



**GIFS** | GLOBAL INSTITUTE  
FOR FOOD SECURITY

# Sustainable Saskatchewan Agriculture

Alanna Koch, Board Chair

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[www.gifs.ca](http://www.gifs.ca)

*Saskatchewan* 





# Agriculture in Saskatchewan





# GIFS' Role: Our Vision and Mission

## Our **vision** inspires us

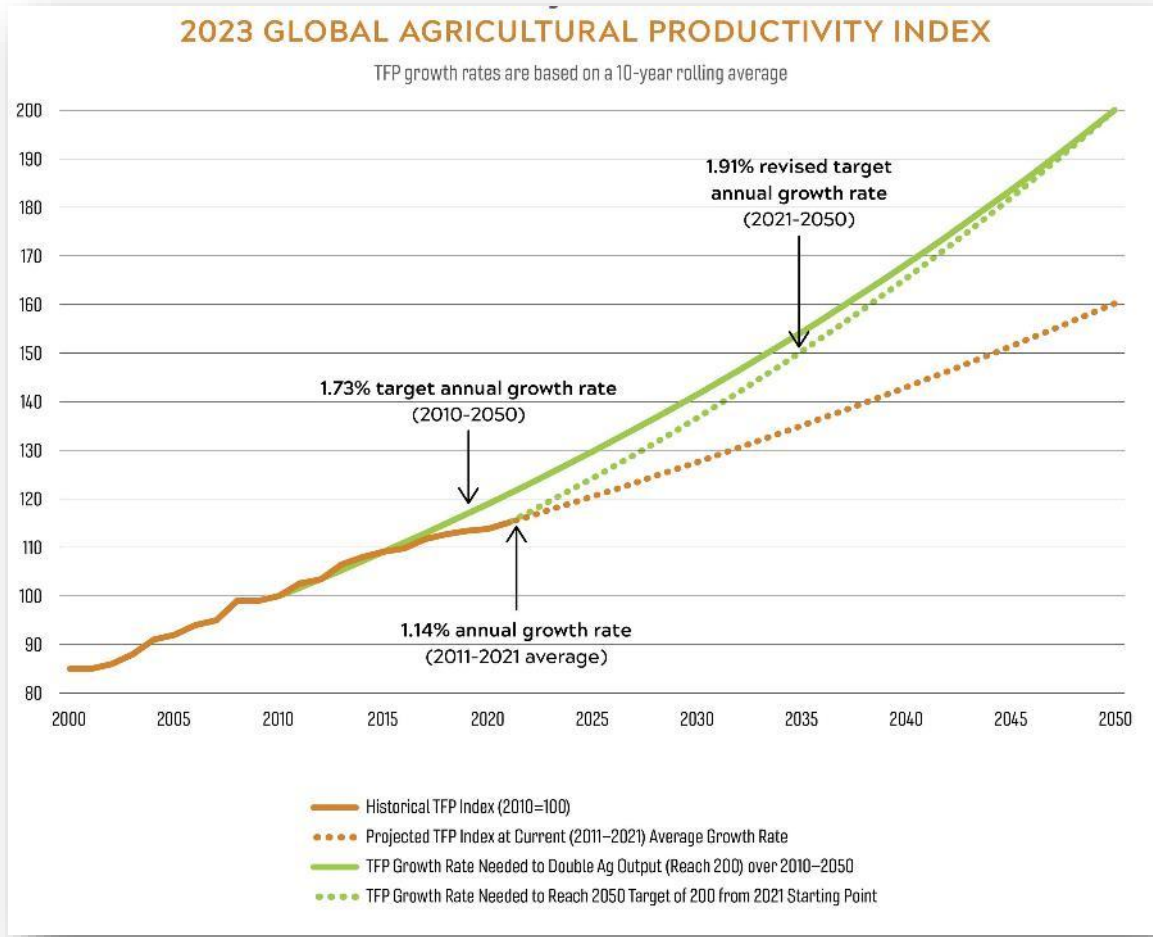
A world where everyone has access to safe and nutritious food.

## Our **mission** drives us

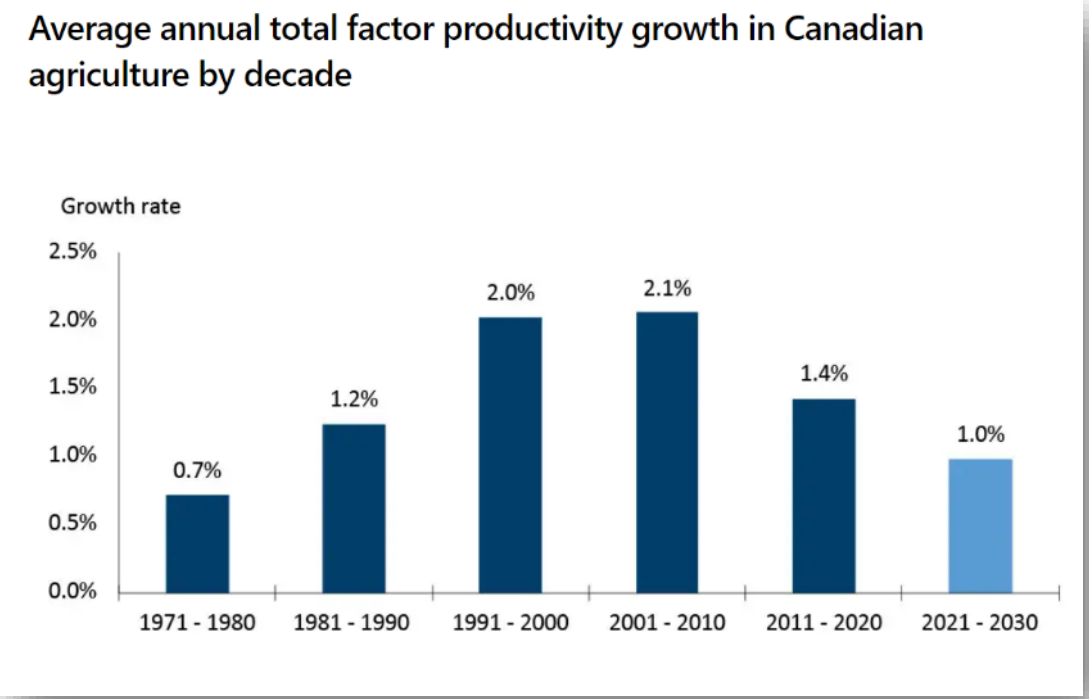
We work with partners to **discover, develop** and **deliver** innovative solutions for the production of globally sustainable food.



# Agriculture's Productivity Gap



**Global Productivity Gap: USDA**



**Canada's Declining Productivity Growth: FCC**

# Challenges to Productivity Growth



## ↑ in global population

9.7B in 2050  
(United Nations).



## Limited resources

Land, water,  
nutrients, etc.



## Climate change

Impacting food  
production and  
crop yield.



## Conventional breeding

Timelines slow and  
current genetic gains  
insufficient.



## Sustainability

Innovation  
needed to ↑ food  
production &  
productivity  
sustainably.



Innovation adoption requires a **science-based, predictable regulatory framework** to succeed.



Our **unique model** grants GIFS a **seat at the table** to engage, advance and advocate on behalf of the sector.



We're a **preferred partner** with a **distinct voice** to share a **whole systems perspective** on behalf of the sector.

# Carbon Life Cycle Analysis

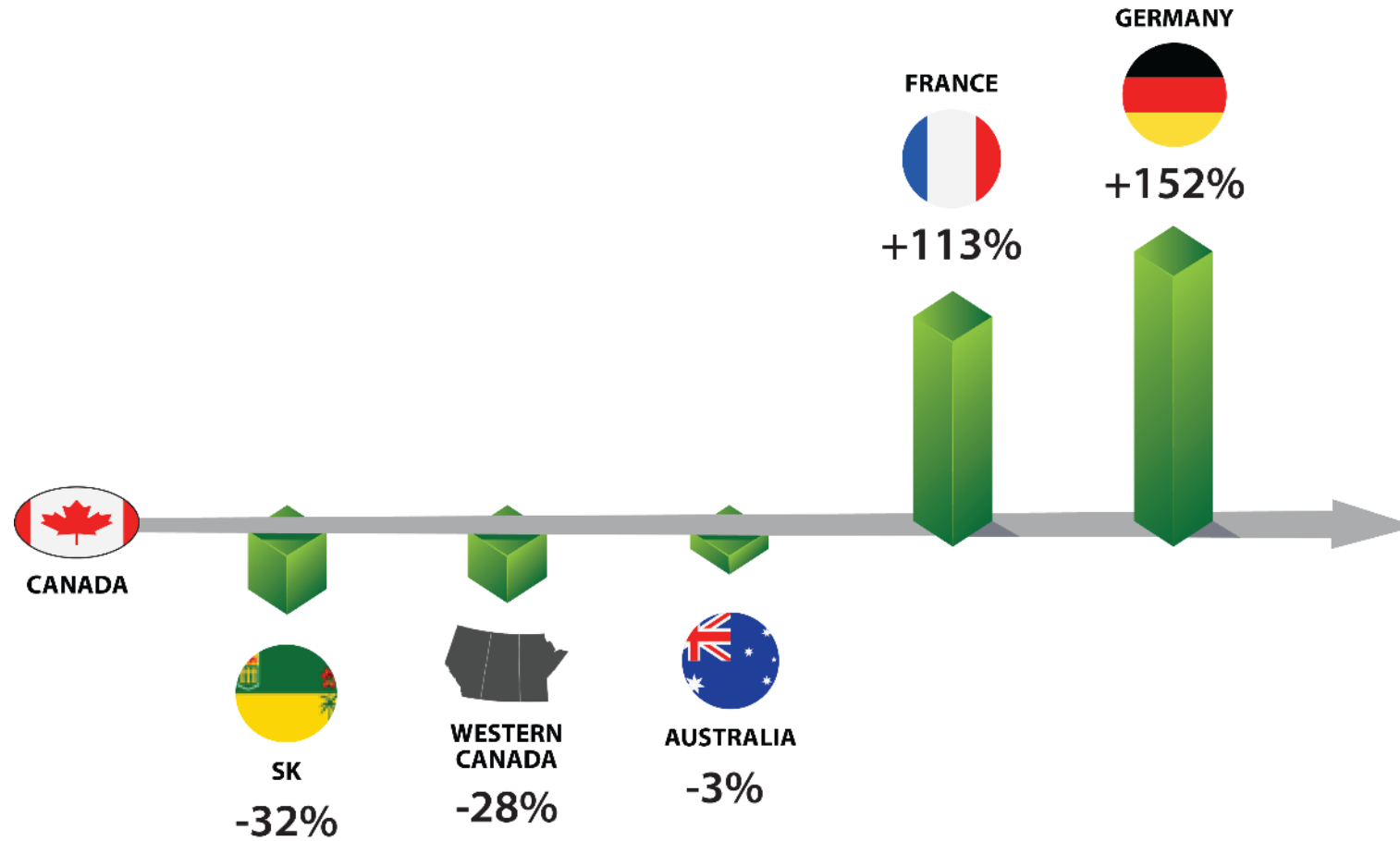
- Analysis compiles data on the carbon dioxide equivalent emissions for the various activities that go into crop production, including:
  - Transportation;
  - Seed;
  - Fertilizer and manure inputs;
  - Crop inputs;
  - Field activities;
  - Energy emissions; and
  - Post-harvest work.
- GIFS' study also considers important data about the ability of our agricultural landscape to support **soil-based carbon sequestration**.



# CANOLA



**Regional Comparison:** Canola kg CO<sub>2</sub>eq including soil carbon per tonne relative to Canada

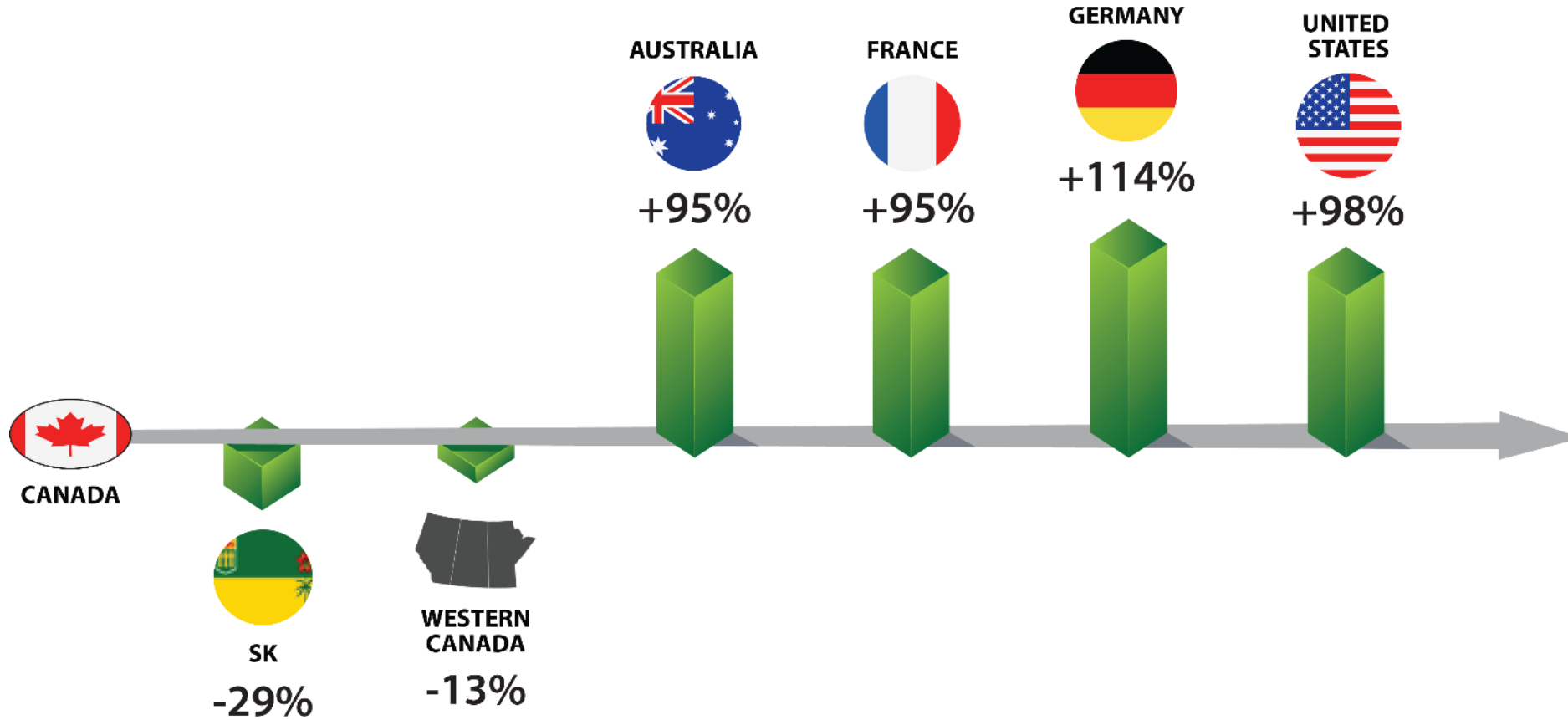




# NON-DURUM WHEAT



**Regional Comparison:** Non-durum wheat kg CO<sub>2</sub>eq including soil carbon per tonne relative to Canada

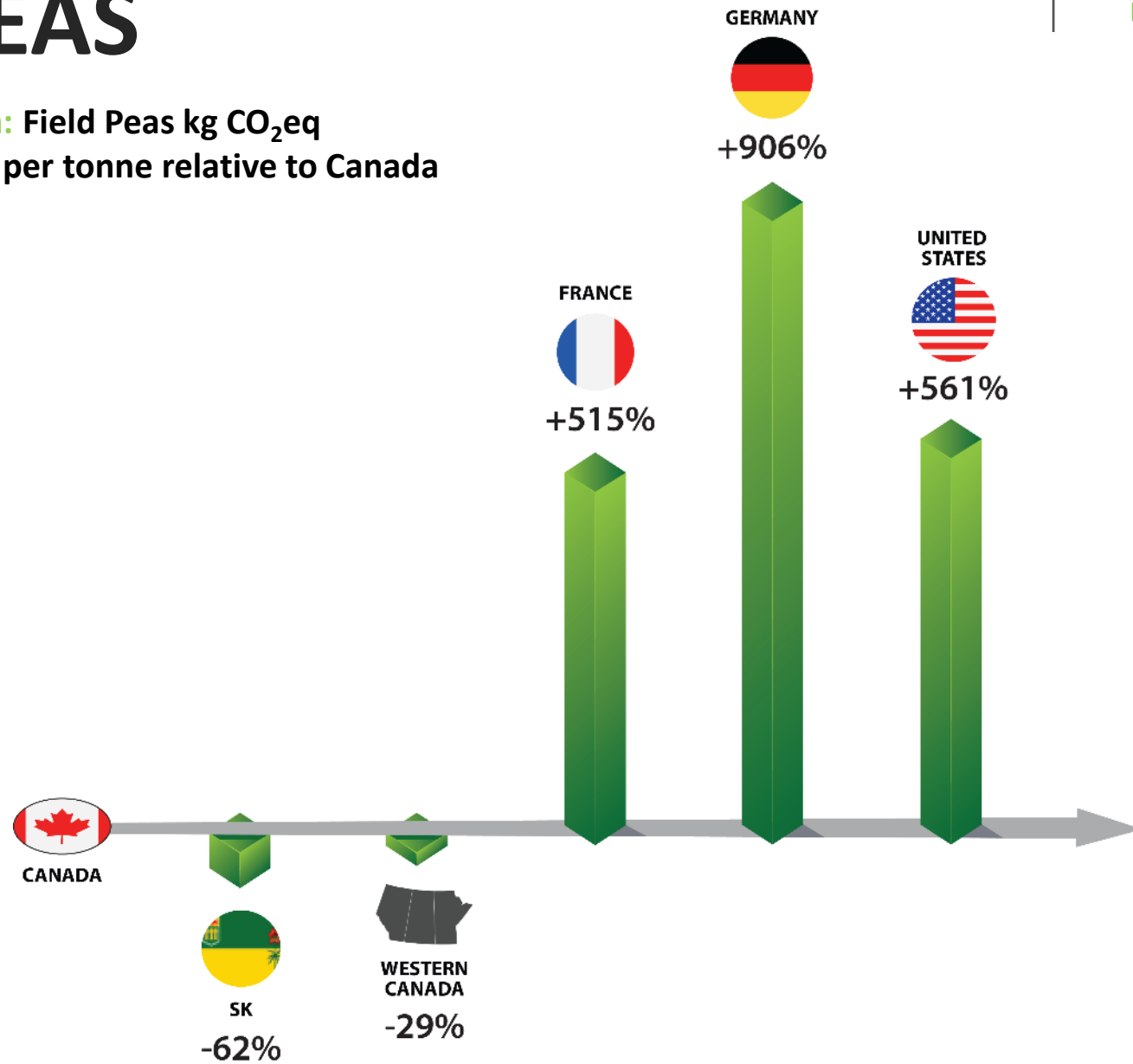


# FIELD PEAS

**Regional Comparison:** Field Peas kg CO<sub>2</sub>eq including soil carbon per tonne relative to Canada



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# Innovation in Saskatchewan

- Three-crop rotation:
  - Small grains, oilseeds and pulses
  - **GIFS' analysis finds similar trends across all crop types studied**
- **Innovation at scale:**
  - Zero- and minimal-till farming
  - Herbicide-tolerant canola
  - Nitrogen-fixing pulse crops
- Innovation on the rise:
  - Variable-rate technology
  - New genetics



*Complete study available at:  
[gifs.ca/sustainableag](https://gifs.ca/sustainableag).*

*Coming 2025: GIFS-commissioned  
analyses of beef, oat, and barley  
production.*



# Agriculture as a Solution

- Agricultural innovation drives **economic, environmental** and **social sustainability**.
- Public policy supporting a **science-based, predictable regulatory framework** is the engine needed to promote sustainable production and **scale innovation** in Canada's agri-food sectors.
- **Questions?** Contact [partnerwithus@gifs.ca](mailto:partnerwithus@gifs.ca).



# THANK YOU



[www.gifs.ca](http://www.gifs.ca)

Founding Partners:

