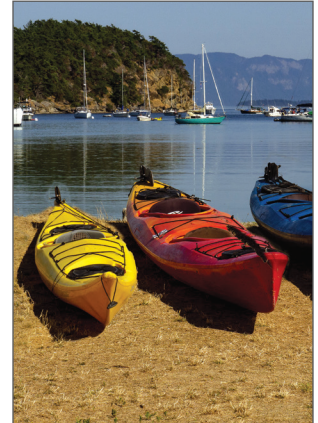


Social and Economic Data

RELEVANCE TO MARINE RENEWABLE ENERGY

The social and economic effects of marine renewable energy (MRE) must be considered in consenting/permitting (hereafter consenting) applications, as well as strategic planning processes. MRE may cause benefits or adverse effects on economies, communities, jobs, wages, revenues, social services, and community well-being. Information is needed to estimate baseline and long-term impacts and to assess social and economic changes at the local and regional scale.



STATUS OF KNOWLEDGE

MRE developments have the potential to create significant social and economic benefits such as stimulating economic development, generating revenue and employment opportunities, improving local infrastructure and services, and contributing to energy security. On the other hand, if MRE projects are not carefully located and developed, they may have adverse effects on communities, economies, and employment. This may include impacts on other marine users or important cultural areas, altering the perceived value of an area, or may adversely affect direct employment and well-being of a community.



Commonly, social and economic effects are assessed through cost-benefit analyses or socioeconomic impact analyses, which are required in some countries as part of consent applications and are often included in environmental impact assessments. Such assessments should include four basic elements:

- ◆ the expected benefits and adverse effects of the project;
- ◆ the geographic extent of project impacts, including communities within the area of concern;
- ◆ the project alternatives and how their benefits and adverse effects may differ; and
- ◆ the methods or plans to enhance benefits and limit/mitigate adverse effects.

Key economic data needed for each project and for regions under development include local employment (e.g., job creation potential, employment multiplier, gross wages), the extent of the local and regional supply chain, gross value added, exports of products and services, and economic impacts on local communities. Key social data and information include the social and cultural context (e.g., social dynamics, cultures and values, traditional activities), demographics and community structure, energy security and carbon offsets of projects, infrastructure and services, health and well-being, protected/conservation areas, impacts on other marine users, and social impacts on local communities.

MRE developments will benefit from early and consistent engagement with local stakeholders, surrounding communities, and indigenous groups, to best understand potential social and economic effects. These community members can supply a wealth of information and become important and informed allies for MRE projects.

REMAINING UNCERTAINTIES

For social and economic data to be useful, they must be collected consistently and comparably over time, put into context, and consist of both quantitative and qualitative data. Overall, it is not clear how social and economic data are collected, analyzed, and presented, and who is responsible for data collection and assessments. This uncertainty can slow consenting and, in some cases, hinder new MRE development. For best results, the responsibility for collection of strategic-level data may fall to government agencies and other organizations, while the responsibility for collection of project-level data may fall to the project developer. In addition, if governments at the appropriate level provide guidance and standard approaches to data collection, more consistent and comparable data and better assessments are likely to result.

RECOMMENDATIONS

Key recommendations to improve the collection and analysis of social and economic data for MRE include taking the following actions:

- ◆ Identify or develop tools and databases to classify key social and economic indicators.
- ◆ Identify key questions and data needs to guide data collection efforts.
- ◆ Develop incentives to collect and share MRE data across the MRE industry.
- ◆ Create flexible planning approaches to address uncertainty as projects move forward and learning increases.
- ◆ Appropriately scale MRE project impacts and data collection efforts to avoid unnecessary requirements for data and mitigation.

Ocean Energy Systems (OES)-Environmental has developed a set of good practices to guide data collection efforts to improve understanding, contribute to project planning and management of impacts, advance social acceptance, and improve regulatory outcomes.

REPORT AND MORE INFORMATION

OES-Environmental 2020 State of the Science full report and executive summary available at:
<https://tethys.pnnl.gov/publications/state-of-the-science-2020>

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Go to <https://tethys.pnnl.gov> for a robust collection of papers, reports, archived presentations, and other media about environmental effects of MRE development.