

The economic impact of Drax in the Southeastern United States Executive Summary



Introduction

Drax is the global leader in the production, generation, and supply of renewable power from sustainably sourced biomass materials, and a pioneer in carbon removal technology. Its purpose is to enable a zero-carbon and lower-cost energy future.

Drax's global portfolio of operations includes wood pellet production, power generation and carbon removal.

To meet the growing global demand for bioenergy as the world tackles the climate crisis and strives to meet net zero, Drax is transforming into a truly international business. Drax now has 17 operational and in-development pellet production sites across North America, including 7 pellet plants in Alabama, Mississippi, Arkansas and Louisiana.

Drax wood pellet plants in the U.S. purchase 64% of wood fiber on average from within their respective states.

Drax is committed to be a positive force in every region that it operates. To estimate the economic and fiscal impact of its operations across the U.S. Southeast, Drax commissioned Chmura Economics & Analytics (Chmura) – a trusted provider of economic data and analysis – to conduct a study. Chmura conducted this study in 2022 and concluded as follows:



Overall, operations of Drax facilities generates significant economic impact in Alabama, Mississippi, Arkansas, and Louisiana.



Using 2023 as a benchmark, operations of all Drax facilities are estimated to have annual economic impacts of \$1.036 billion in total spending, and \$434.9 million value added to GDP in the four states.



Between 2013 and 2022, Drax invested \$884.1mn in the four states, developing wood pellet plants, a port facility, and a corporate office.



In total, the capital expenditure for all Drax facilities is estimated to have cumulative impacts of \$368.5 million in spending, and \$184.7 million in GDP in the four states from 2013 to 2022.



2023-2030: The cumulative economic impact of Drax facilities is estimated to be \$8.3bn in total spending and \$3.4bn in GDP to the four states.

Map of Drax Operations



Key

- Drax offices
- Pellets plants / mills
- Ports

**Mobile port facilities not owned by Drax*

Drax economic impact by state per year (2023)

Aggregate economic impact of Operations – Drax

	Total impact
Spending (Million) across Louisiana, Alabama, Mississippi, Arkansas	\$1,035.5
GDP (Million) across Louisiana, Alabama, Mississippi, Arkansas	\$424.9

Figures may not sum due to rounding.
Source: Spending and GDP for 2023, Chmura



Louisiana

Economic impact of Operations – Drax

	Total impact
Spending (Million)	\$536.9
GDP (Million)	\$230.5

Figures may not sum due to rounding.
Source: Spending and GDP for 2023, Chmura.

Mississippi

Economic impact of Operations – Drax

	Total impact
Spending (Million)	\$207.4
GDP (Million)	\$80.7

Figures may not sum due to rounding.
Source: Spending and GDP for 2023, Chmura.

Alabama

Economic impact of Operations – Drax

	Total impact
Spending (Million)	\$260.3
GDP (Million)	\$101.3

Figures may not sum due to rounding.
Source: Spending and GDP for 2023, Chmura.

Arkansas*

Economic impact of Operations – Drax

	Total impact
Spending (Million)	\$31.0
GDP (Million)	\$12.4

* Arkansas plant was acquired in 2021. Figures may not sum due to rounding. Spending and GDP figures expected to rise following full commissioning of the plant.

Source: Spending and GDP for 2023, Chmura.

Arkansas data shows a lower economic impact than the other three states as construction on the facility only finished in 2022 and at this time there is no data backing up the economic impact. This explains the disparity between the spending and GDP figures of Arkansas and the other three states.

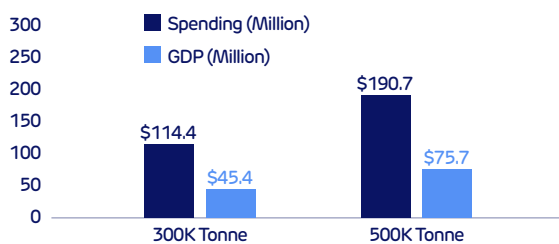
Drax economic impact of plants and forestry

Impact of two hypothetical plants

Drax is considering future expansion in the United States and asked Chmura to estimate impacts of future growth. If Drax were to establish additional pellet plants in or near these four Southeastern states, it is expected that there would be similar state and local economic benefits. The precise economic impact of additional facilities would vary, as both the project scale and the economic condition of the host regions would need to be considered.

To further illustrate the potential impact of further Drax expansions, Chmura considered two expansion scenarios (Figure 1.1). If Drax were to develop a new pellet plant with an annual output of 300,000 metric tonnes of wood pellet product, this plant would generate annual economic impacts of \$114.4 million in spending and \$45.4 million GDP. In the second scenario, if the new plant has an annual production capacity of 500,000 metric tonnes of wood pellet product, it is estimated that the plant would generate annual economic impacts of \$190.7 million in spending and \$75.7 million GDP in the state it is located.

Fig 1.1: Estimated Economic Impact of Two Hypothetical Plants



Source: Chmura

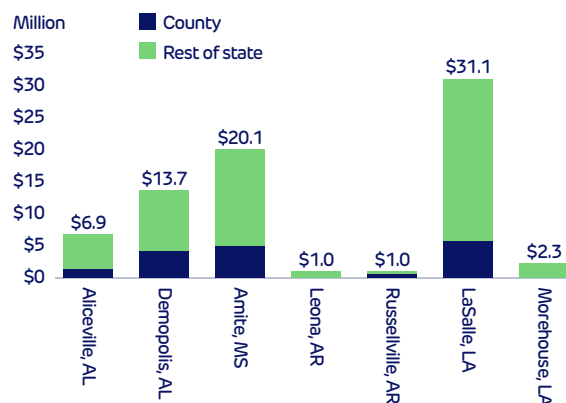


Forestry impact from Drax operations

State and local forestry industries will benefit from the operations of Drax's wood pellet manufacturing plants. The main input in wood pellet production is wood fiber, which is a by-product of both sustainable forest management and the manufacture of solid wood products.

- Data from Drax show that wood pellet plants purchase 64% of wood fiber within their respective states, on average.
- The projection for 2023 is that \$76.1 million in wood fiber will be purchased from the forestry sector in Alabama, Mississippi, Arkansas, and Louisiana.

Fig 1.2: Total Forestry Output Impact by Drax Operations (2023)



Source: Chmura



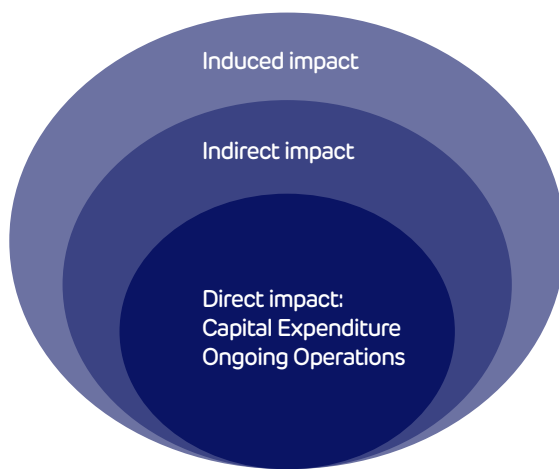
Appendix:

Criteria and analysis

Chmura Methodology

For the port facility, corporate headquarters, and pellet manufacturing plants, the economic impact typically comes from two sources:

Fig 2.1: Impact Analysis Framework



Source: Chmura

- One-time economic impact of capital expenditure. Over the years, Drax has invested hundreds of millions of dollars to construct, renovate, and improve its facilities. These capital expenditures generate significant economic impacts in their localities.
- Economic impact of ongoing operations. This is the sustained economic impact that will recur each year. Drax employs workers that contribute to local and state economies in the Southeast.

The two components outlined above constitute the direct economic impact of Drax's facilities in the Southeastern United States. The total economic impact also includes economic ripple effects from the direct impact. Ripple effects, categorized as indirect and induced, measure secondary benefits generated by the facilities. For example, to produce industrial pellets for export, a manufacturing plant will purchase biomass materials from regional logging industries. These facilities also utilize transportation such as trucks, barges, or railroads to ship biomass materials to the manufacturing facilities and finished pellets to the port. The benefits to regional logging and transportation businesses comprise the indirect impact.

Ripple effects also include benefits to regional businesses where employees of the industrial pellet industry spend their income—termed induced impact.

Direct impacts are estimated by Chmura with information provided by Drax, while the indirect and induced impacts are estimated using IMPLAN modelling software.

Chmura analysed the impact for each facility at the county/parish and state levels and also provided the aggregate impact of all Drax facilities. In addition to the IMPLAN model estimate, Chmura took a more rigorous approach to provide a detailed estimate of the indirect impacts for the forestry and transportation sectors. Chmura's approach utilized data from Drax related to each manufacturing plant's fiber sources and modes of transportation (truck, rail, or barge) to estimate the benefits to regional and state forestry and transportation industries.

Since Drax acquired and developed the facilities over many years, Chmura used the following criteria to evaluate the economic impact for each facility:

- For capital expenditure, Chmura analysed its impact for the actual year it occurred.
- Chmura analysed the operational impact of facility operations for 2023, since the construction of one facility in Alabama will not be completed until 2022. As a result, 2023 will be the first full year that all Drax facilities are operating. Analysing the operational impact starting in 2023 allowed Chmura to aggregate the operational impact of all Drax facilities. The economic impact in future years should be similar to 2023, provided there are no expansions or new construction.

Finally, this study estimates the fiscal benefit of all Drax facilities to the state and local governments. Both capital expenditure and ongoing operations can generate tax revenue. Since each state has its own tax regulations concerning the facilities, Chmura conducted research on applicable tax laws and estimated the revenue Drax contributes to local and state governments.

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