Integrated Farm, Energy, Water & Carbon: Market and Infrastructure Development Program

Securing Wisconsin Agriculture's Competitive Advantage in the 21st Century

Goals

- Increase Wisconsin **animal agriculture profitability** and farm resilience (stem the loss of farms)
- Provide a system that **recognizes and rewards** farms for environmental **stewardship**
- Position producers to command **premium prices** in national and global markets
- Improve local and regional **energy resilience**
- Help Wisconsin and its businesses achieve economic and climate goals

Means

- **Voluntary** farm **carbon** intensity (CI) **accounting** and reporting
- **Clear guidelines** on options for CI reduction and farm benefits
- **Regulatory changes** enabling expanded use of **distributed energy resources (DERs)**
- **Biogas, nutrient management and water quality** infrastructure
- **State-sanctioned** product **carbon labeling** program

Farm Benefits

- **Energy Efficiency / Lower operating costs**
- **On-site Energy / Costs offset, income streams**
- **Waste-to-Energy / Derive benefits from manure management**
- **Nutrient/Water Management / Costs offset, lower fertilizer and water costs**
- **Carbon Markets / Income streams**

Corporate Sustainability Markets: Carbon Labeling & Scope 3 Compliance

State Benefits

- Energy Efficiency / Reduced energy demand
- On-site Energy / Grid stabilization, services
- Waste-to-Energy / Renewable energy from needed processes
- Nutrient/Water Management / Water quality improvements, ecosystem services
- Carbon Markets / Expanded options for CI reduction

Market Driven Energy/Carbon Policy

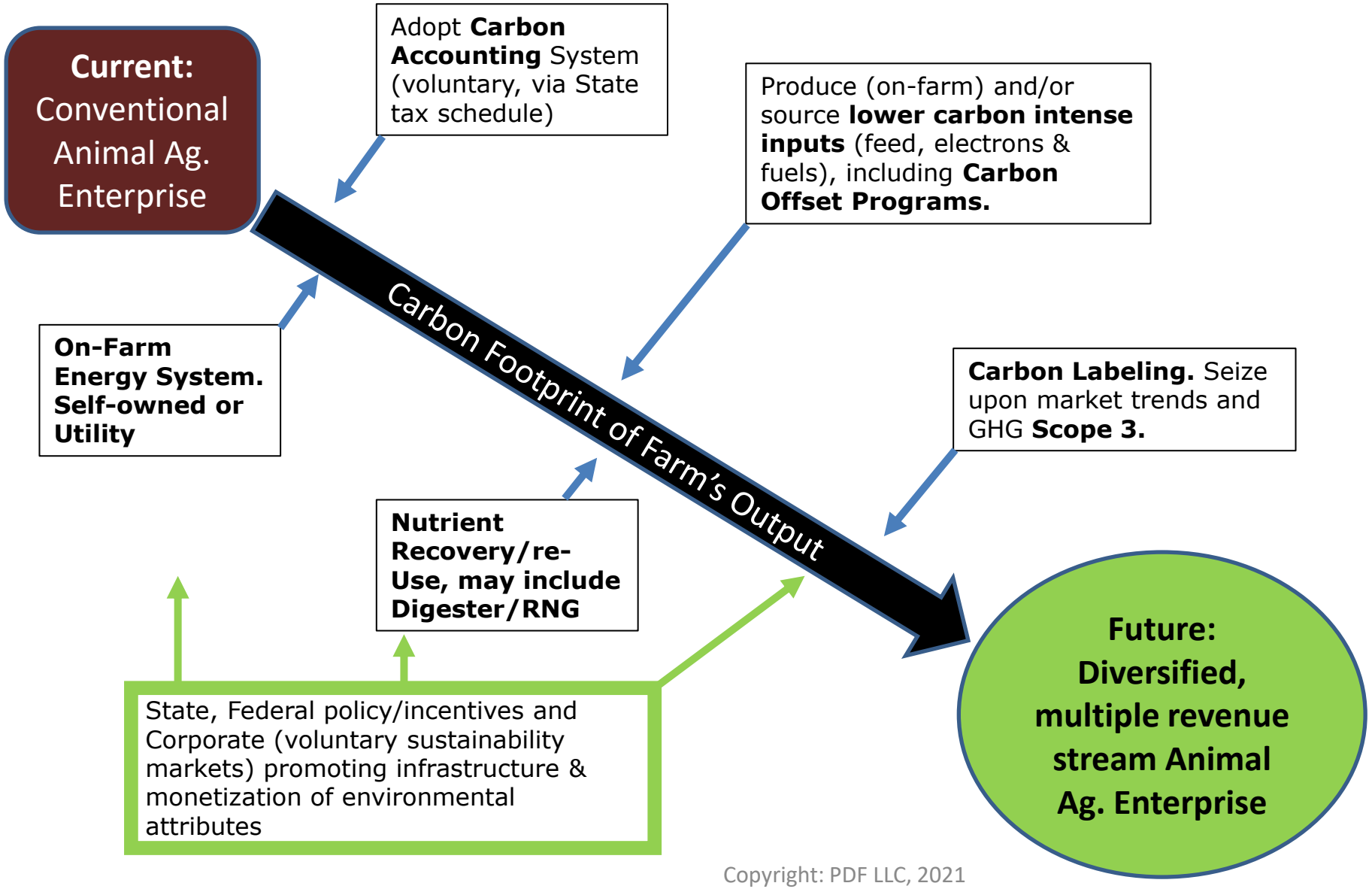
While regulated, incentivized and compliance markets have produced tremendous technical innovations and widespread adoption of sustainable practices and investments (e.g. renewable energy), looking forward **Consumer and Business Markets represent the most reliable, long-term growth opportunities for sustainable products and services**.

Products which satisfy Business/Individual buyers' specifications AND carbon accounting expectations (Greenhouse Gas Protocols, Scope 3, Supply-Chain) will have a competitive advantage. Supply-chain sustainability, carbon-intensity represents the most significant trending market opportunity for Wisconsin agricultural producers.

This policy program attempts to accomplish two fundamental objectives to enhance Wisconsin Animal Agriculture's competitive advantage:

1. Develop and establish a State sanctioned carbon accounting and labeling system for Animal Agriculture Operations that meet/exceeds market expectations
2. Manage, modify and promote policy, administrative rules and budgetary efforts to provide Wisconsin Farmers the broadest possible set of tools to optimize their carbon footprint, improve profitability and secure position in Greening Markets.

Supporting Wisconsin Farm Carbon Management through Profitable Tools & Pathways



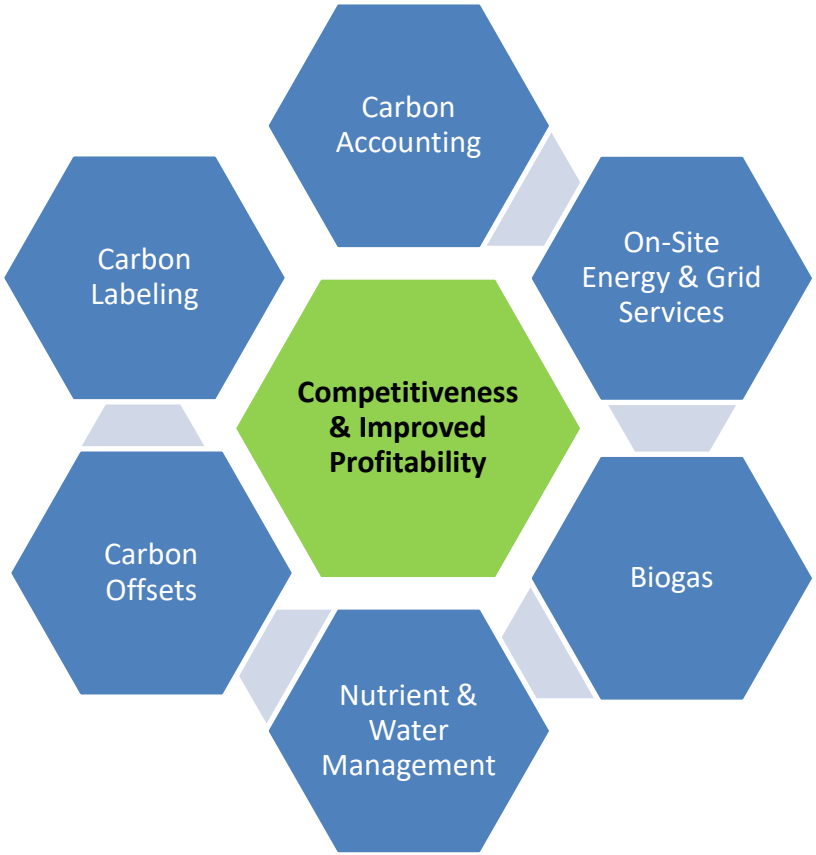
Executive Summary

This program promotes and supports **voluntary measuring, managing and monetizing the value of carbon at the farm**. Valuing what's already accomplished, integrating assets and practices to reduce carbon intensity and add (sometimes significantly) to the bottom-line while addressing risks (compliance, price and technical).

Using Wisconsin animal enterprises as initial "targeted" industry, the program promotes deployment of off-the-shelf technology and proven practices to support farmer's capacity to optimize benefits from carbon management.

The fundamental **technology necessary to carbon economics on the farm is accounting**, specifically carbon accounting. Accounting for the metrics which verify a difference in your farm product's carbon intensity. From this difference the value of your product and enterprise increases.

Managing the Wisconsin farm's carbon footprint requires a set of feasible and flexible tools, including:



Executive Summary

1. A simple, voluntary **State sanctioned, tax reporting based-carbon accounting system** that substantially meets the verification standards and metrics necessary to demonstrate carbon stewardship and generate carbon attributes. Reporting farm's carbon footprint needs to be straight-forward and avoid complexity/high transaction costs. USDA crop production surveys are representative models for the proposed State tax documents;

2. **On-farm renewable energy** opportunities, for supplying both in-house needs, improving efficiency and for serving (and profiting from) the grid;

3. Rules, regulations and enhanced infrastructure to convert animal wastes into **Renewable Natural Gas (RNG)**, thermal/power sources and recovered nutrients;

4. Agency support and assistance enabling farms to benefit from **Carbon Offset Markets**, which compensate for prescribed land-use changes and water quality practices. Support commercial relationships between Farmers similarly managing their enterprises for carbon optimization, matching buyers/sellers and providing educational services;

5. **Wisconsin Carbon Labeling program** (voluntary). Differentiating Wisconsin Animal Ag products within those markets seeking sustainable practices and attributes. Enhance Wisconsin products value with Companies addressing GHG Protocols and seeking Scope 3 attributes.

Note: The proposed voluntary Carbon Accounting & Carbon Labeling aspects of this program are reflections, in many aspects, with existing Ag Product Traceability standards and practices.

Executive Summary

The environmental ("carbon") attributes, and the State sanctioned basis behind them, will serve the Wisconsin farm's ability to benefit in the market. Corporate buyers with sustainability objectives often adhere to global GHG protocols as basis for substantiating their claims (Environmental, Societal Governance, ESG, reporting). These ESG reports identify the activities of the company in reducing emissions: Scope 1 – emissions from Company's "stacks;" Scope 2 – emissions from energy purchased by Company from energy providers (e.g. carbon in electricity) and Scope 3 – emissions attributed to Company's supply-chain. Scope 3 is the biggest challenge. Trustworthiness of ESG claims is key. A State sanctioned process adds credibility.

By addressing on-farm carbon footprint, both for itself and for the buyers of the farm's products, Wisconsin farmers can take a leadership position by supporting their Customer's ESG efforts.

Wisconsin farmers' Carbon Labeling becomes an industry standard.

The following slides attempt to illustrate the overall intent of the proposed program, provide background and context, present options for managing carbon intensity and pathways to monetize – thus adding to the Wisconsin farm's bottom-line.

Policy Objective:
Make Sure Tool Kit Works to Farmers' Benefit

Step One: Assess Farm's Status Quo – Financial/Production Information PLUS Carbon Accounting (via tax schedule)

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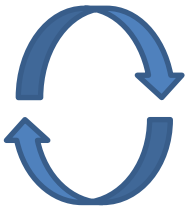
Current Carbon Footprint of Farm's Output



"New" Carbon Footprint of Farm's Output, Presented in a Manner Sustainability Markets Want

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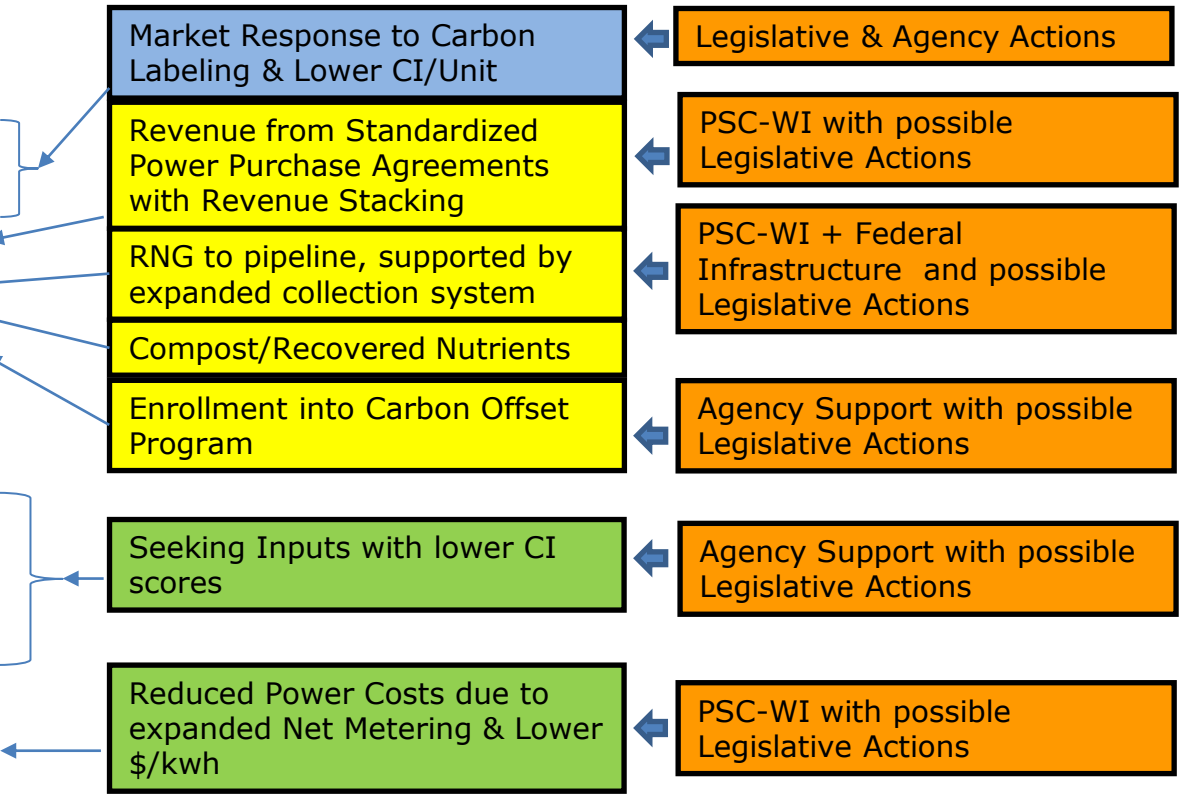
Step Two: Apply Tool-kit
- Energy Efficiency
- On-site Energy
- Waste-to-Energy
- Nutrient/Water Management
- Carbon Markets

Choosing tools have positive cash flow to farm

Potential Impacts & Policy Actions

Comparative Dairy Farm Income Statement	Conventional	Energy/Carbon Optimized
Milk Sales	a	a+
Dairy Beef	b	b+
Grains & Forage	c	c+
Power & Grid Services		E
Biogas		F
Nutrient Sales		G
Carbon Offsets		H
Other	d	d
REVENUE	XXX	XXX++++
Feed & Health	j	j +/- lower CI feeds
Labor	k	k
Fuels	l	l +/- lower CI fuels
Seed, Fertilizer & Crop Treatments	m	m +/- lower CI inputs
Electricity	n	n > new rate
Rents	o	o
Repairs/ Maintenance	p	p
Supplies	q	q
Other	r	r
EXPENSES	YYY	YYY +/- lower CI inputs
EBDITA	ZZZ	ZZZ +/-



The Ask

1. Adoption of FERC order 2222 at State Level, including Statewide inter-operability platforms, governance and commercial terms.

2. Adoption of Statewide Net-metering Tariff policy allowing for 100% peak for systems under 1.5 MW

3. Development of standardized PPAs and/or Design-Build-Own-Operate programs, per PSC-Wisconsin criteria, by all State distribution utilities for DER systems, under 1.5 MW capacity, including parallel generation & revenue from grid services. Not requesting wheeling or 3rd party ownership

4. Adoption of Statewide mandate, specifications and tariffs for biogas pipeline insertion/interconnection

The Ask

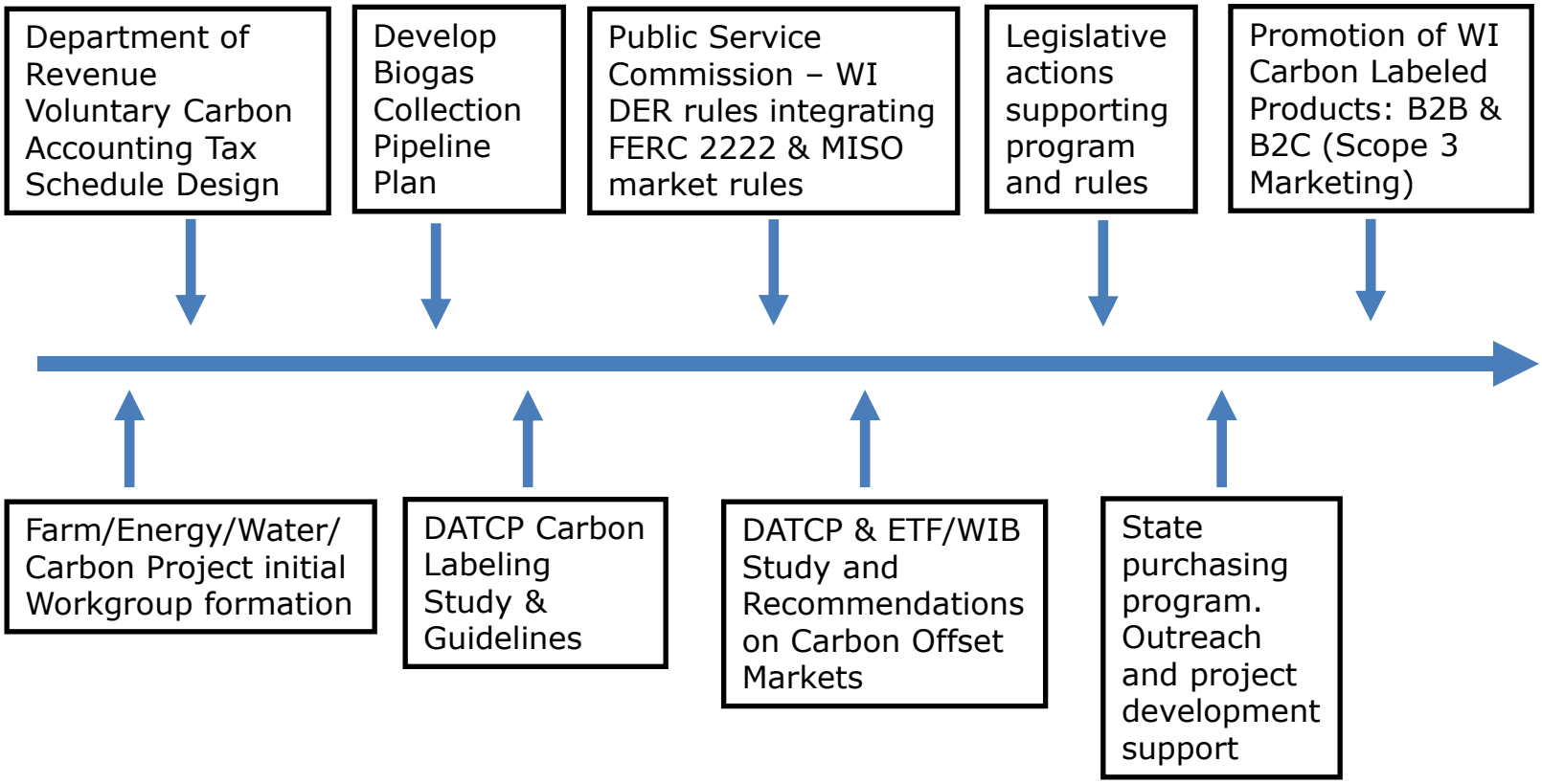
5. State infrastructure request from Federal sources to support:
    a) DER interconnections at farm/small community level
    b) Biogas treatment, collection and interconnection infrastructure

6. Development/adoption of standardized carbon accounting methodologies for State income tax filing systems for farming operations.
    a) Collaboration with UW for development of Statewide training and support system for carbon accounting practices.
    b) Absent DOR tax reporting, DATCP program.

7. State supported “Buy Sustainable Wisconsin” farm products targeting food processors, distributors and retailers.

8. Develop Carbon Labeling program to be administered by DATCP

Program Development and Deployment: Key Event (relative) Timetable



Program Development & Support

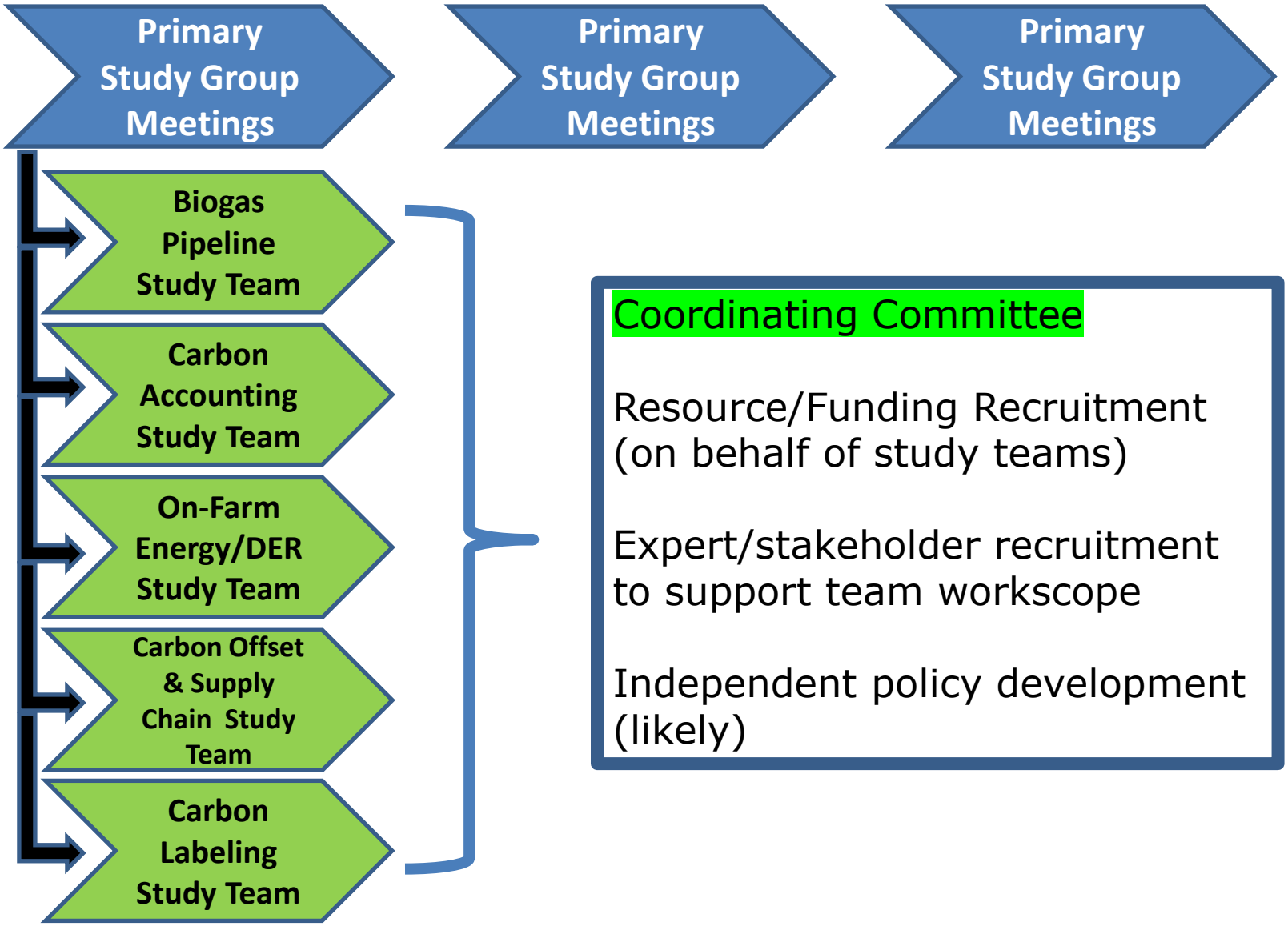
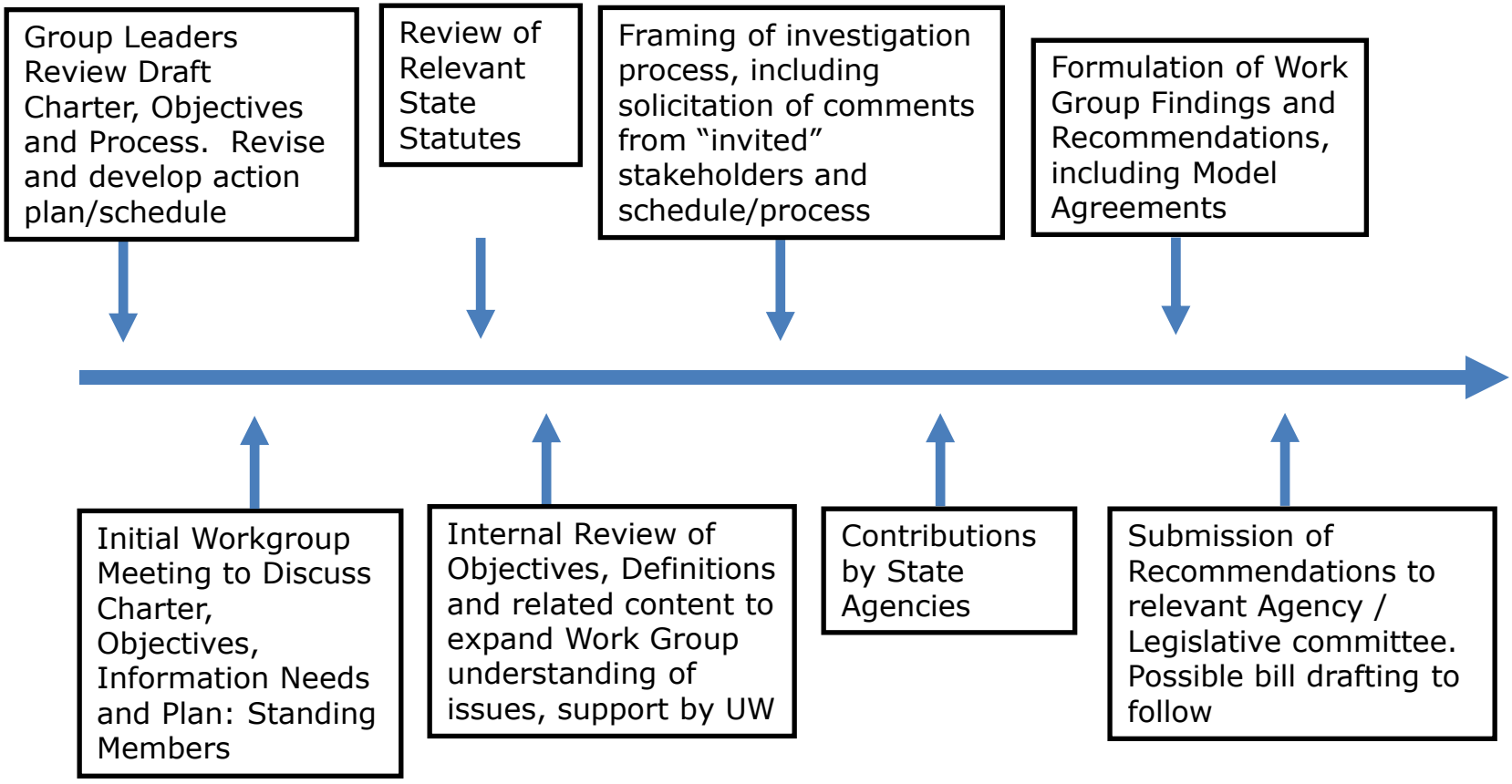


Illustration: Work Group Process



Program Development and Deployment: Key Events & Milestones

Recommended Priority of Actions

1. Department of Revenue/DATCP feasibility study of voluntary tax schedule meeting carbon footprint verification for farming activities and production. Recruit contributors and mobilize study group, including but not limited to Third Party Carbon Verification Service Companies
2. Investigation and planning for biogas collection infrastructure system and Federal funding request. Address biogas transport in gas pipelines, including interconnection standards and tariffs.
3. Evaluation of parallel revenue generation, DER aggregation and grid integration, and adoption of standardized commercial agreements. Address buy-back/net metering practices within Wisconsin and within MISO market rules/guidelines anticipated from adopting FERC 2222
4. Evaluation of product/service Carbon Labeling practices as related to farm products and processed food/ingredient labeling

Program Development and Deployment: Key Events & Milestones

Recommended Priority of Actions (Proposed)

5. DATCP study group investigating land-use based carbon offset markets/opportunities for Wisconsin Ag/Forest landowners/managers.
6. Legislation research and action addressing:
    a) Authority to DOR for the development of voluntary carbon accounting tax schedule
    b) PSC-WI: DER deployment, operations, aggregation, grid integration, power purchase agreements (including parallel revenue sharing) and resulting implications on farm product carbon intensity
    c) PSC-WI: Gas production and transport standards, gas transport/distribution tariffs, associated product/operation liability
    d) Carbon Content Labeling Standards
    e) State participation or involvement with land-use-based Carbon Offset Markets