SOLAR PHOTOVOLTAIC (PV) DEVELOPMENT BUSINESS CASE TEMPLATE

OVERVIEW

The PV Development Business Case serves as the guiding framework for solar photovoltaic (PV) development for schools. This framework is intended to be utilized by schools that have an interest in a solar PV system and *already* have the necessary leadership in support of the project. The culmination of the Business Case will demonstrate an execution plan for a potential PV project to move forward with procurement. It is intended to help guide your school's development process by helping to identify and avoid major roadblocks to procurement. It is intended to be completed in tandem with the *PV Development* course and is best completed by a solar planning team including school administrators, staff, teachers, sustainability teams, student groups, facilities staff, etc.

The Business Case is designed to:

1. Become activated when a preliminary financial case has been demonstrated/approved and the necessary leadership supports project development
2. Aggregate necessary information for PV project development to go to effective procurement
3. Engage key project partners in defining a shared vision for PV development and investment

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THE BUSINESS CASE SHOULD INCLUDE THE FOLLOWING:

School PV Development Team

Describe the team of executive leadership, school board members, faculty, staff, students, and other stakeholders that will lead the development of the Business Case. This should include, at minimum:

- Identification of PV development planning team
- Description of your school's PV development planning team, including roles and responsibilities of team members who will need to perform the following:
    - Origination – policy and incentive analysis, energy analysis, site selection, economic analysis, feasibility design layout, permitting and interconnection qualification
    - Development – land development studies, permitting, interconnection, stakeholder confirmation, financing confirmation.
    - Financing – confirmation of financing structuring and direction, procuring financing, financing negotiations, incentives, additional funding opportunities.
- Description of business relationships between your school, utilities, solar development companies, project investors and other stakeholders
- Description of student engagement, retention strategy, and any benefits provided to students or other stakeholders for their participation
- Identification of professional development needs of team members and strategies to improve capacity for PV development and investment

RESOURCES TO UTILIZE

- Course presentations and associated materials

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Decision-Making Process and Key Stakeholders:

Describe the process and timeline for decision-making to receive the appropriate approvals needed to advance a PV project. Who are the key parties necessary for the project to come to fruition? This should include, if necessary:

- Identification of key positions, committees, and individual contacts
- Identification of any key concerns of priority decision makers
- Definition and timelines of meeting calendars, decision cycles, and agenda management for all relevant parties

RESOURCES TO UTILIZE

- Course presentations and associated materials

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Costs and Risk: Approvals and Legal/Regulatory Considerations

Identify the rules, regulations, procedures, and other risk factors that influence the design, siting, and financing of a PV project on school grounds and associated prosperities. This should include, at minimum:

- General utility interconnection requirements, timelines, and fees
- Permitting and inspection requirements and fees
- Planning and zoning restrictions
- State policies and incentives
- Utility tariffs and incentive programs
- School and/or district rules and procedures.
- Equipment warranties, operation and maintenance considerations, and safety requirements
- Related liens, restrictions, and agreements affecting property use
- Structural, mechanical, and environmental characteristics that increase cost or risk of the project
- Draft policy recommendations for school projects, including contractor selection, monitoring, O&M, US-made products, etc.

RESOURCES TO UTILIZE

- Utility interconnection application and process forms
- City and/or County jurisdictional zoning and permitting forms and requirements
- Federal, state and/or local government incentives and laws for solar
- Utility rate tariff and/or incentive options
- School architecture and facility operating standards and requirements
- Course presentations and associated materials

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Project Financial Goals and School Investment Opportunities

Define the possible financial structures and model financial performance for the proposed PV projects, including potential models of direct school investment. This should include, at minimum:

- Detailed description of proposed financial models, including legal, tax, and liability considerations
- Financial analysis of project benefits for each model
- Description of budget, priorities, and process for school capital investments
- Description of potential PV project investment scenario
- Funding sources (potential, confirmed, and/or preliminary)

RESOURCES TO UTILIZE

- Your school/district's finance model for investment decisions
- MREA Solar Finance Simulator at www.solarprojectbuilder.org
- MREA's Solar on Schools grant
- Course presentations and associated materials

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Descriptions of Priority PV Development Sites

Identify and describe the priority sites for PV deployment on school grounds and association properties. This should include, at minimum:

- General site description with aerial and street view maps as appropriate
- Description of current site use and development plans with copies of related documents including legal description, liens, and development plans.
- Description of relevant electrical infrastructure with specific details on suitable points of interconnection and location of substations.
- Analysis of electricity rates (and usage as appropriate) associated with proposed points of interconnection
- General system size estimate, including a general graphical representation of proposed system configuration(s)
- Estimation of system production
- General considerations for system electrical and mechanical integration.
- Description of non-financial benefits of systems, including (as appropriate) aesthetic, shading, research, carbon reduction, etc.
- General system cost estimate

RESOURCES TO UTILIZE

- Site evaluation form
- School master plans
- School map(s)
- Copies of target land and/or building lease or ownership contracts
- Copies of electrical and structural drawings for target location
- Utility rate tariff and incentive options
- Solar production models by NREL PV Watts (free online), PV Syst software, or other
- Energy Periscope Software (free trial accounts for each team from MREA)
- AutoCAD or Google Sketch Up software for design layouts
- Course presentations & associated materials

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Project Executive Summary and Timeline

Develop a draft project summary that succinctly outlines a process for campus PV deployment and investment. This should include, at minimum:

- Introduction and overview of project
- Project goals and leadership
- Description of project benefits and risks
- Key considerations for maximizing project benefits
- Recommendations for priority development sites
- Recommendations for project financial structure
- Timeline and benchmarks for project implementation

RESOURCES TO UTILIZE:

- Course presentations & associated materials

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Supporting Content

In addition to the primary document, the WI K-12 PV Development Business Case will include the following supplemental elements:

- A project narrative including an executive summary (1-2 pages) in a .doc file
- A project overview slide deck presentation in .ppt or similar file
- An Appendix including all supportive documentation

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