimaeesmärkidesse

Parandada maapiirkondade sotsiaal-majanduslikku olukorda



TAGADA ÕIGLANE
SISSETULEK



SUURENDADA
KONKURENTSIVÕIMET



TASAKAALUSTADA
SUUTLIKKUS
TOIDUAINETE
TARNEAHELAS



KLIIMAMUUTUSTE
VASTASED
MEETMED



KESKKONNAKAITSE



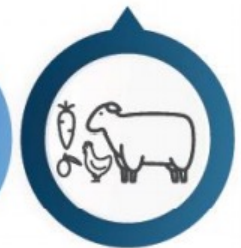
SÄILITADA
MAASTIKUD JA
BIOLOOGILINE
MITMEKESISUS



TOETADA
PÕLVKONDADE
VAHETUST



ELUJÕULISED
MAAPIIRKONNAD



KAITSTA TOIDU JA
TERVISE KVALITEETI

Policy support measures for bioeconomy development

- **Recovery and Resilience Facility (RRF) (2022–2026)**
 - Investments into valorisation of bio-resources (large-scale projects, budget approx. 23 MEUR)
- **CAP SP (2023–2027)**
 - Investments into valorisation of bio-resources (small-scale projects, budget approx. 3 MEUR)
 - Innovation co-operation (innovation clusters, development of new products, practices, processes and technologies, implementation of pilot projects, including EIP-projects; testing methods and techniques)



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Aitäh!

Thank You!