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focus on energy℠
Partnering with Wisconsin utilities

Rooftop Solar Potential Study
First Stakeholder Meeting

May 27, 2021

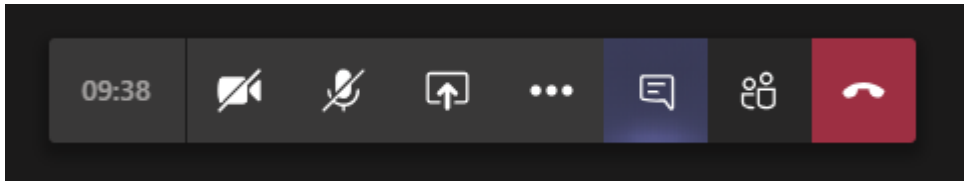
Webinar Logistics & Guidelines

All parties except presenter muted to avoid unnecessary noise distraction

If you have an immediate question, or audio or video is poor please send an instant message to the moderator

We will stop today's presentation several times to take questions

Your Settings



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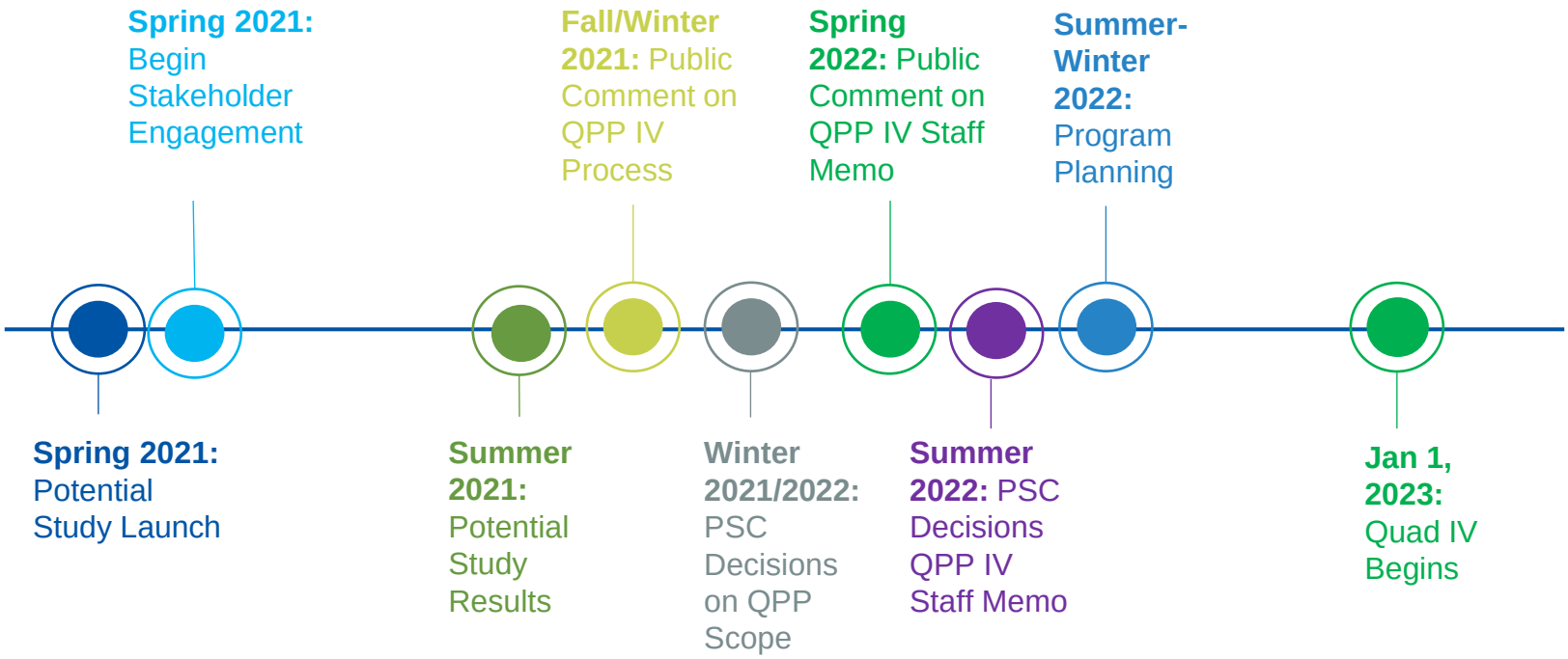
Solar Study Integration With Program Planning

Solar Potential Study and Stakeholder Engagement will inform Quadrennial IV Planning Process (QPP IV)



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Cadmus Potential Study Management Team

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Income Qualified
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Agenda

1

Stakeholder Engagement

- Objectives
- Future meetings

2

Solar Potential Study Scope

- Types of solar potential estimated
- Segmentation
- Cost effectiveness comparison
- Income-qualified research

3

Study Methodology

- Modeling approach
  - Technical potential
  - Market potential
  - Economic scenarios
- Income-qualified research

4

Q & A

1. Stakeholder Engagement

Stakeholder Engagement Objectives

1

Solicit Feedback

- Three stakeholder meetings planned
- Opportunity to comment on results and draft report

2

Capture Stakeholder Perspectives

- Provide insight to enhance the potential study

3

Create a Foundation for Broader Conversation

- Opportunity for mutual learning
- Shared framework of collaboration

Cadmus will:

- Share key information (data assumptions, draft reports)
- Post all presentations and any relevant documents on the stakeholder website

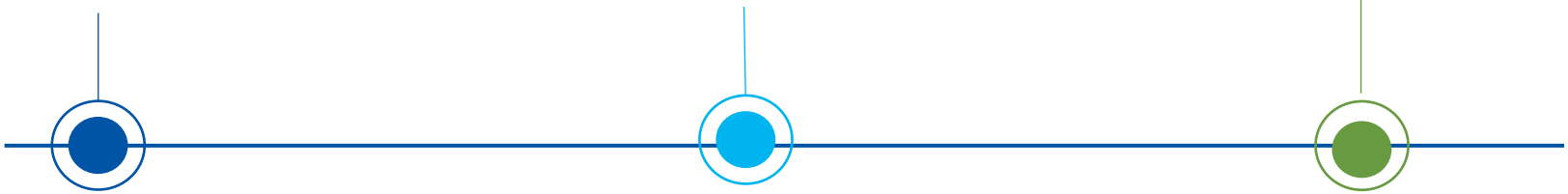
Stakeholder Meetings

Proposed meetings timed to present key data and discuss next steps

Kick-off (Today)
Overview of Potential Study and Approach

Model Inputs and Scenarios (June 2021)
Review model inputs and discuss economic scenarios

Draft Results (July 2021)
Present draft results of study



2. Study Scope

Study Scope

Estimate Rooftop solar Potential

- Technical and market potential through 2034
- Results by county and utility service area
- Results by building segment (commercial and residential)
- Results for income-qualified customers

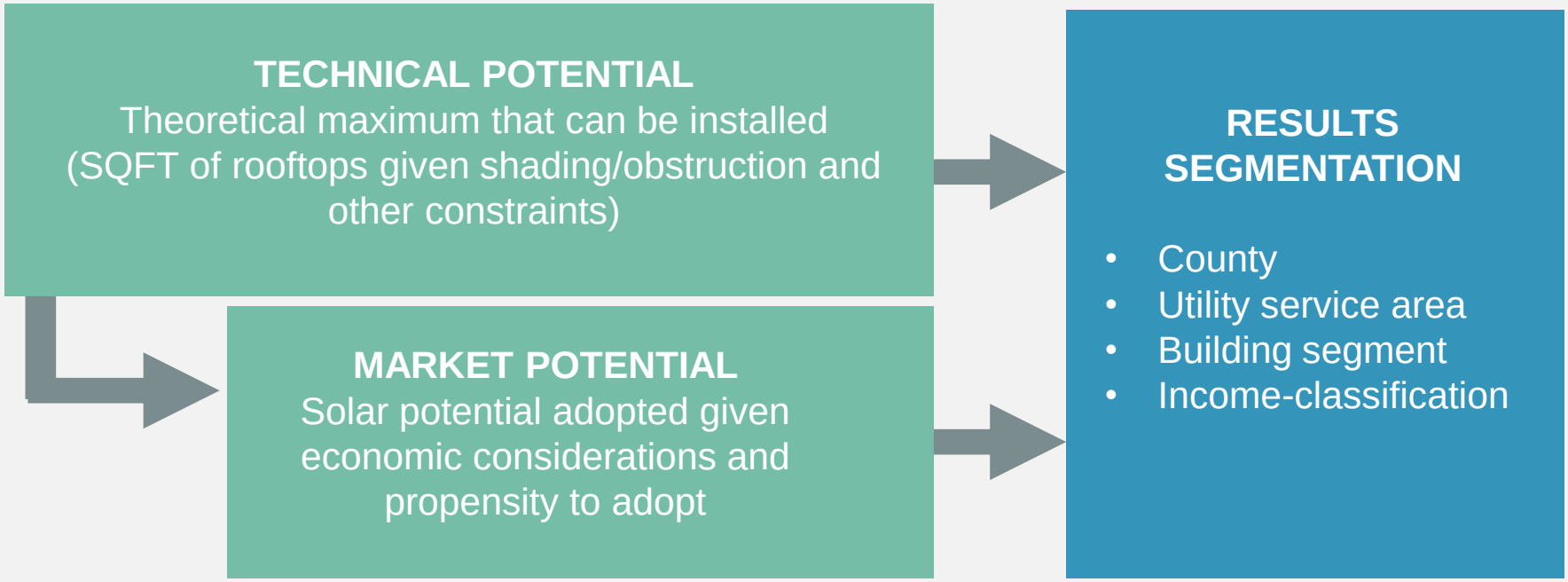
Cost-effectiveness

- Calculate mTRC for residential and commercial solar systems
- Compare solar mTRC to 10 selected EE measures (selected w/ stakeholder input)

Income-Qualified Research

- Barriers and opportunities research
- Equity framework
- Policy analysis

Types of Potential Estimated



Due to rapidly changing economics of distributed solar systems the methodologies for estimating adoption potential differ from the energy efficiency study

Solar Potential Study does not provide program targets

Program targets are developed based in part on study results through comprehensive planning process

Income-Qualified Research

Qualitative Research

Information for effective program design

Interviews and Literature Review

Benchmarking of program designs

Identification of barriers and opportunities

Policy Research

Review of WI and Focus on Energy policies

Equity Framework

Infographic

Guiding principles and questions for policy at state, local, and utility-level

The Floor is Open – Feedback Welcome!

Questions/Comments?

- Stakeholder meetings & objectives
- Scope
- Other questions?

Please add your questions to the meeting chat: we will address questions in the order that they are received & provide opportunity for clarification.

Please remain muted until your question is announced.

3. Methodology

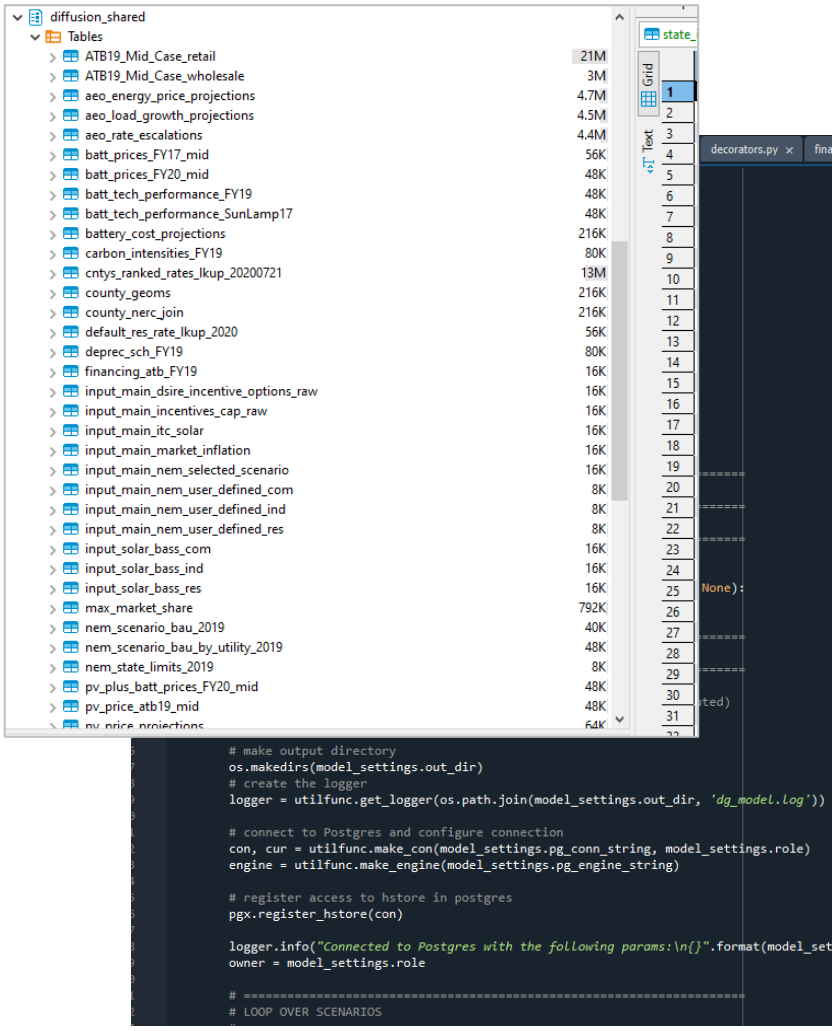
Modeling Approach – NREL dGen

Overview

- Open-source, bottom-up, agent-based market penetration model
- WI-specific data provided and adjustable
- County-level resolution
- Simulates market adoption

dGen Applications

- *2020 Standard Scenarios Report: A U.S. Electricity Sector Outlook*
- *Envisioning a low-cost solar future: Exploring the potential impact of Achieving the SunShot 2030 targets for photovoltaics*
- Many others



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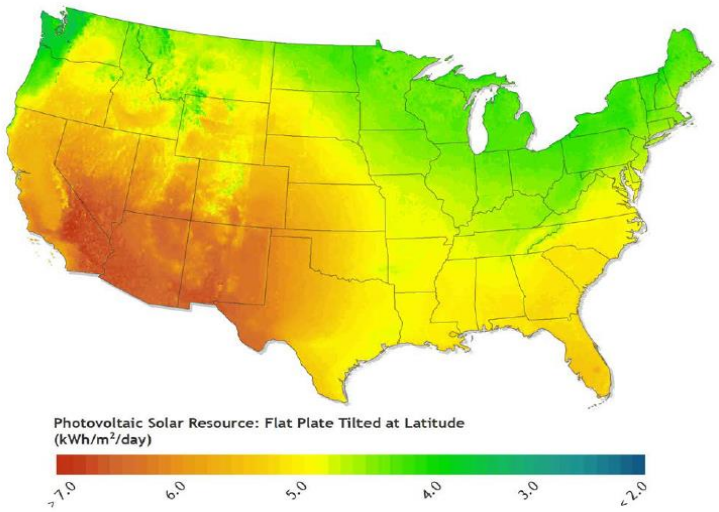
Modeling Approach – Technical Potential

dGen

Lidar, weather, and population data to estimate developable roof area



Source: dGen Model Documentation 2016

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Review & adjust data inputs as needed

- Population estimates and distributions
- System efficiency

Some post-processing of results as needed (solar production for technical potential)

Modeling Approach – Market Potential

dGen

Overview of Approach

- Model for residential and commercial sectors
- Performs economic calculations incorporating costs, retail rates and incentives
- Calculates adoption through Bass-style diffusion
- Bass coefficients calculated by NREL

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Review data inputs & adjust as needed (Electric rates, policy parameters)

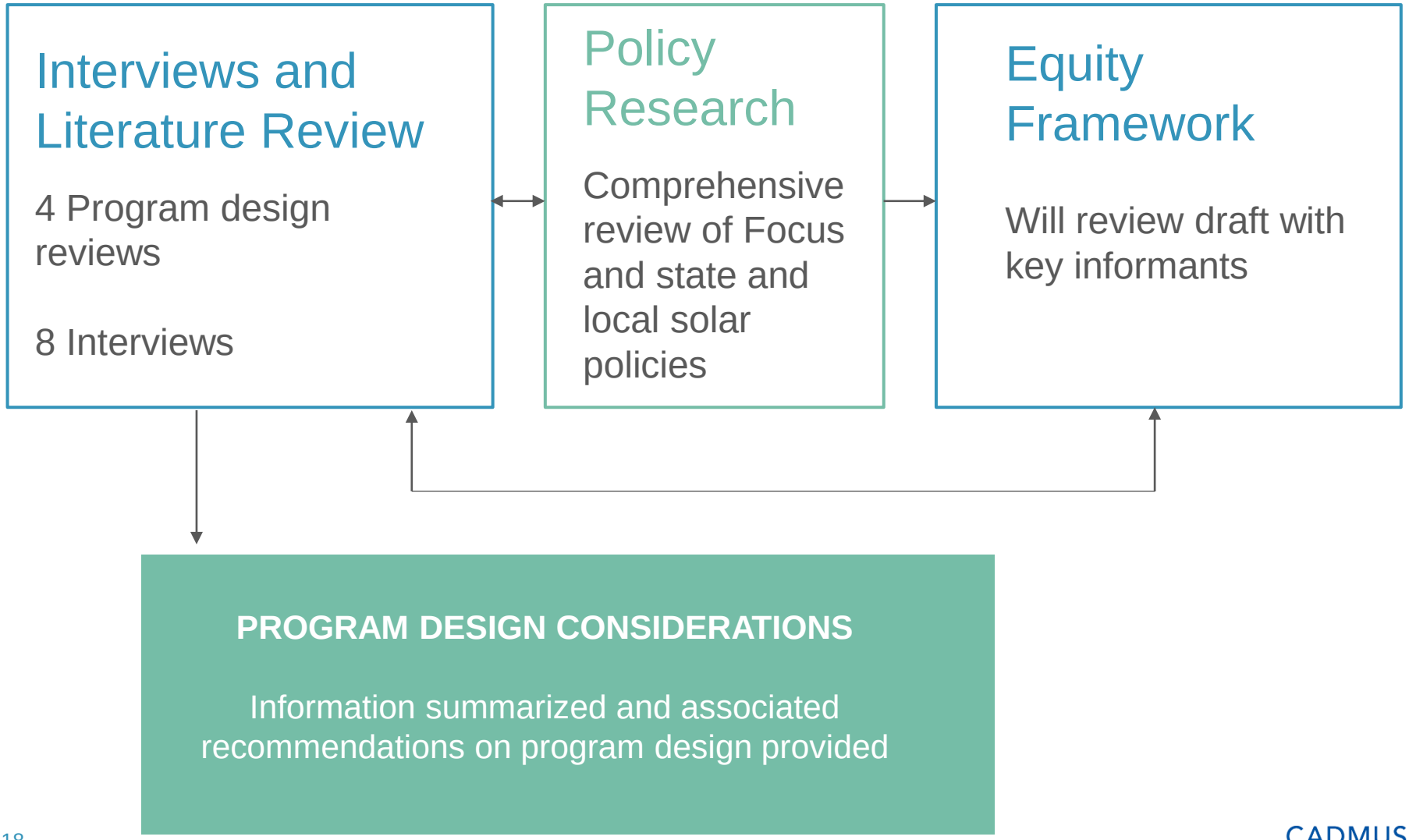
Adjust adoption parameters as required (low-income populations)

Economic Scenarios

Four scenarios (to be discussed with stakeholders)

- ITC / incentives / net-metering rates, electric costs could be scenarios

Income-Qualified Research



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The Floor is Open – Feedback Welcome!

Questions/Comments?

- Modeling?
- Approach?
- Other Questions?

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5. Next Steps

Thank You

Next Stakeholder Meeting:

Modeling (June/July)

Cadmus will present modeling inputs and solicit feedback on types of economic scenarios to run

Your feedback and input is important, please send us feedback

Other feedback opportunities

Email **Amalia Hicks** at Cadmus (amalia.hicks@cadmusgroup.com)

or contact **Mitch Horrie** at PSC (Mitch.Horrie@wisconsin.gov)