

Agrivoltaics in the SMART Program

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Introduction

- SMART is a voluntary declining incentive structure program in which the utility companies compensate solar system owners per kWh generated
- Certain system types and land uses are more highly compensated through "adders"
 - Building mounted
 - Brownfields
 - Landfills
 - Canopies
 - Agricultural (ASTGU)



Relative Costs & Compensation Values for Systems >25 kW AC

System Type	Building Mounted	Brownfield	Landfill	Canopy	ASTGU
Average Installation Cost (\$/watt)	\$2.63	\$2.15	\$2.01	\$3.60	\$2.51
Average System Size in SMART (kW AC)	186	2,240	2,260	438	1,400
Total System Count in SMART	1,116	12	37	221	12
Compensation Rate Adder Value (\$/kWh)	\$0.02	\$0.03	\$0.04	\$0.06	\$0.06

Program & ASTGU Statistics

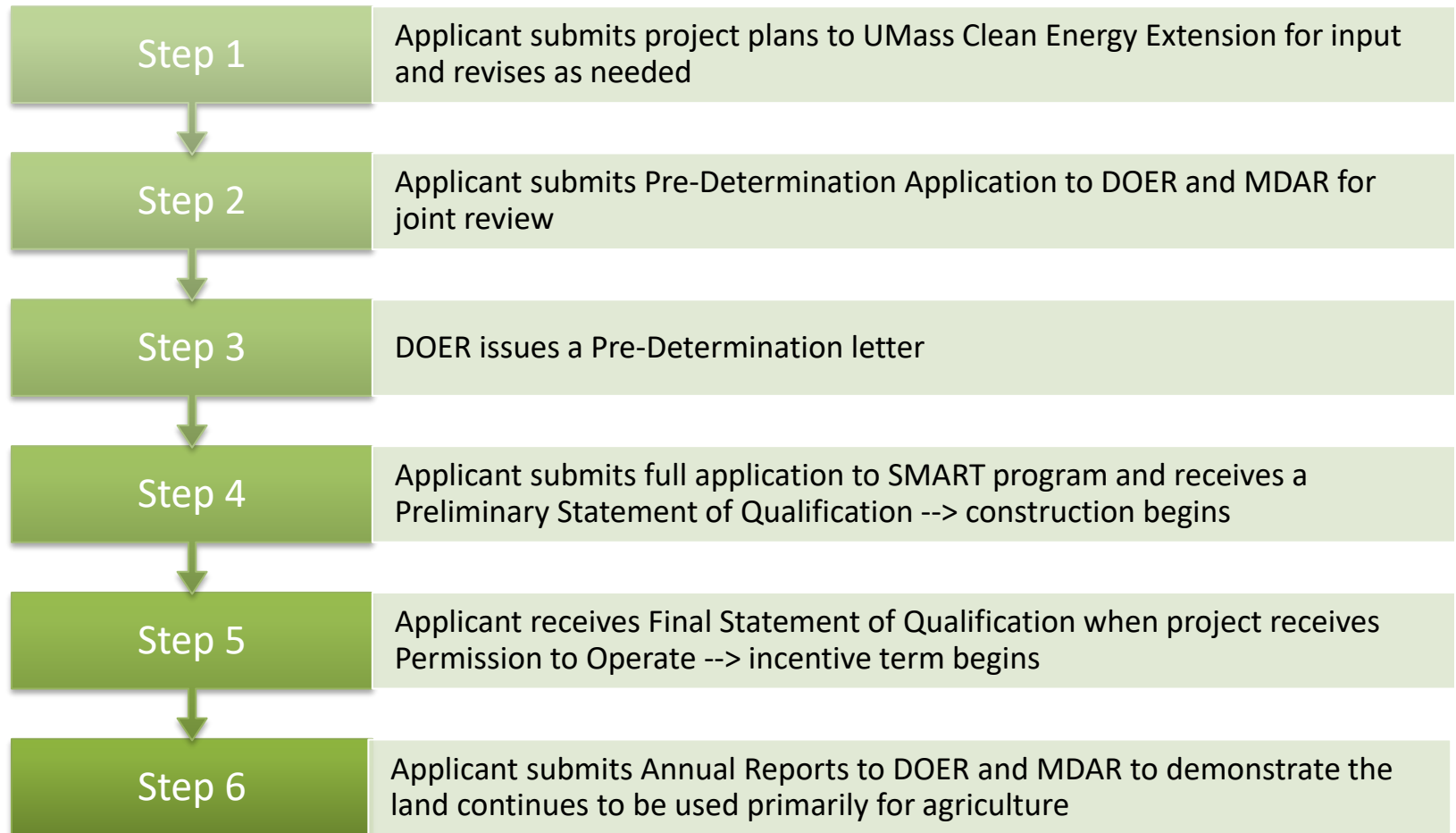
SMART is a 3200 MW program with a goal of 80 MW of ASTGU capacity --> 2.5% of total

12 projects qualified in SMART with the agricultural adder --> 17.14 MW, 1.03% of total approved capacity

15 projects that have received Pre-Determination letters of eligibility but have not applied yet --> 29.79 MW total

Existing project types: hay, livestock grazing, cranberries, vegetables, honey

Project Review Process & Ongoing Requirements



Key Regulatory Requirements



System will not interfere with continued use of land for agriculture



Designed to optimize balance between electricity generation and agricultural productivity



Raised structure that allows for continuous growth of crops underneath panels

Challenges & Opportunities of Dual-Use

Challenges

- Extended interconnection timelines
- Optimizing solar production while maintaining agriculture as primary use
- More research and data needed

Opportunities

- Additional revenue for farmers
- Contributing to Commonwealth's decarbonization goals
- Keeping land in agriculture

Looking Ahead

Technical Potential of Solar Study

- Parcel-by-parcel analysis of the total technical potential for solar installation and the suitability for solar (biodiversity, embedded CO₂, ecosystem services, grid infrastructure, etc)
- Online mapping tool to examine suitability across variety of metrics

Commission on Agrivoltaics

- Examine research and data, solicit stakeholder input, and develop recommendations for legislative and regulatory changes
- Consider land use impacts, water quality, soil health, food production, carbon accounting

Ongoing research and data gathering

- Annual reports for SMART projects on crop and/or herd productivity, needed changes
- UMass Clean Energy Extension Dual-Use Research