

Economic Impacts of New Coal-Fired Electricity Generators

For Western Clean Energy Campaign, ECO compared the potential economic impacts of proposals by White Pine Energy Associates, Nevada Power, and Sierra Pacific, to build coal-fired electricity generators in Nevada, with the potential economic impacts of alternatives that would not entail burning coal.

Economic Analysis of Electricity-Generating Alternatives in Arkansas

For the Sierra Club, ECO described the potential economic impacts of alternatives for generating electricity in Arkansas, including renewable options, such as wind and biomass, and a 600 megawatt coal-fired electricity generator that Southwestern Electric Power Company proposed to build in Hempstead County, Arkansas.

Economic Consequences of Alternatives for Natural-Resource Allocation

For the State of Nebraska, ECO described the mechanisms through which the state's natural-resource amenities can drive local economic growth. ECO also examined how resource-related amenities impact the quality of life of people in Nebraska. ECO showed that by redefining the existing natural resources – agriculture paradigm and stimulating the growth of other industries such as recreation, Nebraskans stand to benefit economically.

Economic Consequences of Development

For Metro, the regional government council for the Portland Metropolitan area in Oregon, ECO described the economic consequences of allowing, limiting, or prohibiting development that would negatively impact significant riparian and wildlife areas. The analysis considered the economic impacts on development as well the value of ecosystem services provided by riparian areas and wildlife habitat.

Economic Benefits and Costs of Watershed Restoration

For West Coast Watershed, ECO performed an economic evaluation of watershed-restoration projects in northern California. ECO assembled a regional estimate of economic benefits and costs of the restoration activities to facilitate West Coast Watershed's grant application.

Evaluation of a Proposed Water-Quality Trading Project

For a public water utility, Washington state, ECO calculated the economic benefits realized by planting and protecting trees rather than expanding a waste-water treatment facility to meet water-quality objectives under the Temperature Total Maximum Daily Load (TMDL).

Development of Programs to Preserve Natural Areas

For public municipalities in the Portland Metropolitan Area, Oregon, ECO identified and evaluated promising non-regulatory incentive programs to protect natural areas and associated riparian and upland corridors. For the selected priority incentive programs, ECO developed a detailed implementation strategy and timeline.

Benefits and Costs of Cleaning Up a Hazardous Waste Site

For the Washington Department of Ecology, ECO analyzed the long-term benefits, costs, and risks of alternative cleanup remedies for a hazardous waste site containing petroleum and heavy metal contamination in close proximity to residences and a scenic river.

Benefit-Cost Analysis of MTBE and Ethanol

For the South Tahoe Public Utility District, California, ECO calculated the costs and benefits associated with using MTBE and ethanol in reformulated gasoline in California. Both MTBE and ethanol have demonstrated benefits to air quality, principally through reductions in carbon monoxide and ozone emissions. MTBE, however, has contaminated numerous aquifers and drinking wells throughout the State of California via leaks in underground gasoline storage tanks.

Economic Damages from an Oil Spill

For the plaintiffs, ECO analyzed the economic damages incurred by citizens of the State of Yap, in the Federated States of Micronesia, from a ship that grounded on the coral reef and spilled oil into the mangrove-reef ecosystem.

Economics of Natural-Resource Allocation

For a private foundation, ECO analyzed the economic consequences of different approaches to managing the environmental resources of southern Louisiana, particularly its coastal wetlands. ECO estimated the effects of industrial activities on the state's economy and its coastal and estuarine resources, and demonstrated that to sustain economic growth Louisianans must take steps to promote both environmental quality and economic development.

Design of a Contingent-Valuation Study

For the Bonneville Power Administration, ECO reviewed the literature and recommended guidelines for the design of a proposed contingent-valuation study of ratepayers' willingness to pay to avoid environmental externalities associated with various electricity-generation and transmission technologies.

Socioeconomic Impacts of Ecological Restoration

For the U.S. Environmental Protection Agency, ECO co-authored a conceptual manual for assessing the socioeconomic consequences of ecological restoration projects for rivers and wetlands. The manual compared the impacts realized from wetland management to the impacts from dam construction. The authors then employed the manual in a case study of the Vermillion River in South Dakota.

Gila River Water-Management Plan

For a private client, ECO analyzed the potential economic costs of a proposed diversion on New Mexico's Gila River – the last major free-flowing river in the Southwest. The diversion is expected to have significant negative ecological impacts on the cottonwood-willow riparian habitat, considered a biodiversity “hotspot” by the Nature Conservancy. ECO also evaluated the costs of alternate supply options to meet growing municipal and industrial demand in the surrounding areas including conservation, buying and reallocating fallow water rights, and utilizing an existing diversion system downstream to deliver the water.

Watershed Restoration in the Sierra Nevada

For a private client, ECO described the economic dimensions of watershed restoration to provide baseline information for designing and evaluating proposals to restore watersheds in the Sierra Nevada. ECO analyzed the principal causes of environmental degradation and their consequences in the Sierra Nevada and showed how ecosystem services can influence the quality of life of residents and visitors.

Economic Impacts of a Gold Mine in a Watershed

For the Blackfoot Legacy in Montana, ECO evaluated the economic consequences of a proposed gold mine in the Blackfoot River watershed. ECO reviewed the potential impacts of the mine on employment, environmental quality, and quality of life in the watershed.

Design and Economic Evaluation of Watershed Restoration

For the Oregon Rivers Council (ORC), ECO helped to design and conduct an economic evaluation of the ORC's Restoration Initiatives, a series of demonstration projects designed to rehabilitate degraded watersheds.

Economics of Water Regulation

For the Bullitt Foundation and Water Watch, ECO analyzed the economic principles applied to water regulation in Oregon, described how historic and current water-regulatory policies violate these principles, and illustrated the economic costs that accrue to citizens.

Economic Impacts of Policies to Protect Water Quality

For the Panhandle Health District in Kootenai County, Idaho, ECO evaluated the impacts of policies to protect the water quality of the Rathdrum Prairie Aquifer from septic effluent resulting from indiscriminate development. ECO also developed and evaluated the effectiveness of alternative sewer management policies to protect the aquifer.

Design of an Environmental Accounting System

For the Washington Department of Transportation (WSDOT), ECO designed an environmental accounting system to estimate and track environmental costs and benefits, associated with all WSDOT program activities. This system aggregates environmental benefits and costs at different levels of detail to facilitate WSDOT decision-making process.

Integration of Environmental Externalities into Utility Regulation

For the National Association of Regulatory Utility Commissioners, ECO examined the theoretical and practical issues underlying efforts by state commissions to introduce environmental externalities into the regulatory process, the procedural opportunities for doing so, and the practical lessons from case studies of six states.

Assessment of Programs to Protect the Oregon Coast

For the Oregon Department of Land Conservation and Development, ECO described and evaluated all existing local, state, and federal programs for protecting and managing access to Oregon's coastal shorefront. The evaluation focused on each program's ability to meet the demand for public access and to provide resource protection within constraints imposed by the demand and funding for such facilities.

Development of Environmental Indicators

For the City of Bellevue, Washington, ECO examined key environmental trends affecting the City and recommended indicators that the City can use to understand and mitigate these trends. ECO collected and analyzed data on water quality and quantity, air quality, waste management and resource use, population and growth management, natural areas, open space, and endangered species.

Economic Impacts of Energy-Development Projects

For the Bonneville Power Administration, ECO worked with a team of physical scientists to develop and implement a method for estimating the economic value of the environmental costs and benefits accompanying the development of energy sources. ECO examined both traditional sources of energy, such as coal-fired and combustion-turbine power plants, and alternative sources of energy, such as wind, solar, geothermal, biomass, and cogeneration. The analysis succeeded in providing estimates for values of previously unquantified environmental effects.

Techniques to Manage Growth and its Environmental Impacts

For Clatsop County and the Oregon Department of Land Conservation and Development, ECO assisted in the identification of efficient development scenarios and implementation techniques to manage increased growth while mitigating environmental impacts to aquifers, lakes, streams, and wetlands. As part of the project, ECO described how transferable development rights could be used to address land-use and water issues.

Deschutes Regional Planning

For Deschutes County, Oregon, ECO assisted with an economic evaluation of service-delivery issues in a rural residential area along the Deschutes River. As part of the study, ECO analyzed the impacts of development on water quality, wildlife, wildfire hazards, and aesthetic values. ECO developed and implemented a framework to describe, discuss, and compare the impacts for different alternatives in a way that facilitated regional decisions on solutions to a long-standing problem. ECO also developed a computer model to simulate the impacts of alternative development patterns.

Integrating Economics and Resource-Conservation Strategies

For the Ford Foundation's Rural Poverty and Resources Program, ECO developed an analytical framework for integrating resource-conservation and economic-development strategies.

Air-Quality and Growth Management

For the Portland Interstate Air Quality Maintenance Area, ECO assisted in devising policies to manage the airshed while accommodating anticipated future economic growth. As part of a multi-disciplinary team, ECO evaluated the likely economic consequences of alternative abatement programs. ECO helped the local jurisdictions within the maintenance area to identify which program best met their criteria for efficiency, equity, and political feasibility.

Impacts of Market-Based Transportation Control Measures

For four California communities, ECO studied the impacts of market-based transportation control measures on air quality, congestion, energy, and economic equity.

Analysis of Air-Pollution Fees

For the Oregon Environmental Council, ECO provided analysis and testimony to the Oregon Legislature regarding a proposal to implement comprehensive effluent fees for air pollution.

Environmental Impacts of the Exxon Valdez Oil Spill

For the seven oiled cities on Prince William Sound, Alaska, ECO documented and described the economic and environmental impacts of the Exxon Valdez oil spill on the affected communities, fishermen and fish processors. ECO developed a framework for monitoring community effects of the spill and recommended ways to contend with problems and plan for future oil development. ECO identified appropriate areas for policy changes, and suggested where and how to apply community monetary or administrative resources to respond to the identified impacts. ECO also formulated legislation to insure protection of key resources and their values into the future.

Economic Impacts of a Ship Wreck

For the Oregon Department of Justice, ECO calculated the damages to the State of Oregon associated with the permanent presence of wreckage from a ship, the *New Carissa*, which ran aground on the Oregon Coast. ECO calculated the damages stemming from the loss of existence and legacy values of the Coast and from the increased risk of death and injury to the public posed by the wreckage.