

Social and Economic Data for Marine Renewable Energy Development

Commercial marine renewable energy (MRE) is in the early stages of development globally, and uncertainty surrounds the potential social and economic benefits or effects that developments may have on communities. Social and economic data and information related to MRE are needed to support permitting/consenting applications, and are also critical to understanding social and economic impacts, dynamics, and values in a community. There is a need to better understand social and economic effects of MRE development so that benefits from MRE are maximized and adverse effects are avoided or minimized.

NEED FOR INFORMATION

Currently, there is lack of clarity on how social and economic data are collected, analyzed, and presented which can slow permitting/consenting processes and, in some cases, hinder new development.

Social and economic information is needed to measure:

- ◆ Baseline and long-term assessments at local, regional, or national scales;
- ◆ Changes in employment and wages, including local supply chain job losses or gains;
- ◆ Benefits and effects on social structures including schools, housing, and services; and
- ◆ The success of projects that maximize benefits and limit effects.

Data and information for social and economic assessments address a wide range of topics (Figure 1) that may be specific to each individual project.

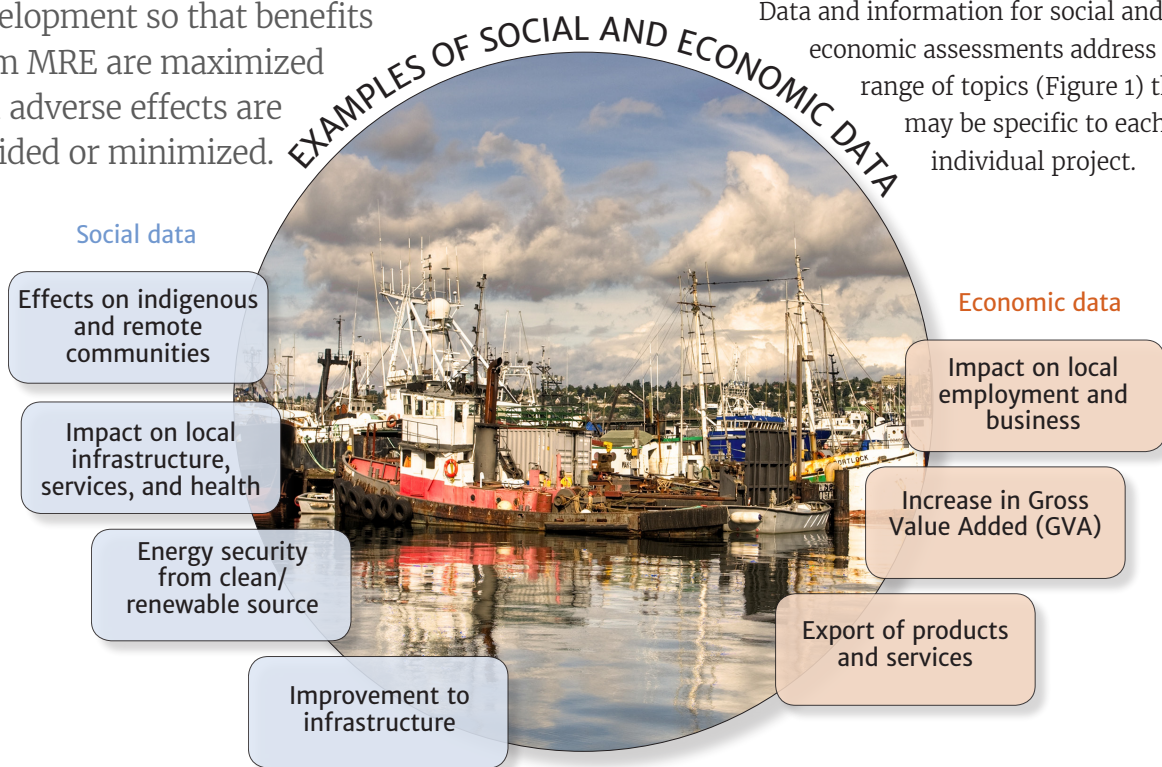


Figure 1. Examples of social and economic data needed for MRE permitting/consenting and to understand benefits and effects.

RESPONSIBILITY FOR COLLECTING DATA AND SCALE OF INFORMATION

Government collected data are often available at a national or regional scale, while local data are crucial to understanding effects at the scale of a single MRE development. Typically MRE developers must downscale data on a project-by-project basis, which may increase costs and permitting/consenting timelines or deter development. There is a compelling need for governments – local to national level – to understand potential social and economic benefits of MRE development. The downscaling of national or regional data, as well as significant followup monitoring of trends as MRE development progresses, should fall to governments.

Project level information that supports the baselines and potential benefits and effects of a project should be collected by MRE developers. Certain aspects of follow up monitoring of may be required for licensing. Strategic assessments of social and economic benefits and effects should be the purview of the government to ensure that consistent and appropriate collection and analysis of data are used to define future social, cultural, and economic wellness of its citizens.

PROJECT INFORMATION AND ENGAGEMENT

Social and economic assessments for a proposed MRE project should include four basic elements:

- ◆ Geographic extent and communities that may be affected by the development;
- ◆ Benefits and effects of the project;
- ◆ Project alternatives and how their effects may differ; and
- ◆ Methods or plans to enhance benefits and limit adverse effects.

In addition to collecting data and information at a range of scales, MRE developers can benefit from early and consistent engagement with political and business leaders, supply chain entrepreneurs, non-governmental organization and social program staff, and community members. Those who live and work in communi-

ties likely to benefit from or be affected by MRE development can supply a wealth of social and economic information and may be important and informed allies for MRE development.

DEVELOPING GOOD PRACTICES

Understanding the benefits and effects of MRE developments is challenging as there is a lack of guidance for the collection and analysis of appropriate data or information. Good practices for social and economic data collection for impact assessment and monitoring can contribute to planning and management actions that will maximize benefits and avoid or minimize potential adverse effects. Good practices include:

- ◆ Collecting, analyzing, and assessing strategic level data at the appropriate level of government;
- ◆ Developing specific questions to elucidate changes in social and economic conditions and drive data collection efforts by developers;
- ◆ Collecting baseline social and economic data for strategic and project level assessments by governments;
- ◆ Collecting social and economic data once development begins and devices are operational using similar measures as baseline data by developers; and
- ◆ Sharing results from social and economic assessments with the wider MRE community by all parties.

By following these good practices, greater standardization of data requested to support permitting/consenting MRE projects and an increase in understanding social and economic benefits and effects of MRE developments can be achieved.

FOR MORE INFORMATION

Visit <http://tethys.pnnl.gov> for a robust collection of papers, reports, archived presentations, and other media about MRE development.

Contact: Andrea Copping
Pacific Northwest National Laboratory
andrea.copping@pnnl.gov
+1 206.528.3049