# Thailand - Taiwan Industrial Collaboration on Carbon Reduction and High-Value Development in Functional Food









· Honorary President of Thai Food Processors' Association





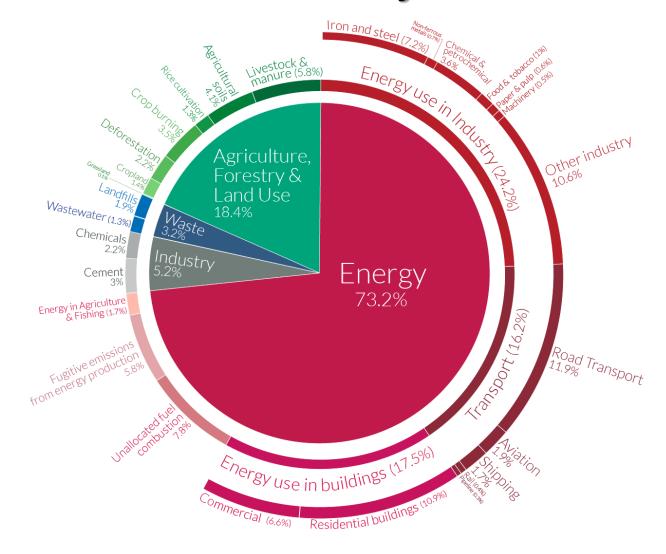
# Global Greenhouse Gas Emission by Sector













World emits 50 billion tonnes CO2eq of greenhouse gases each year



















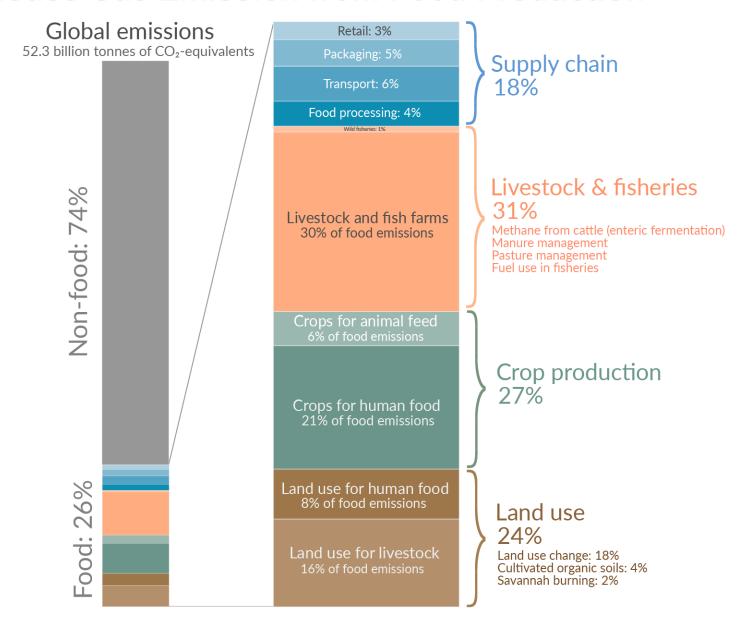












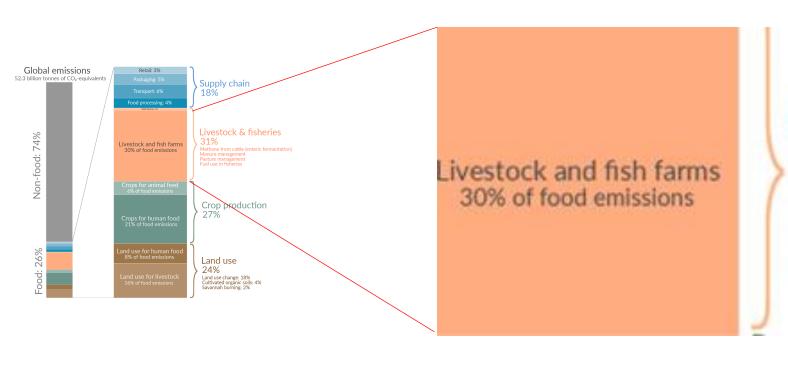












Livestock & fisheries
31%

Methane from cattle (enteric fermentation)
Manure management
Pasture management
Fuel use in fisheries

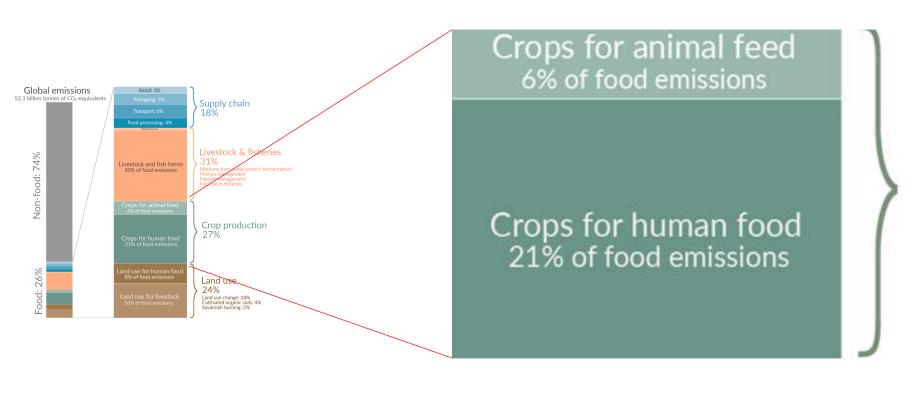












Crop production 27%

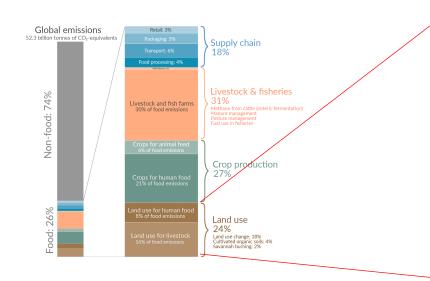












Land use for human food 8% of food emissions

Land use for livestock 16% of food emissions

Land use 24%

Land use change: 18% Cultivated organic soils: 4%

Savannah burning: 2%

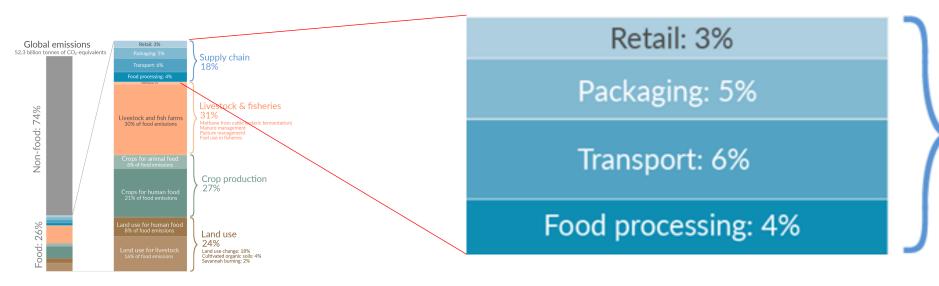












Supply chain 18%



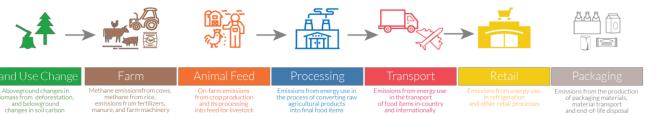
#### **FOOD:** Greenhouse Gas Emission Across the Supply Chain

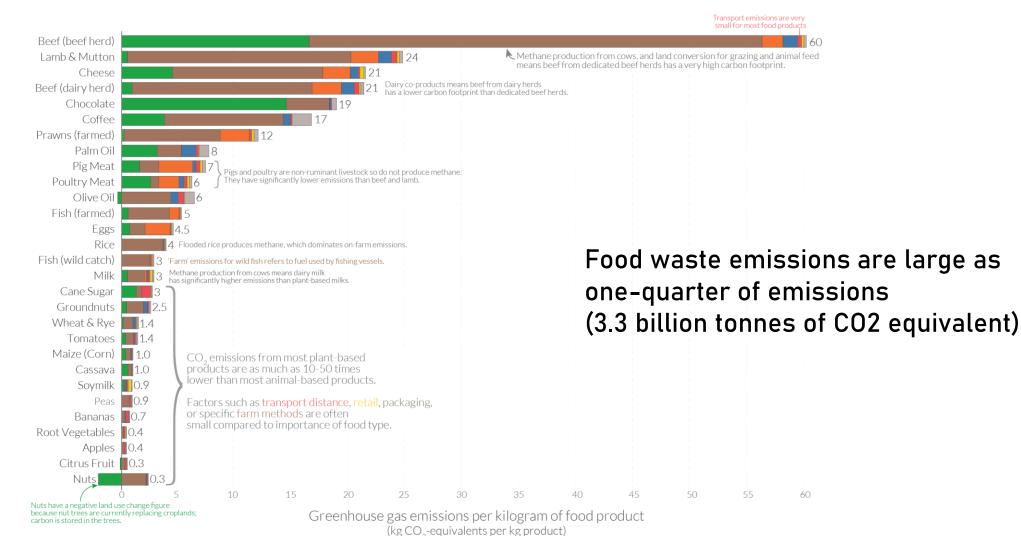














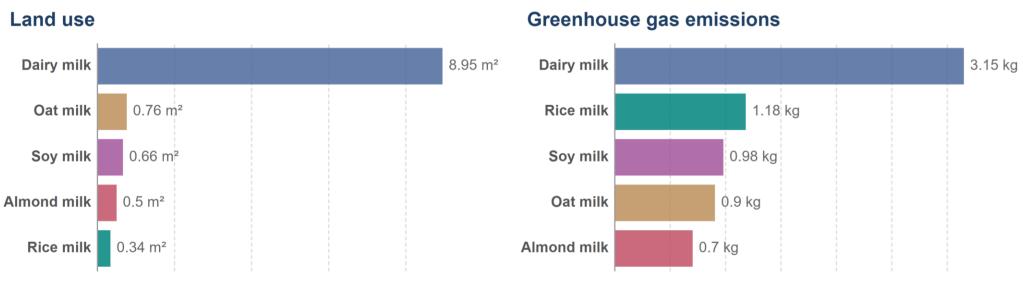
## **Environmental Footprints of Dairy and Plant-based Milk**











#### Freshwater use **Eutrophication** Dairy milk 628.2 L Dairy milk 10.65 g Almond milk 371.46 L Rice milk 4.69 g Rice milk 269.81 L Oat milk 1.62 g 48.24 L 1.5 g Oat milk Almond milk Soy milk 27.8 L Soy milk 1.06 g



Cow's milk has significantly higher impacts than the plant-based alternatives across 4 environmental metrics of land use, greenhouse gas emissions, water use, and eutrophication.



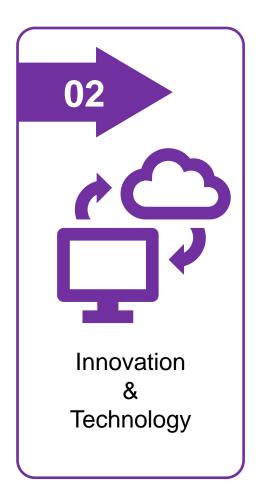


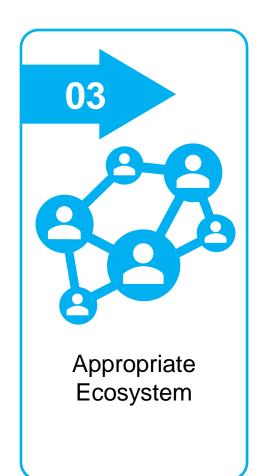




# National Strategy to Drive Towards a Low-Carbon Society













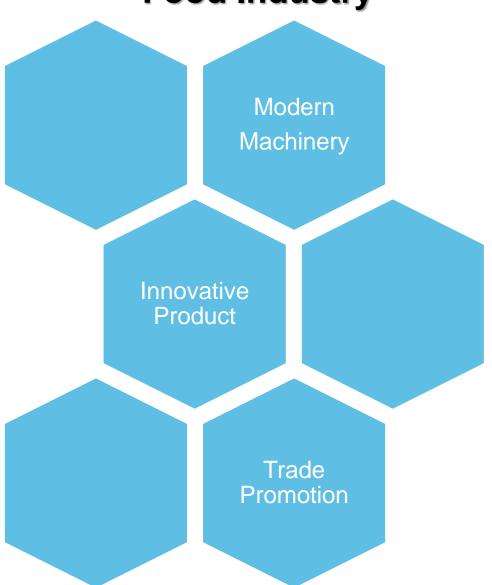




# **Agriculture Sector**



# **Food Industry**











# **Challenges to be a Low-Carbon Society**



 Lack of Standardized Methodology

Inaccurate Data

Insufficient Report of Emission

### **Benefit of Functional Food**











Nourish Nerves & Brain



Digestive & Excretory Systems



Provide Energy



Control Weight



Prevent
Cardiovascular
Disease



Strengthen Bones & Joints



Nourish Eyesight



Nourish Skin



Enhance Immunity















Altered

Non-altered

Enhanced

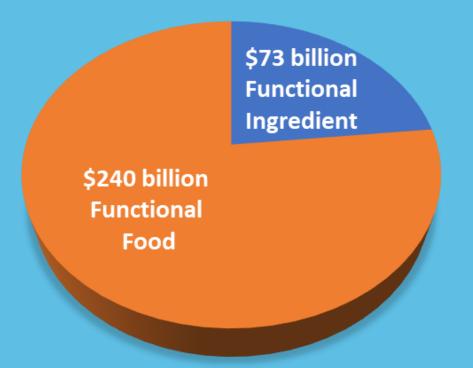




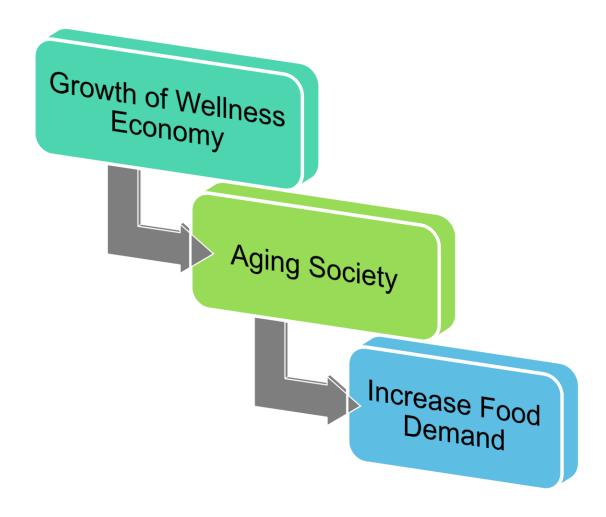




# **Market Size**



# **Support Factors**





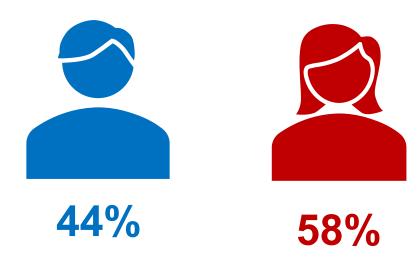




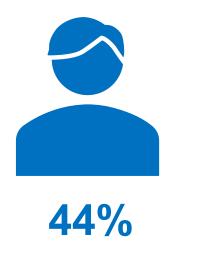




# **Skin Support**



# **Muscle Recovery**





















Healthy



Convenient



Specific

#### **Thailand Functional Food Market Size**











58 Billion



5% Per Year

#### **FFC Thailand**









An online service to support health claims

Based on scientific evidence and research

Randomly inspecting products after they go to market













expected to grow up to 16.5 percent by 2025



imports more herbs than exports



has 8 herbs ranked in the top of 40 herbal supplements in the United States market



turmeric, aloe vera, coconut, garlic, garcinia cambogia, stevia, cinnamon, and ginger.









# Thank You



