



# Bioeconomy

## An Icelandic approach

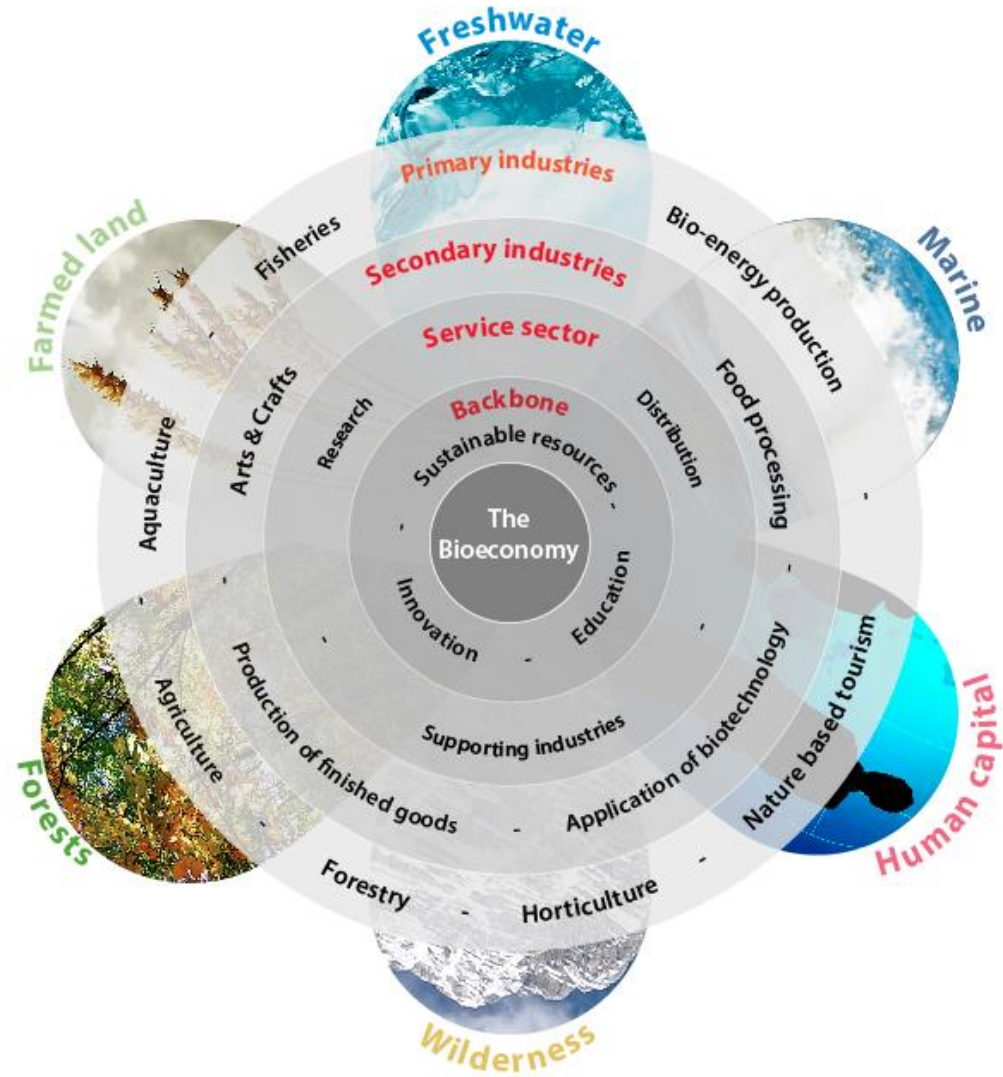
**Sveinn Margeirsson\*, Ph.D**

Chief Executive Officer, Matis Food and Biotech R&D

**\*Raised on a farm**

**\*Educated by seafood processors**

# Bioeconomy



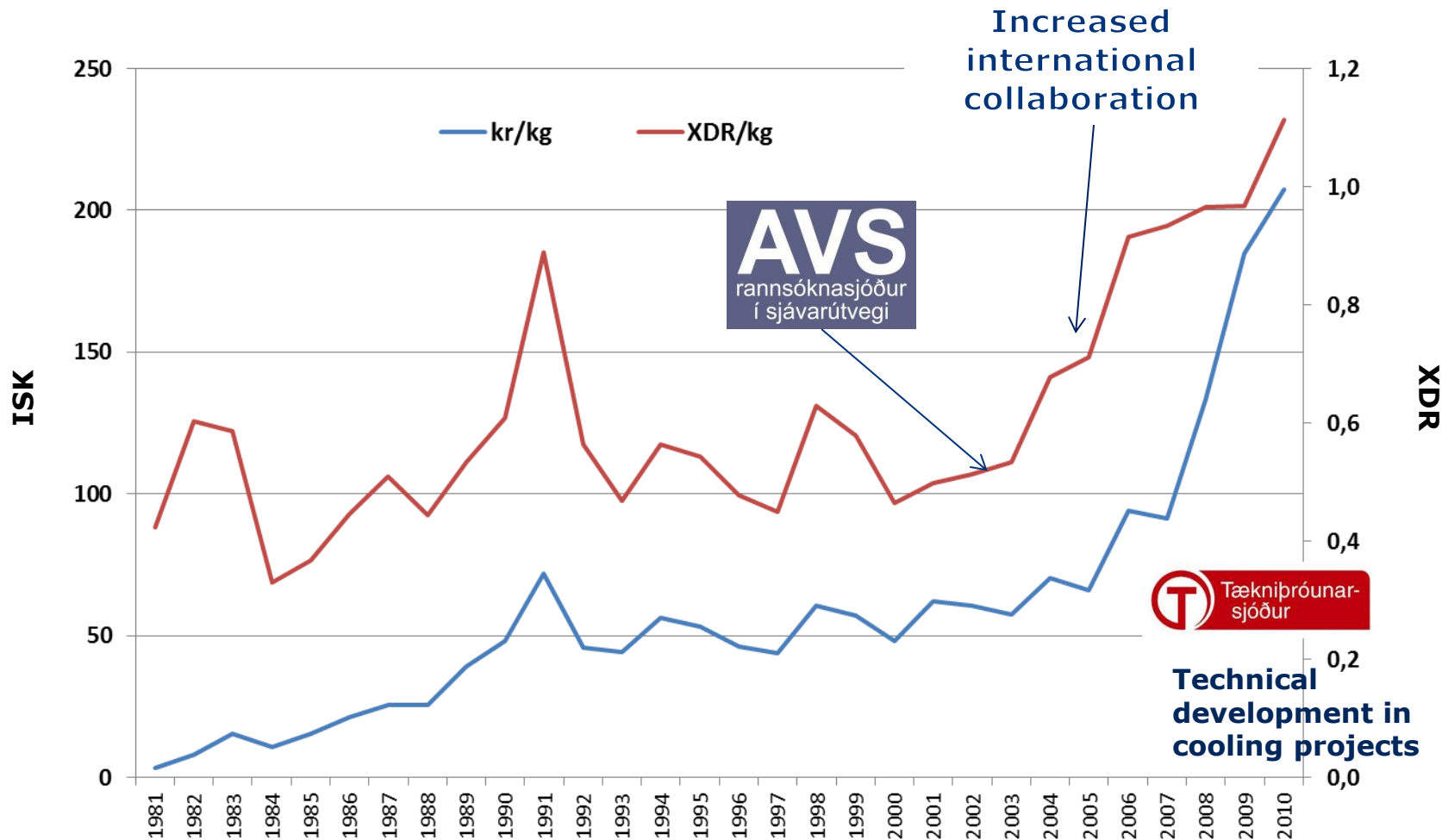
# Increasing value in the bioeconomy

## Applying know-how for continuous improvements



# Research and Innovation: Return On Investment

## Iceland: Export value / kg catch



Based on data from Statistics Iceland

# Bridging the gap: universities <-> industry



International  
MS program in  
food science



HÁSKÓLI ÍSLANDS



**matis**



Háskólinn  
á Akureyri



Food and  
biotech  
industry

# Investing in human capital: Examples of Matis employees 2011-2013



Ph.D Mechanical  
Engineering



Björn  
Margeirsson  
*Promens  
packaging*

Ph.D studies  
Biology



Guðmundur  
Gunnarsson  
*Skinney-Þ  
Seafood  
Processor*

Ph.D  
Biochemistry



Hólmfríður  
Sveinsdóttir  
*Iceprotein  
Biotech  
company*

Ph.D Food  
Science



Kristín Anna  
Þórarinsdóttir  
*Marel  
Processing  
equipment*

M.Sc Food Science  
>15 years experience



Karl Rúnar  
Róbertsson  
*Síldarvinnslan  
Seafood  
processor*

Ph.D Food  
microbiology



Hélène Lauzon  
*Primex  
Biotech  
company*

# Bioeconomy: Value beyond raw materials



# Dr. Hólmfríður Sveinsdóttir General Manager of Iceprotein, Biotech company



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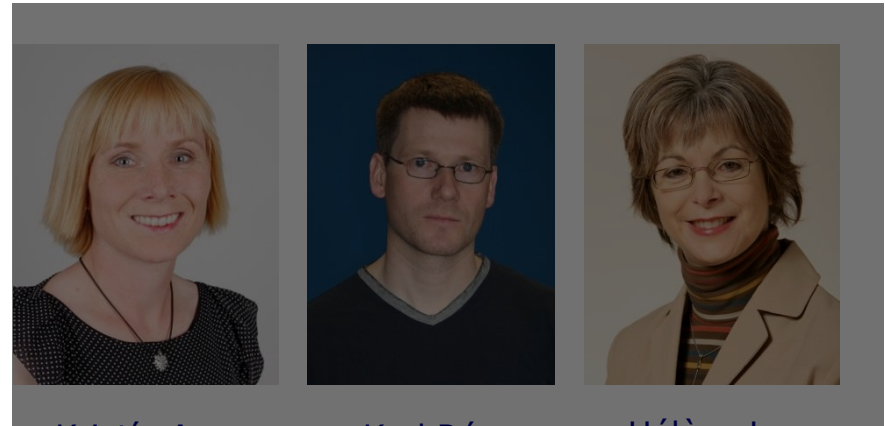


Björn  
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Guðmundur  
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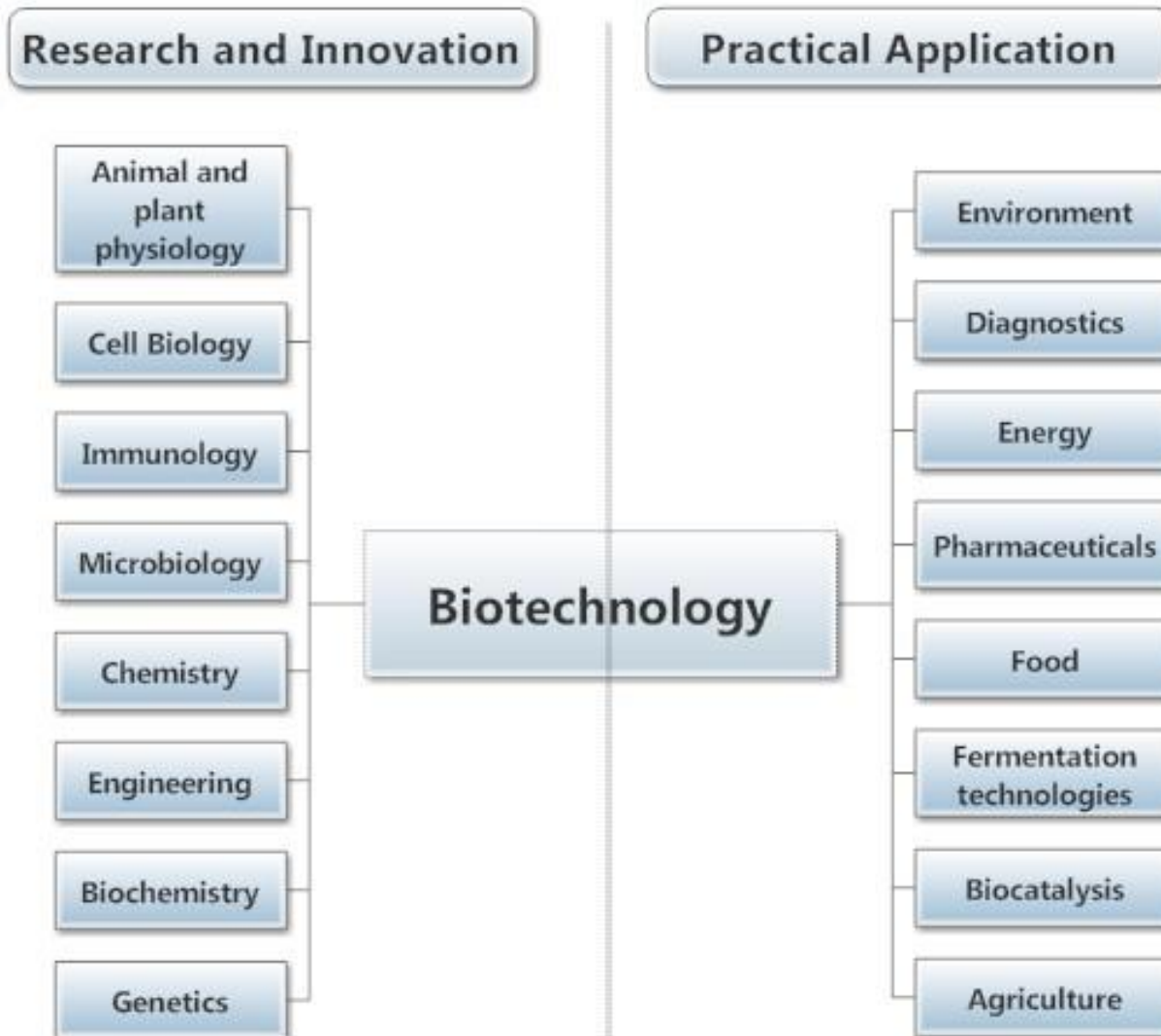
Héléne Lauzon  
Primex  
Biotech  
company



# Iceprotein - Sauðárkrókur (pop. 2575)



# Biotechnology is a key tool

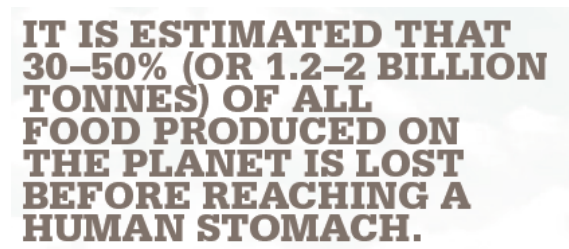
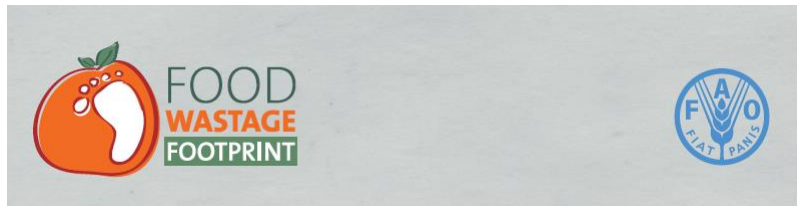


# Is there value in "Waste" (co-materials)? No less than 30% of food wasted



Major supermarkets, in meeting consumer expectations, will often reject entire crops of perfectly edible fruit and vegetables at the farm because they do not meet exacting marketing standards for their physical characteristics, such as size and appearance. For example, up to 30% of the UK's vegetable crop is never harvested as a result of such practices. Globally, retailers generate 1.6 million tonnes of food waste annually in this way.

The potential to provide 60–100% more food by simply eliminating losses, while simultaneously freeing up land, energy and water resources for other uses, is an opportunity that should not be ignored.



# Bioeconomy: Some Grand Challenges ahead



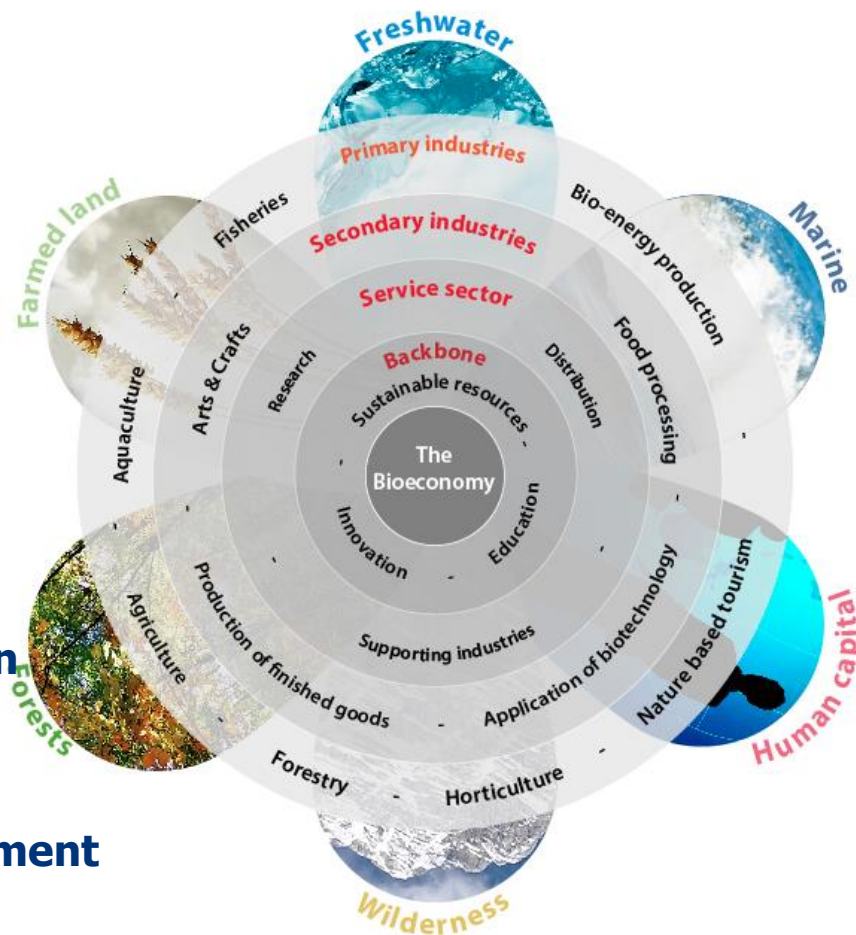
**Food and Energy security**  
**Nutrients availability and food safety**

**Changing demographics**  
**Urbanisation - Aging population**  
**Cost of health care**  
**Attract both genders**

**Marine planning**  
**Sustainable value added marine utilisation**

**Innovative, cost-efficient agriculture**  
**Focus on innovation and product development**

**Risk management**  
**Environment – Innovation - Education**



# The Bioeconomy: Nordic collaboration

## The Nordic Bioeconomy Initiative (NBI)

- Thematic Priorities: Sustainable production and use of biomass
  - for products and services in the Nordic countries
  - in relation to food security and safety
  - to foster local economic and social development

## Arctic bioeconomy\*

- Aim: to prepare the arctic for active participation in the Nordic Bioeconomy Initiative (NBI), to enhance the beneficial effect of NBI for the areas.

## Icelandic chairmanship program 2014 – 2016

- As Iceland chairs the Nordic council of ministers

## Collaboration with our neighbors

- Cooperation with the Baltic
- Cooperation with Canada
- Active participation in projects and policy making for Horizon 2020

\*project conducted in collaboration with the Nordic Council of ministers, NKJ, AG-Fisk, SNS and more

# Why Nordic collaboration on Bioeconomy?



## **Key element in green growth**

**Improve sustainable management and utilization of biological resources and strengthen the Nordic primary sectors to optimise the local economic and social benefits**

**Enhancing Nordic cooperation; advancing research and innovation and creating foundation for knowledge-based policies.**

**Encourage proactive response to climate change, open new markets, create new jobs and contribute to food security and public health in the Nordic countries and beyond.**