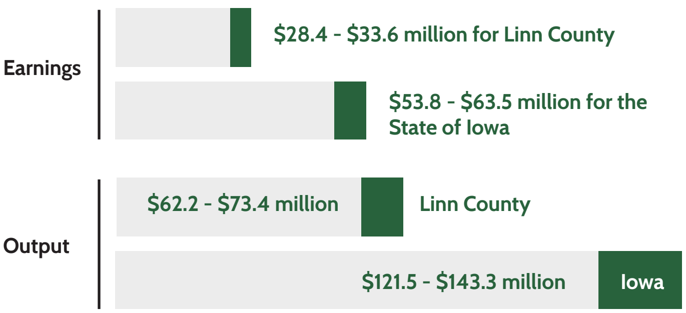
Economic Impact and Land Use Analysis of Duane Arnold Solar Project Phases I and II

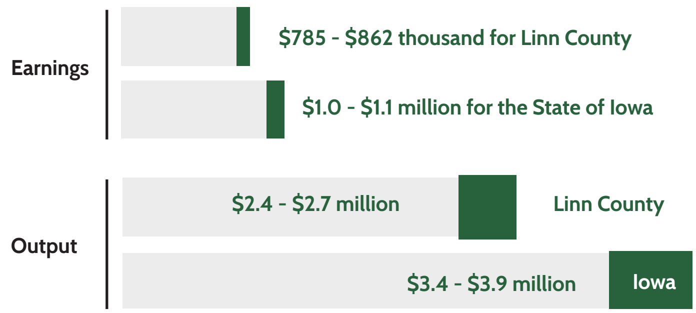
October 2021

Wholly-owned subsidiaries of NextEra Energy Resources, LLC (Duane Arnold Solar, LLC and Duane Arnold Solar II, LLC) are developing the Duane Arnold Solar Project Phases I and II in Linn County, Iowa. Phase I is a 50-megawatt alternating current (MWac) utility-scale solar powered-electric generation facility that will utilize photovoltaic (PV) panels installed on a single-axis tracking system. Phase II is a 150-megawatt solar facility and also has 75 MWac of battery storage.

Earnings & Output during Construction

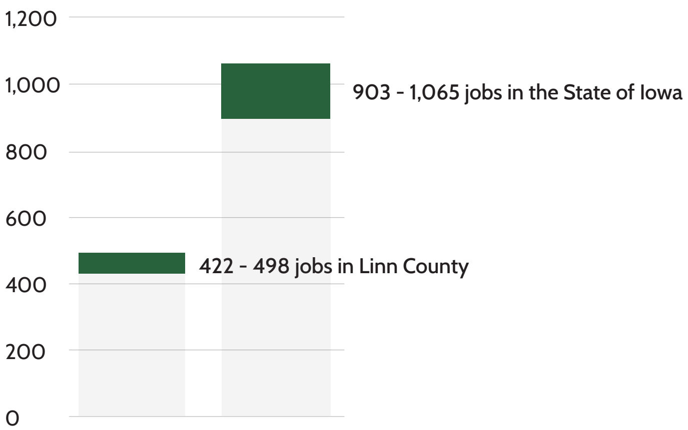


Earnings & Output during Operations (Annually)

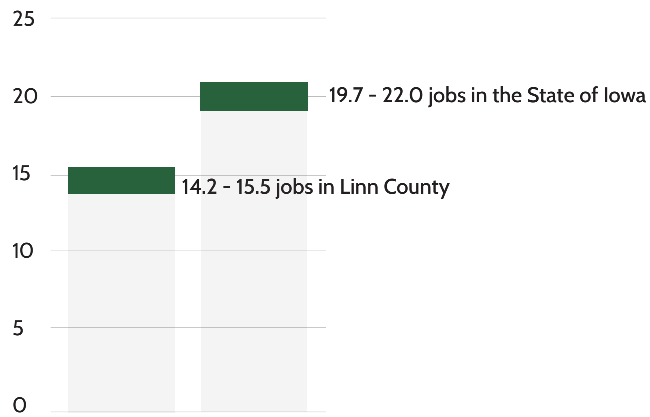


Earnings are wages, salary and benefits that result from a job. Output is the value of goods and services in a specific area, like GDP.
Numbers are rounded down to the nearest whole number.

Jobs during Construction



Jobs during Operations (Annually)



Economic Impact Methodology

The economic impact results use two scenarios concerning the project costs for the Duane Arnold Solar Project Phases I and II. The economic impact results were derived from detailed project cost estimates supplied by Duane Arnold Solar I and II with a high-end scenario and low-end scenario. The economic analysis of solar PV project presented uses NREL's latest Jobs and Economic Development Impacts (JEDI) PV Model (PV12.23.16). The JEDI PV Model is an input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output. That is, the JEDI Model takes into account that the output of one industry can be used as an input for another.

For example, when a PV system is installed, there are both soft costs consisting of permitting, installation and customer acquisition costs, and hardware costs, of which the PV module is the largest component. The purchase of a module not only increases demand for manufactured components and raw materials, but also supports labor to build and install a module. When a module is purchased from a manufacturing facility, the manufacturer uses some of that money to pay employees.

The employees use a portion of their compensation to purchase goods and services within their community. Likewise, when a developer pays workers to install the systems, those workers spend money in the local economy that boosts economic activity and employment in other sectors. The goal of economic impact analysis is to quantify all of those reverberations throughout the local and state economy.

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Cumulative Impacts for Linn County

Cumulative impacts for Linn County over the expected 30-year life of the Project:

Job-Years:
Between 425 and 465

Earnings:
Between $23.5 and $25.8 million

Output:
Between $74.0 and $81.7 million

Property Taxes

Between $7.17 and $7.20 million in property taxes in total for all taxing districts over the life of the Project

Land Use Analysis

0.8%

The 2,637 acres planned to be used by the Duane Arnold Solar Project Phases I and II represents just 0.8% of the acres used for farming in Linn County.

For corn or soybean farming to generate more income for the landowner and local community than the solar lease:

Price for corn

The price for corn would need to rise from $4.30 to $17.09 per bushel by 2053.

Yields for corn

Yields for corn would need to rise from 165.9 to 371.4 bushels per acre by 2053.

Price for soybeans

The price for soybeans would need to rise from $11.10 to $47.48 per bushel by 2053.

Yields for soybeans

Yields for soybeans would need to rise from 56.5 to 136.1 bushels per acre by 2053.

Using a real-options analysis, the land use value of solar leasing far exceeds the value for agricultural use.

SER Strategic Economic Research, LLC

Strategic Economic Research, LLC is an economic consulting firm specializing in analyses for wind, solar and transmission projects. Dr. David G. Loomis, President of SER, is a widely recognized expert in energy and telecommunications economics..

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