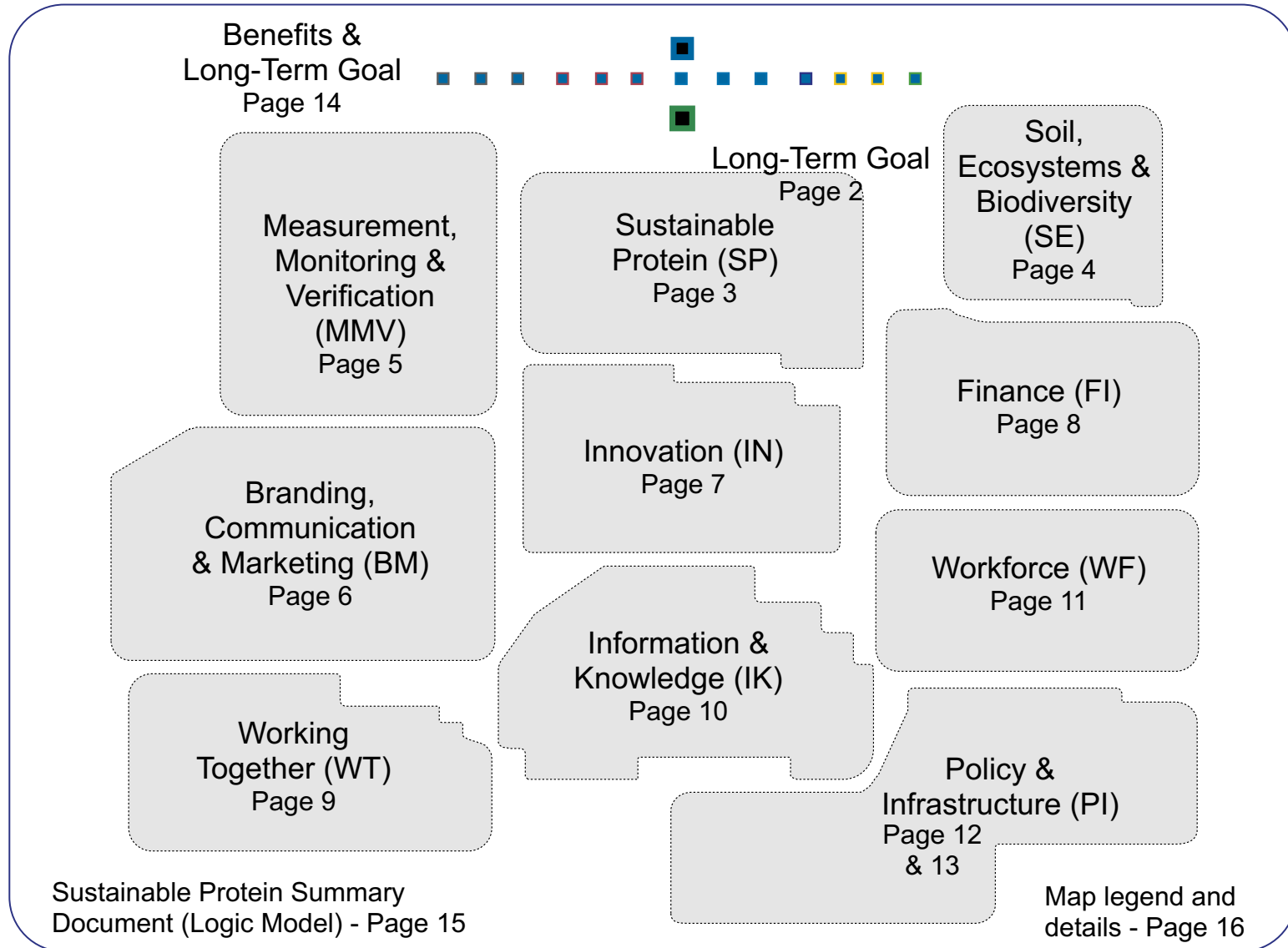


# Manitoba Protein Advantage Strategy

*A Collaborative Approach to Protein Impact*

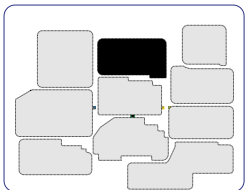
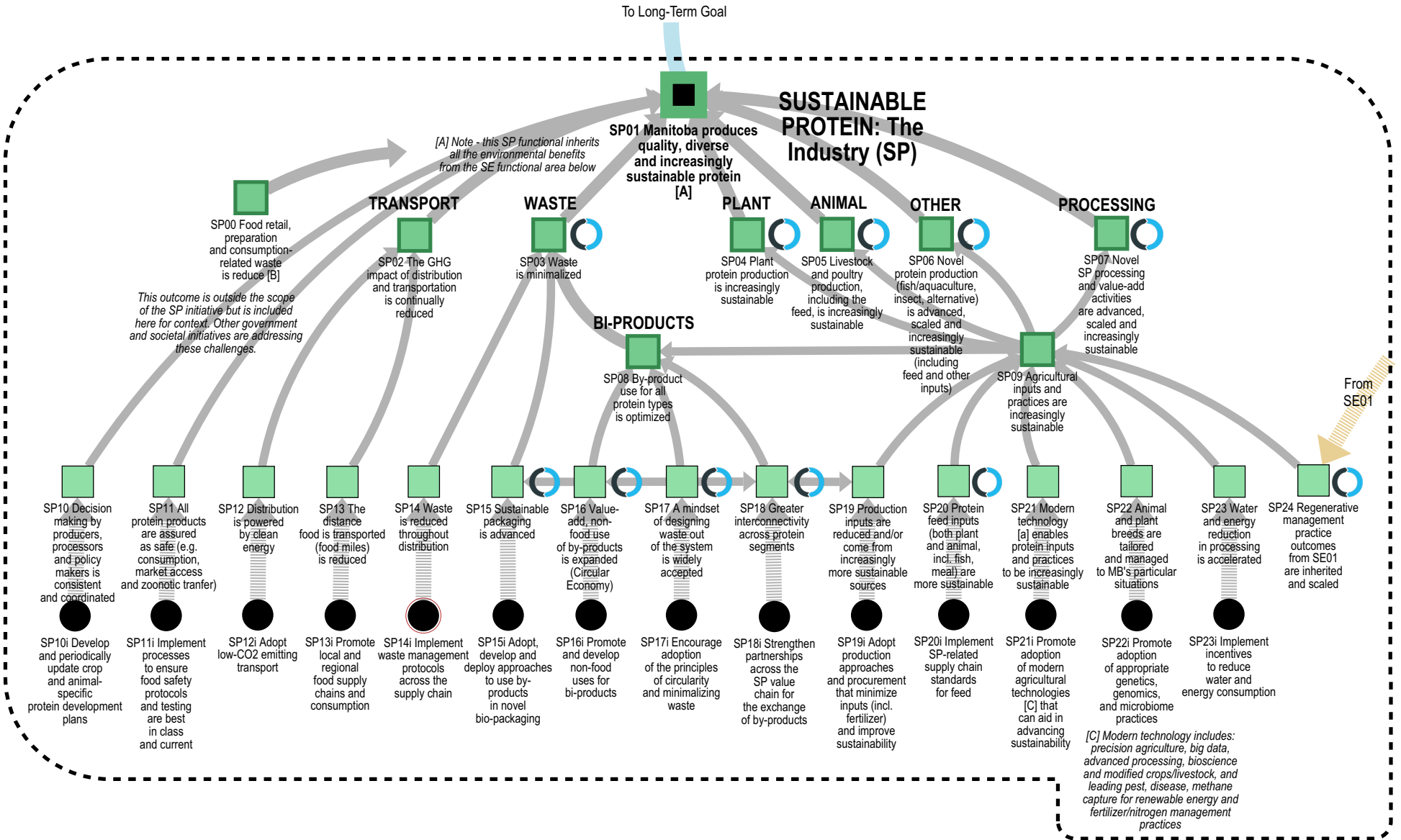
## Compendium of Functional Areas



# **LONG-TERM GOAL**



**LTG01 Through strengthened collaboration and accelerated innovation, Manitoba realizes its collective and equitable potential to produce protein that is diverse, high quality, healthy and increasingly sustainable**



# SOIL, ECOSYSTEMS & BIODIVERSITY (SE)

To Long-Term Goal  
To SP23

**SE01 MB agricultural soils, ecosystems, animals, and biodiversity provide ecosystem goods and services; are healthy, resilient, and productive**

## GREENHOUSE GASES

**SE02 Carbon sequestration in soils, grasslands, and wetlands is improved and accelerated**

## LAND HEALTH

**SE03 MB agricultural lands are productive, and maintain and improve their connection to natural land resources, and all living systems**

**SE04 Air pollution is reduced and quality is improved**

**SE05 Farming and conservation practices improve and maintain important soil properties and qualities [E]**

**SE06 Croplands, native grasslands, and rangelands are well managed, more productive and contribute to healthy animals, ecosystems, and biodiversity**

**SE07 Intact and restored grasslands and wetlands are integral contributing components of healthy agricultural systems**

**SE08 Water and hydrology are integral to an integrated farming landscape and are in balance with natural and agricultural cropping systems**

**SE09 Pest, weed, and disease pressures, and management impacts are reduced**

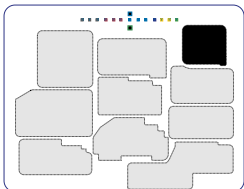
**SE10 Landscapes regionally have the ability to buffer climatic events like floods and droughts better**

[E] For example, organic matter, soil structure, and microbiome improvements, retention and improvement, carbon, nitrogen and other nutrient retention and cycling, water infiltration and holding capacity, microbiome

SE04i to SE09i Individually or a mix of — adopt, adapt, or develop, and implement, context-appropriate farming knowledge and best practices in regenerative soil, water, natural area, crop, agricultural, and by-product systems [D] inclusive of Indigenous traditional experience and learnings

[D] For example, low till-no till farming, rotational grazing, composting, pasture cropping, crop rotation, inter-cropping, agroforestry, manure management, utilization of technology like precision agriculture, etc.

SE10i Plan and manage land / landscapes and water / watershed integrity and services in an integrated manner



# MEASUREMENT, MONITORING, AND VERIFICATION (MMV)

**MMV01 MB and individual actors in the SP system measure, report, and value respectively their collective and individual sustainable protein activities and make adjustments accordingly**

**MMV02 COLLECTIVE:** MB measures, reports, and values its collective sustainable protein activities, including this impact map, and makes adjustments accordingly

**MMV03 INDIVIDUAL:** Individual actors have robust sustainability data which they use to manage operations and communicate to markets

## PERFORMANCE INDEX

**MMV04** A simple but powerful SP PERFORMANCE INDEX measures and reports on the overall state and performance of the sector

## BASELINE / BENCHMARKS

**MMV05** MB establishes baseline data and benchmarks on which to measure improvements and performance against other jurisdictions

**MMV06** Individual actors measure, monitor, verify and communicate the sustainability actions relevant to them

**MMV20** Performance measurement of MB's SP strategy implementation (this framework)

**MMV20i** Measure and track progress and impact of the interventions and outcomes in this framework

**MMV21** Core overarching SP metrics that are indicative of sustainability performance are defined, with an emphasis on ease of measurement

**MMV21i** Assess, modify and adopt core overarching SP metrics on which to measure and communicate action

**MMV22** The states of the nitrogen cycle and other "hallmark" indicators are tracked and interpreted

**MMV22i** Measure and track performance of key "hallmark" indicators

**MMV23** Support systems to manage MMV processes and data are transparent and traceable

**MMV23i** Implement blockchain transaction systems throughout the supply chain

**MMV07** A robust, consistent and trusted approach to SP performance accounting is operational

**MMV08i to MMV11i** Assess, adopt, deploy (and integrate where appropriate) leading MMV and reporting

**MMV12i** Assess need and potential for additional MMV protocols (e.g., Indigenous production certification)

## ENVIRONMENT

**MMV13** CHG & CARBON reductions and storage are defined and tracked

**MMV14** BIODIVERSITY benefits are defined and tracked

**MMV15** ECOSYSTEM GOODS & SERVICES, especially water quality and watershed management, are defined and tracked

**MMV16** SOIL HEALTH indicators are defined and tracked

**MMV17** ANIMAL WELFARE benefits are defined and tracked

## SOCIAL

**MMV18** SOCIAL benefits are defined and tracked

## GOVERNANCE

**MMV19** GOVERNANCE benefits are defined and tracked

**MMV08 MEASUREMENT:** Trusted and easy to use measurement methodologies are deployed to track and quantify core sustainability performance metrics

**MMV09 MONITORING:** Trusted monitoring methodologies are deployed to track core sustainability performance metrics

**MMV10 VERIFICATION:** Trusted processes and protocols are deployed to verify SP data and inform policy

**MMV11 CERTIFICATION:** Certification protocols are deployed to provide 3rd party authentication of SP data

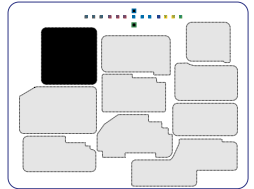
**MMV12** Develop MMV processes and protocols where they do not exist (leveraging existing methodologies as applicable)

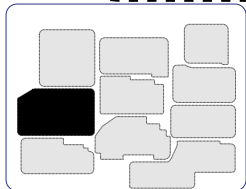
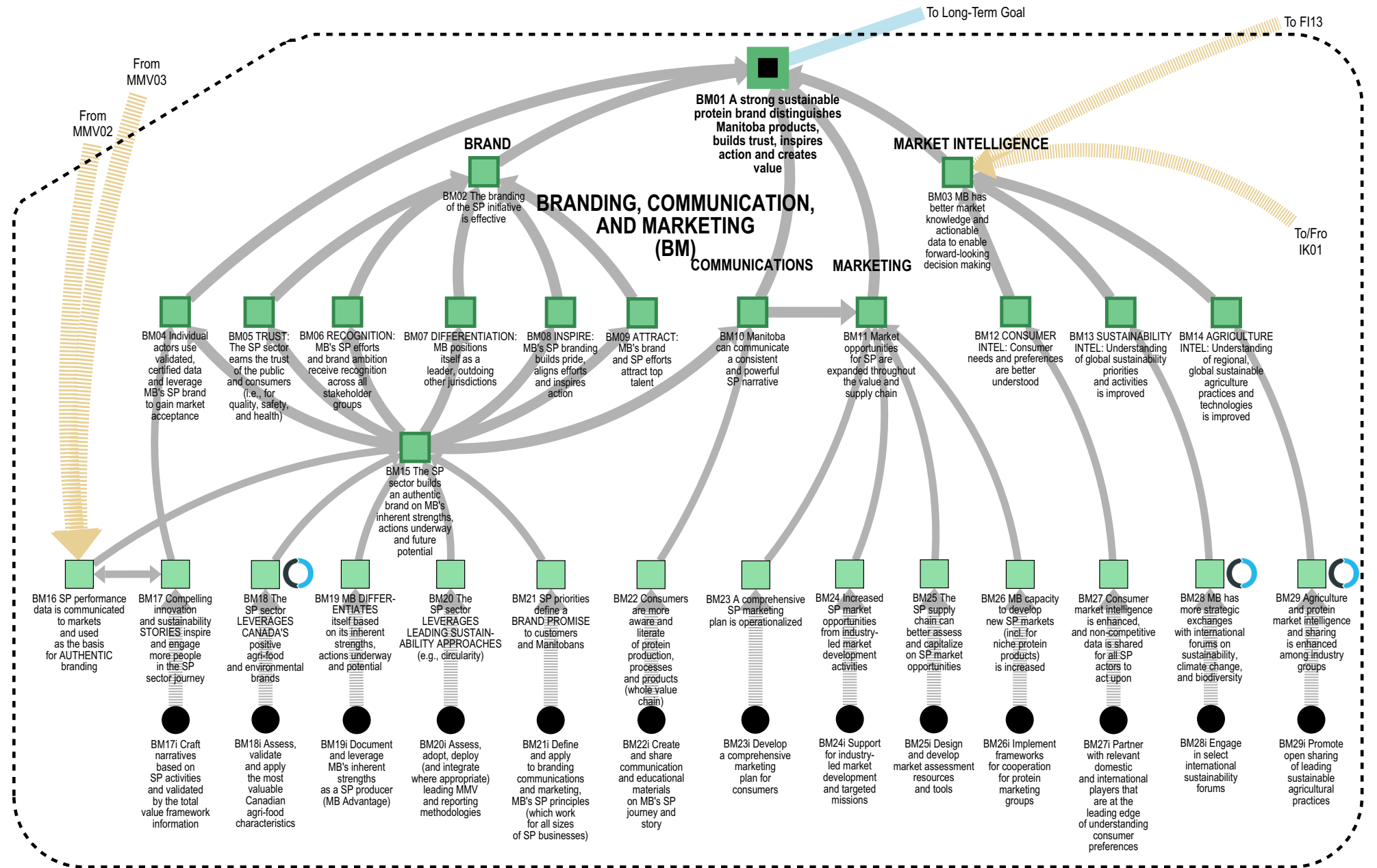
**MMV13i to MMV19i** Measure and track performance of key sustainability metrics, to be determined

This list of sustainability attributes will need to be assessed for applicability to MB

To BM16

To BM16







To Long-Term Goal

[F] Innovation is ideas, knowledge and technology applied to deliver a performance improvement. It is not just an idea, but an idea that has been made to work.

# INNOVATION (IN)

**IN01 Innovation [F] delivers more impactful SP activities and grows globally competitive innovative enterprises**

IN02 MB continually improves its sustainability standing (as measured by the SP performance index - MMV03) and is viewed as a leading SP jurisdiction

## RESOURCES

## PARTNERSHIP

## INNOVATION

## ATTRACTION

IN03 SP businesses and initiatives have effective resources to help them grow, scale and deliver impact

IN04 More value-add, innovation-focused partnerships are developed

IN05 Innovative SP practices relevant to MB are adopted, adapted, and developed in a timely manner

IN06 Innovative SP technologies and businesses are attracted and developed

IN07 More ideas are tested, rapidly, demonstrated, and scaled-up

IN08 SP entrepreneurs and early adopters have the business support they need to succeed

IN09 More SP-focused businesses are advanced more quickly

IN10 More value-add SP partnerships with players outside MB are created

IN11 Idea and knowhow exchange is expanded and valuable cross-sectoral partnerships are established

IN12 Stronger and more trusting indigenous partnerships focused on SP are created

IN13 Early adopted farm-level management practices are supported and rewarded

IN14 SP approaches and benefits are demonstrated and showcased at scale at living labs

IN15 More innovative potential solutions are uncovered, advanced and tested

IN16 MB is able to leverage best-in-class thinking (e.g., circularity) to accelerate SP innovation

IN17 Limited SP resources are focused on the important activities first (e.g., greatest leverage, critical path, etc.)

IN18 Entrepreneurs more readily advance SP activities

IN19 There is a more systematic approach to aligning and adopting prospective innovative SP solutions

IN20 More companies and other organizations are attracted to and engage with MB's SP research and innovation system

IN21 Government incentives (i.e. tax incentives) encourage development and adoption of novel SP approaches

IN08i Adapt and deploy mentoring and support programs focused on advancing SP ventures and activities

IN09i Optimize effective use of accelerator and incubator programs

IN10i Establish strategic SP partnerships with players outside MB

IN11i Develop networks and cross-sectoral partnerships in MB [G]

IN12i Build stronger indigenous relationships focused on SP business opportunities

IN13i Legitimize innovative farm management practices

IN14i Design and support model SP pilot projects

IN15i Design and launch innovation challenge competitions

IN16i Identify, adopt and apply leading sustainability approaches and frameworks

IN17i Establish priority criteria, updated periodically, and apply them to set an innovation agenda

IN18i Establish support mechanisms to increase risk tolerance for advancing SP-specific initiatives

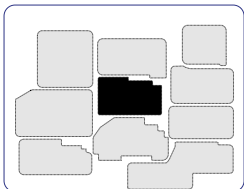
IN19i Implement a structured system to inbound value-add solutions to MB

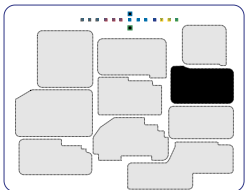
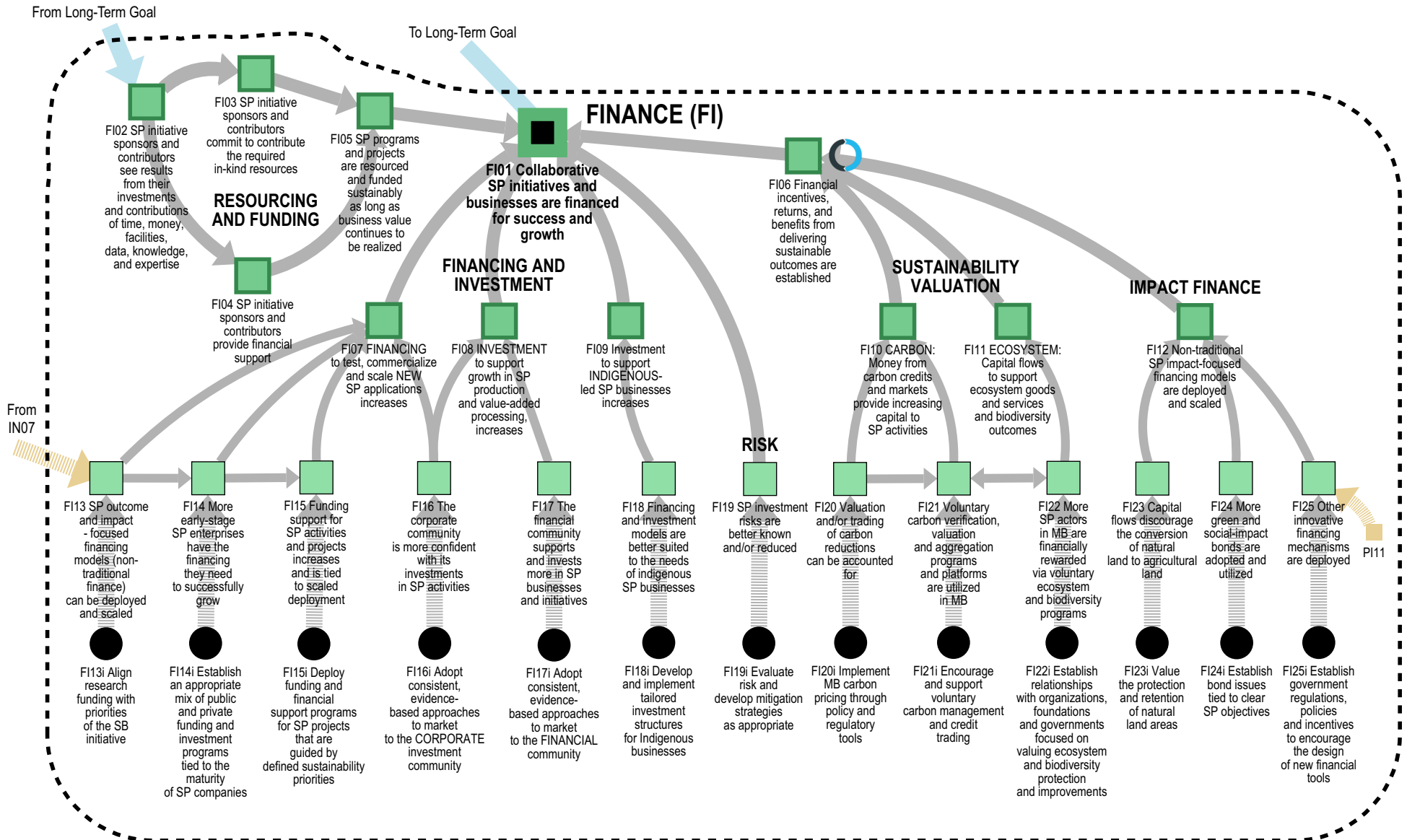
IN20i Strongly promote MB's research and innovation capabilities and assets

[G] For example between industry, governments, academia, industry and farm groups, innovation institutions

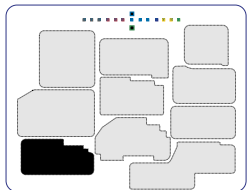
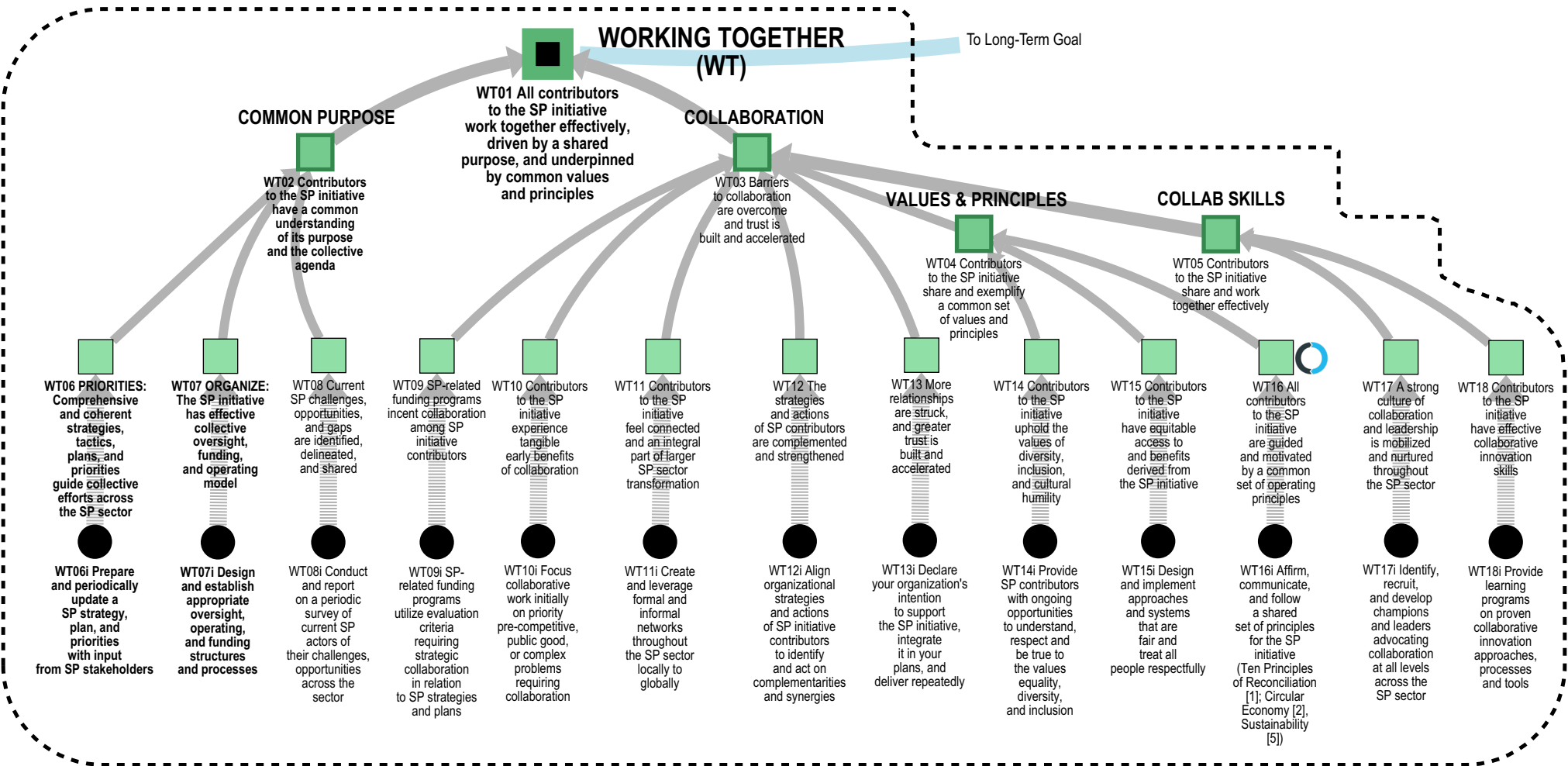
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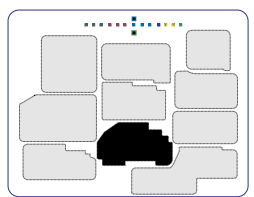
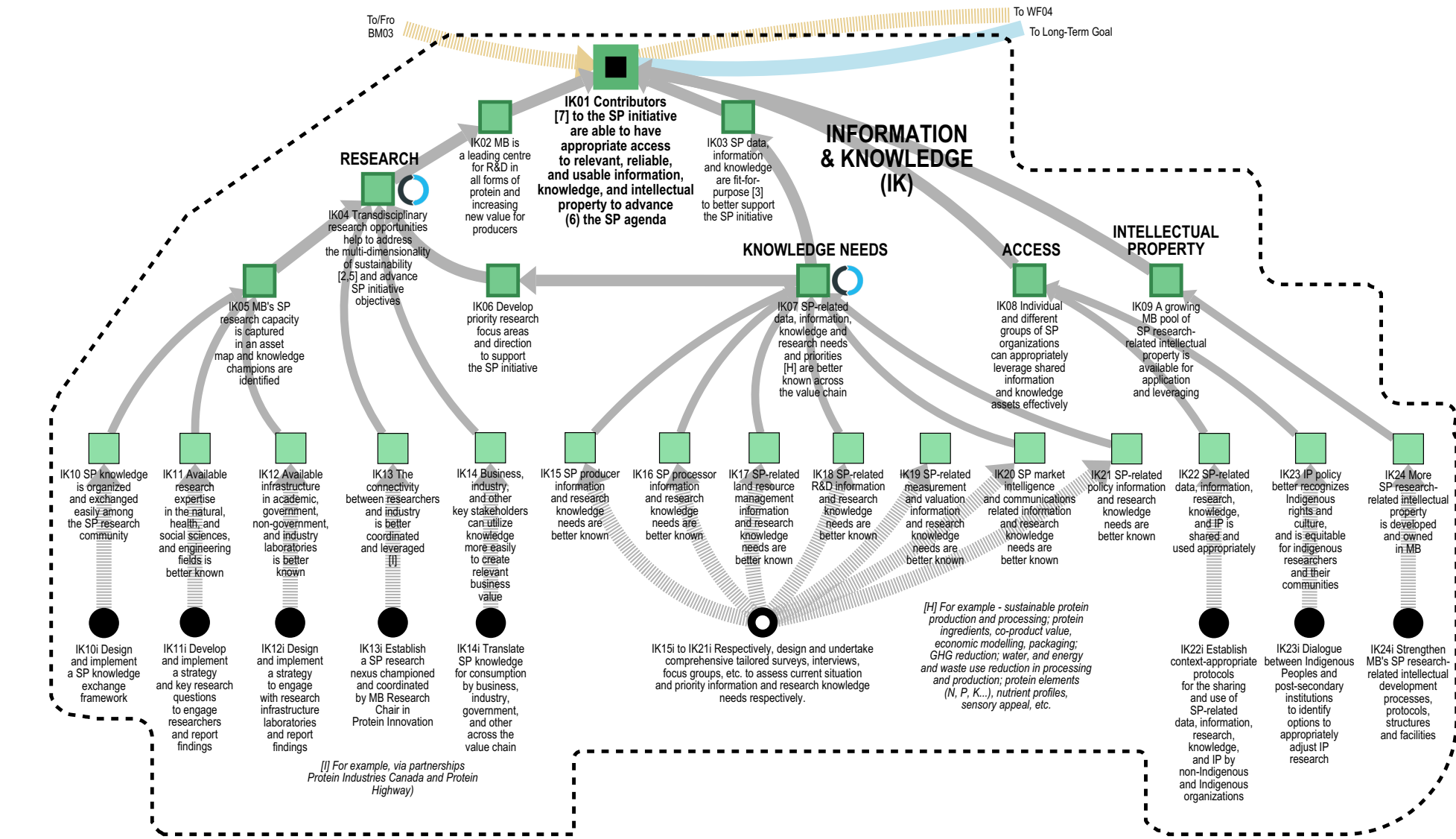
From PI11











To Long-Term Goal

# WORKFORCE (WF)

## SP LEARNING & PRACTICE

**WF01 A sustainable workforce with the knowhow work together to support and accelerate innovation across the SP sector**

## SP WORKFORCE

**WF03 A sustainable supply of qualified and talented people retained and attracted to lead, support, and grow the SP sector**

**WF02 The SP workforce has relevant and progressive knowhow to support and accelerate collaborative innovation**

From IK01

**WF04 Agriculture education programs reflect SP objectives and latest research, technology, and innovation advancements**

**WF05 SP learners are able to better address complex demands and rapid constant change with their learning and work**

**WF06 SP continuous education, up-skill, and extension programs are developed and enhanced**

**WF07 SP learners gain hands-on experience applying their classroom knowledge in real-world SP work settings**

**WF08 SP best practices are developed, updated, shared, and adopted earlier across the sector**

**WF09 Learning programs are responsive to current and future needs of the SP sector and labour force**

**WF10 Indigenous knowledge is included, as appropriate, in SP learning programs**

**WF11 The SP initiative embraces diversity, inclusivity, equity with its workforce and learning systems**

**WF12 Indigenous community cohorts have the knowhow to create, grow, and sustain Indigenous SP businesses in their community**

**WF13 More next generation entrepreneurs, innovators, and leaders chose and help drive the SP sector**

**WF14 The SP workforce feels a part of and inspired by the global sustainability cause**

**WF15 Employees and learners understand and feel a part of an exciting progressive SP story**

**WF16 The SP sector matches people with the right jobs, and jobs with the right people better, more quickly, and less expensively**

**WF04i Update learning programs to include latest SP developments and address gaps articulated by government and industry**

**WF05i Provide SP learners with 21st Century competency development learning opportunities [4]**

**WF06i Design and offer SP-oriented Continuous Professional Development course curricula through professional association channels**

**WF07i Design and implement or update and enhance co-operative, direct experience-based SP learning programs**

**WF08i Establish and support a steward for SP best practices**

**WF09i Develop an industry-led labour force SP education and HR development strategy and plan**

**WF10i Design, develop, and implement new innovative learning models led and owned by Indigenous Peoples founded on OCAP principles [10]**

**WF11i Design and implement equitable learning and work opportunity approaches for Indigenous Peoples, genders, newcomers,**

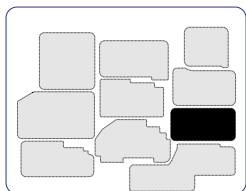
**WF12i Design and implement learning programs for small Indigenous community cohorts centred around SP business opportunities**

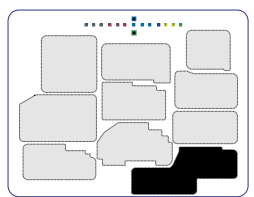
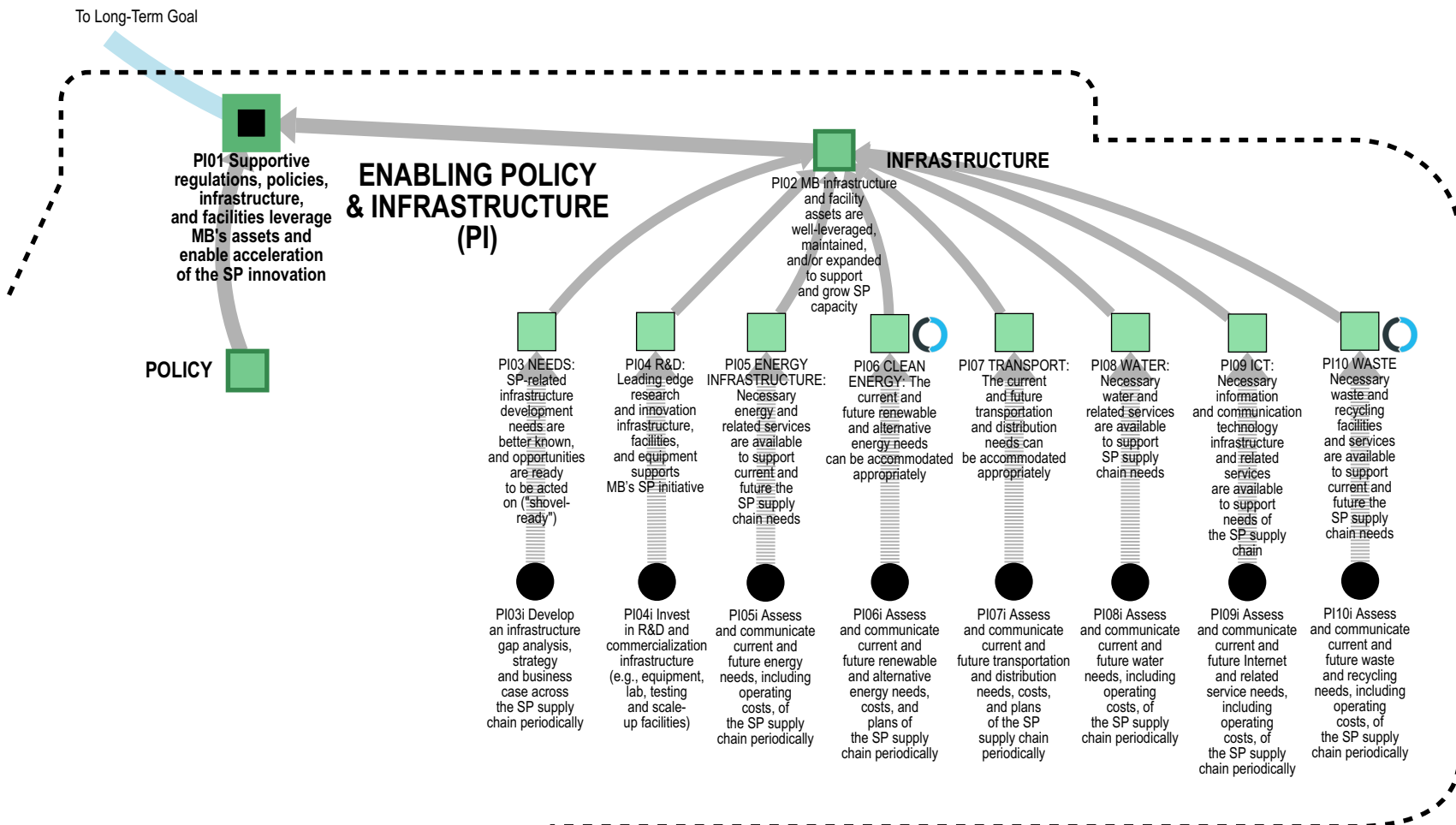
**WF13i Create mechanisms to attract, develop, and retain learners, and young professionals**

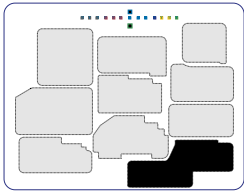
**WF14i Reinforce the sustainability principles [5], and UN Sustainable Development [8] and Circular Economy goals [12] with the SP workforce**

**WF15i Craft and market compelling narratives that SP sector employees and learners see themselves in**

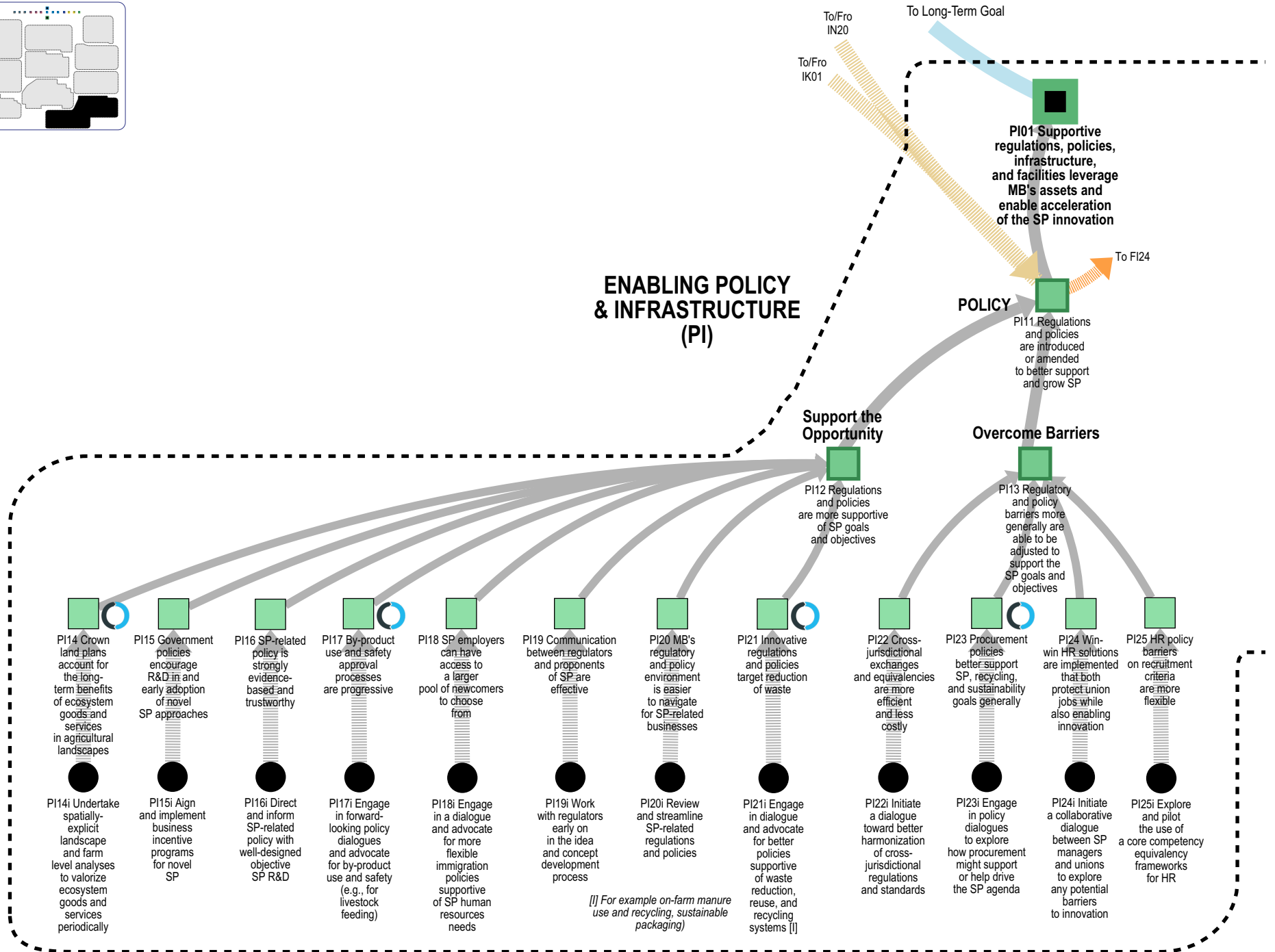
**WF16i Develop and deploy rapidly, and iteratively improve a minimum viable core competency product for the SP sector [9]**







## ENABLING POLICY & INFRASTRUCTURE (PI)



# ULTIMATE BENEFIT



**BE01 Manitoba proudly leads Canada and the world as an innovative model for high-value sustainable protein that nurtures and benefits all people, the local environment, and the climate**

## Penultimate Benefits

### The Manitoba Brand



**BE02** MB is regarded as a sustainability leader – in Canada and globally - and is a sustainable protein supplier of choice



**BE03** Public knowledge of and trust in the agriculture and food sector is greater



**BE04** MB contributes to UN Sustainable Development Goals



**BE05** MB is globally competitive and secures new customers and markets



**BE06** MB's economy grows with increased profitability, new business creation, and increased high-value direct and indirect jobs



**BE07** MB attracts and secures new talent

### Social



**BE08** MB communities are more resilient and vibrant



**BE09** MB's agriculture and food workplace is safe and healthier for employees



**BE10** Reconciliation with Indigenous Peoples is advanced

### Consumers



**BE11** Consumers benefit from having a trusted and healthy food producer



**BE12** GHG emissions are reduced and carbon sequestration is maximized



**BE13** MB is better able to withstand water-related climate change impacts

### Climate Change Mitigation / Adaptation

### Local Environment

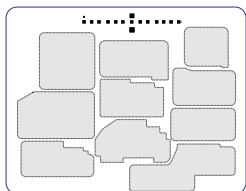


**BE14** The local environment is strengthened with enhanced ecosystem services, improved biodiversity, improved water quality, and reduced waste

# LONG-TERM GOAL



**LTG01 Through strengthened collaboration and accelerated innovation, Manitoba realizes its collective and equitable potential to produce protein that is diverse, high quality, healthy and increasingly sustainable**





# SUSTAINABLE PROTEIN SUMMARY DOCUMENT

## A COLLABORATIVE ACTION FRAMEWORK

**INVEST.  
BUILD.  
GROW.**  
MANITOBA



Functional Area (FA)	FA Target Outcome
Sustainable Protein Industry (SP)	Manitoba produces quality, diverse and increasingly sustainable protein (SP01)
Measurement, Monitoring & Verification (MMV)	Manitoba and individual actors in the SP system measure, report, and value respectively their collective and individual sustainable protein activities and make adjustments accordingly (MMV01)
Soil, Ecosystems & Biodiversity (SE)	Manitoba's agriculture's soils, ecosystems, animals, and biodiversity provide ecosystem goods and services; are healthy, resilient and productive (SE01)
Innovation (IN)	Innovation delivers more impactful SP activities and grows globally competitive innovative enterprises (IN01)
Finance (FI)	Collaborative SP initiatives and businesses are financed for success and growth (FI01)
Branding, Communication & Marketing (BM)	A strong, sustainable protein brand distinguishes Manitoba products, builds trust, inspires action and creates value (BM01)
Working Together (WT)	All contributors to the SP initiative work together effectively, driven by a shared purpose, and underpinned by common values and principles (WT01)
Information & Knowledge (IK)	Contributors to the SP initiative are able to have appropriate access to relevant, reliable, and usable information, knowledge, and intellectual property to advance (b) the SP agenda (IK01)
Workforce (WK)	A sustainable workforce with the knowhow work together to support and accelerate innovation across the SP sector (WK01)
Enabling Policy & Infrastructure (PI)	Supportive regulations, policies, infrastructure, and facilities leverage MB's assets and enable acceleration of the SP innovation (PI01)

### Accelerating Innovation to Realize Manitoba's Impact Potential



NOTE: This logic model is derived from a more detailed Impact Map. Numbers in parentheses refer to the Impact Map. Please refer to the Impact Map or associated Compendium for important definitional notes.

# Manitoba Protein Advantage Strategy

Developed under the guidance of Manitoba Agriculture and Resource Development and the Manitoba Protein Consortium.

March 2021 ver.

## Members of the Design Team

This Strategy was co-created through the generous contributions of a diverse Design Team:

Chris Anderson - *Protein Industries Canada*

Dominique Baumann - *Roquette*

Sav Bellissimo - *Federated Co-op Ltd.*

Carson Callum - *Manitoba Beef Producers*

Tim Faveri - *Maple Leaf Foods*

Bruce Hardy - *Myera Group*

Wayne Hiltz - *Manitoba Chicken Producers*

Jim House - *University of Manitoba*

Marcel Joaquin - *IQdigitec Inc.*

Egbert Frank Knol - *Topigs Norsvin*

Susie Miller - *Canadian Roundtable for Sustainable Crops*

Duncan Morrison - *Manitoba Forage & Grasslands Association*

Lee Anne Murphy - *Protein Highway*

Henry Rowlands - *Detox Project*

Denis Tremorin - *Pulse Canada*

David Weins - *Dairy Farmers of Manitoba*

Robin Young - *Food Development Centre*

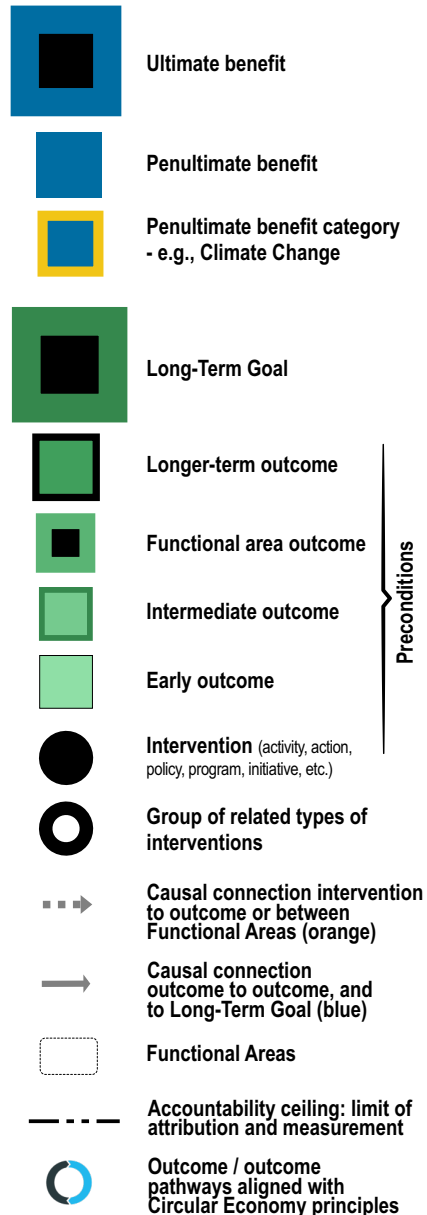
Consulting led by  
**Sustainable Growth Co.**  
[www.sustainablegrowth.ca](http://www.sustainablegrowth.ca)

Outcome Mapping led by  
**R. Keith Jones & Associates**

**Challenge Dialogue System® (CDS)**  
[www.challengedialoguesystem.net](http://www.challengedialoguesystem.net)

This Collaborative Outcome Change Framework used  
*Theory of Change* methodology  
and *Kumu* online system mapping software

## Legend



## Important Definitional Notes

**SP** - Sustainable Protein (as in Initiative/ Sector / System including often the closely associated agriculture and food system / sector)

[1] Principles of Reconciliation as described in "What We Have Learned - Principles of Truth and Reconciliation (pp3-4), 2015. Truth and Reconciliation Commission of Canada.

[2] Circular Economy principles: A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.

[3] Fit-for-purpose means tabular, spatial, meta and are forms of information and knowledge that are relevant, authoritative, complete, accurate, integratable, inoperable, and affordable.

[4] 21st Century competencies involve the ability to meet complex demands, thrive in a world where change is constant and continuous learning draws on many different complementary of skills such as: learning - critical thinking, creativity, collaboration, innovation, self-direction, accountability, and communication; literacy - digital information, media, technology; and life skills - flexibility and adaptability, leadership, initiative, productivity, and social skills and cross-cultural interaction.

[5] Sustainability strives to attain balance across four dimensions: (a) place minimal pressure and impact on the environment; (b) promote all aspects of an individuals health and well being; (c) be accessible and culturally acceptable; (d) be economically viable and affordable (source FAO, WHO).

[6] For example, to inform, advance, and communicate policies, practices, research, innovative enterprise, industry, marketing, measurement and valuation, consumers, and the public.

[7] For example, indigenous people with traditional knowledge, scientists and researchers, analysts, marketers, practitioners, policy-makers, communicators, management-planners, etc.

[8] UN SDG goals, and in particular #4 - Quality Education; #5 - Gender Equality; #8 - Decent Work and Economic Growth; #10 - Reduced Inequalities; and #16 - Peace, Justice, and Strong Institutions.

[9] This intervention and outcome draw on the Conclusions - Other Considerations section of a 2017 report titled "Matchup: A Case for Pan-Canadian Competency Frameworks" by the Canada West Foundation.

[10] OCAP™ principles are complied with regarding the right of First Nations to own, control, access, and possess information about their peoples.

