

DEQ Energy Atlas

MLIAC Status Report (9/03/2009)

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The Concept

Utilizing GIS technology and concepts, the DEQ Energy Atlas will bring together existing energy resource maps and data into a single comprehensive, publicly available, interactive Web site. It will not provide an assessment of just renewable resources, but rather show the current understanding of all potential energy producing resources throughout Montana while noting some environmental, legal, and land use constraints. In addition, it will help identify where more information is needed in order to more accurately represent Montana's energy resources.

While the maps contained in this Atlas will not eliminate the need for on-site investigation, they will help developers gain a better understanding of where the best resource areas potentially are and screen out those less suitable. A first-cut suitability analysis will also be developed to help jump start and significantly narrow down the areas for further investigation. Landowners will be able to use the information to help them understand the use of resources to supply energy to their homes, farms, ranches and businesses, while providing them with the insight to better work with future development opportunities not currently realized. Lastly, legislators will find it a useful tool and resource for planning and energy related economic marketing purposes.

Goals

1. Create a Energy Atlas for MT not just of potential resources, but also all the related infrastructure and products to make those resources a viable investment and enhance MT's economic picture while meeting the Governor's Challenge set forth in Sept. 2008.
2. Empower DEQ staff with more knowledge via a consolidated Energize Montana effort
3. Answer questions and spark thought for Montana's land owners, businesses, and developers

Data Organization

Data for the Atlas will be organized into maps of Resources showing known locations of the resource, consumers, and energy producers as well as a first-cut suitability analysis where applicable. Reference layers will be available on all Resource maps to help understand the 'where' of the Resource information.

Resource Categories

- Wind
- Solar
- Geothermal
- Coal & Uranium
- Oil & Gas
- Biomass
- Solar
- Water

Reference Layers

- Energy Infrastructure
- Base Maps
- Land Use
- Land Cover & Form
- Boundaries
- Property Ownership & Classifications
- Environmental Considerations

Data Sources

Most data has been developed and maintained in DEQ, primarily in the Energy and Pollution Prevention, Industrial & Energy Minerals, and Environmental Management Bureaus. Other State, Federal, and private entities have also provided assistance. Each layer in the Atlas will be cited for source and contain as detailed metadata records as possible.

State Sources

- MT DEQ (MT Dept. of Environmental Quality)
- MT NRIS (MT Natural Resource Information System)
- MT DNRC (MT Dept. of Natural Resource and Conservation)
- MBMG (Montana Bureau of Mines and Geology)
- Big Sky Carbon Sequestration Partnership

Federal Sources

- DOE (US Dept. of Energy)
 - o NATCARB (National Carbon Atlas)
 - o NREL (National Renewable Energies Laboratory)
 - o NETL (National Energy Technology Laboratory)
 - o EIA (US Energy Information Administration)
- DOA (US Dept. of Agriculture)
 - o Forest Service - Region 1

Next Steps

The gathered information will be discussed for quality, relevance, and feasibility analysis concepts for each Resource with its respective authoritative party, inside and outside DEQ. An Energy Atlas page and WMA (Web based Mapping Application) will be developed to consolidate and supplement the information found within Energize Montana at <http://deq.mt.gov>.

Ongoing Activities

- Collect data for each Resource
- Review use of collected data with data source for intended use and representation
- Review data with DEQ and other State authorities for that Resource
- Design\develop DEQ Energy Atlas WMA
 - o Include Resource and Reference layers
 - o Include search and feedback tools
 - o Include "on-the-fly" user defined feasibility analysis and reports

Planned Activities

- Provide status report to MLIAC @ September 2009 meeting
- Presentation @ MT Government IT Conference in December 2009
- Present finalized Atlas to all of DEQ before going public
- Develop Atlas web page integrated within Energize Montana