



GLOBAL CHALLENGES GENOMIC SOLUTIONS

SCALING UP 2017
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Barton was right – Bioeconomy rules in Canada

Total Canadian goods exports 2015	\$525 billion
Motor vehicles and parts	\$87 billion
Energy products	\$84 billion
Aircraft and parts	\$25 billion
Bioeconomy: farm, forest, fish, food	\$102 billion

Source: Stats Canada

Digital Code



Biological Code



DNA is the “operating software” of all living things. By allowing us to read DNA encoded in the genome, **genomics** enables us to make biological “upgrades.”

The Climate ~~Challenge~~ Opportunity



Photo by/Crédit photo : WWF Canada

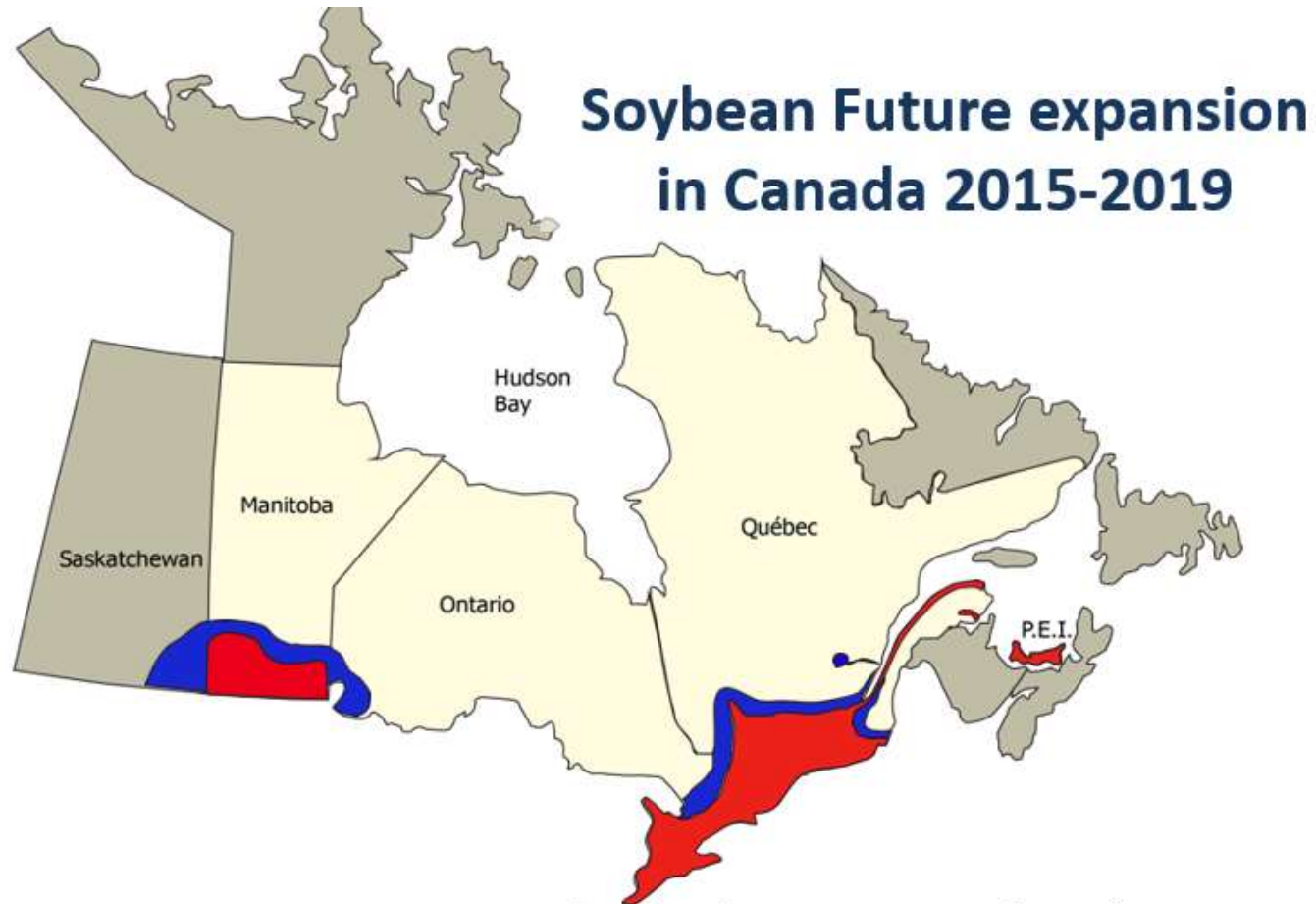
The natural world needs a **“Y2K fix”** – and fast – to upgrade genetics for drought, pest resistance, etc.)

Forestry



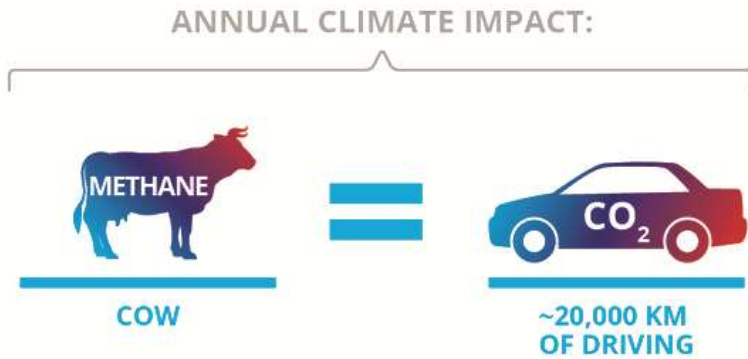
The Mountain Pine Beetle has devastated Western Canada forests.

Agriculture



– In a position to expand a further 1.3M Ha (60%)

Cleantech (enzymes, conversion)



Reduced methane



Biofuels



Bioplastics