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## **AMERICAN ENERGY JOBS: OPPORTUNITIES FOR AMERICAN MANUFACTURING**

**STATEMENT OF TOBY MACK, PRESIDENT  
ENERGY EQUIPMENT AND INFRASTRUCTURE ALLIANCE, WASHINGTON DC**

**BEFORE THE COMMITTEE ON NATURAL RESOURCES, SUBCOMMITTEE ON  
ENERGY AND MINERAL RESOURCES**

**MAY 20, 2014**

Chairmen Lamborn, Ranking Member Holt, and distinguished members of the Subcommittee, my name is Toby Mack, and it is my pleasure to appear before you today on behalf of the Energy Equipment and Infrastructure Alliance (EEIA).

EEIA represents the shale energy supply chain, which includes manufacturing and distribution companies, construction companies, material suppliers, service providers, organized labor, and their trade organizations, that provide equipment, construction, materials, services and workers to shale oil and gas exploration, production, transportation and processing. EEIA's mission is to:

- Educate the public and government about the jobs and economic benefits driven by the shale energy supply chain;
- Encourage adoption of policies that ensure an abundant and secure supply of American shale energy;
- Maintain the industry's record of safety, responsibility and public support through best practices and community engagement; and
- Assess and address critical shortages of skilled trade workers needed in the supply chain to develop and deliver shale oil and gas.

I appreciate the opportunity to come before the Subcommittee to discuss the extent to which shale energy production, transportation and processing are a major and growing source of job creation, career opportunities and economic growth in the manufacturing, construction, logistics and services sectors of the energy supply chain; and how policymaking that supports these objectives will benefit many thousands of workers, their families and communities, and the broader American economy.

### **Impact of Shale Energy Development on Manufacturing, Construction, and Services Employment**

There is significant focus, appropriately, on the sharply positive economics of the shale energy revolution on U. S. manufacturing competitiveness from lower energy and feedstock input costs. EEIA's message today is that shale energy development is also creating and sustaining many thousands of jobs in manufacturing, construction and related

services and support industries that provide the equipment, infrastructure, services and supplies required by shale energy operations.

### **New Research Documents Widespread Job Creation**

My purpose is to share some important preliminary findings from new research conducted by IHS Global for EEIA. Its objective is to discover and report the extent of supply chain jobs, labor income, and economic output attributable to shale energy operations. The study looks at over fifty different supply chain industries in manufacturing, construction, services and logistics, from 2012 and throughout the forecast period to 2025. The values are reported by year for each industry, and within each of the lower 48 states.

One important facet of this research is its measurement of jobs and output not only in the energy producing areas, but also in states where little or no energy is produced, but where there is significant manufacturing of equipment and products used in regions where energy operations occur. Thus it documents the extent to which all Americans are stakeholders, not only in the new abundance and affordability of energy, but also in the economics of its production, processing and delivery.

The research I am sharing today is preliminary. Some of the numbers reported may be higher, but not lower, when the final report is released this summer. Thus what I am reporting should be considered as depicting the minimum case. While the final report will detail economic output, jobs and labor income, the following analysis focuses only on jobs, which serve also as a proxy for output and worker income.

### **Producing Versus Non-Producing States**

Although the study report will group results according to whether they occur in energy-producing or non-producing states, it should be noted that this is only for the purpose of highlighting the fact that not all of the benefits of energy production occur in the producing areas. Some states with little or no shale energy production, such as Illinois, Michigan, and Wisconsin, nevertheless have significant manufacturing output destined for energy operations. Other states, such as Texas, Ohio, Pennsylvania, and California, have both energy operations and significant manufacturing. Still other energy producing states have limited manufacturing.

### **Job Creation and Growth by Sector**

In all shale energy supply chain categories and regions, there were 456,000 jobs in 2012, to grow over the forecast period by 64%, to 747,000 jobs in 2025 – or nearly 300,000 new jobs. Construction-related industries provide about half of those jobs; manufacturing about one-quarter; services about one-fifth; and logistics the remainder (see table below). These ratios remain roughly consistent throughout the forecast period, with slight proportional declines in construction and manufacturing and slight increases in services and logistics. It's also worth noting that of the 456,000 supply chain jobs existing in 2012, virtually all of them were new jobs created by shale operations over the previous five years since the shale revolution took off in earnest in 2007.

### **Manufacturing Jobs**

The study measures and reports on twenty different categories of manufactured products. In these manufacturing industries, jobs grow from 125,000 in 2012 to over 185,000 in 2025, nearly 50% growth. Importantly, at least one of every three manufacturing jobs is created outside of energy-producing areas. In fact job growth is greater in non-producing states, with jobs growing by over 100% compared to 30% in energy-producing states.

### **Construction Jobs**

Construction jobs include not only construction company workers, but also related architectural and engineering workers, construction equipment distribution, maintenance and leasing workers, and constructions materials production and distribution workers.

Construction accounts for roughly 50% of all jobs in the shale energy supply chain. Jobs in construction of shale energy infrastructure grow from about 220,000 in 2012 to 345,000 in 2025, for an increase of over 125,000 jobs and growth of about 60%. Construction jobs are primarily but not exclusively located in energy-producing areas, with about 85% based near energy operations.

### **Logistics Jobs**

Logistics jobs include those related to freight trucking, railroad operation, pipeline operation, and water transportation.

Shale energy-driven logistics operations employed 32,000 workers in 2012, to grow by over 26,000 jobs, or 82%, to over 58,000 jobs in 2025. Again about 85% of these jobs occur in and around energy operations. Much of the demand for logistics workers is driven by hauling and delivery of materials and supplies to and from energy operations.

### **Service Jobs**

Service employment categories are a diverse range of types of services including environmental, waste management, technical, professional and scientific services, financial services, and well drilling and completion services. These categories employed 80,000 workers in 2012, and will double to just under 160,000 workers by 2025. Nearly all service jobs are located in or near energy producing areas.

### **Conclusions**

The shale energy supply chain sectors are flourishing and the outlook is strong for continued growth in employment and production output. The supply chain is a major contributor to the U.S. economy and its outlook for the foreseeable future is strong. The benefits are distributed widely throughout the United States and not confined to the energy producing areas. However, government action restricting shale energy production could undermine the viability of this sector. Policymakers must protect public health, safety, and the environment, while ensuring policies that allow the shale energy sector to continue to grow and prosper.

**Jobs in the Shale Energy Supply Chain**  
 (Preliminary Data)

	2012	2015	2020	2025	Job Growth %	Job Growth #
<b>MANUFACTURING</b>						
Non-Producing States Manufacturing Jobs	28,781	40,144	49,074	59,859	108%	31,078
Producing States Manufacturing Jobs	96,849	111,053	109,441	126,314	30%	29,466
All Manufacturing Jobs	125,630	151,198	158,515	186,173	48%	60,544

<b>CONSTRUCTION</b>						
Non-Producing States Construction Jobs	26,225	37,478	43,173	51,309	96%	25,084
Producing States Construction Jobs	192,056	267,777	251,780	293,837	53%	101,781
All Construction Jobs	218,282	305,255	294,954	345,147	58%	126,865

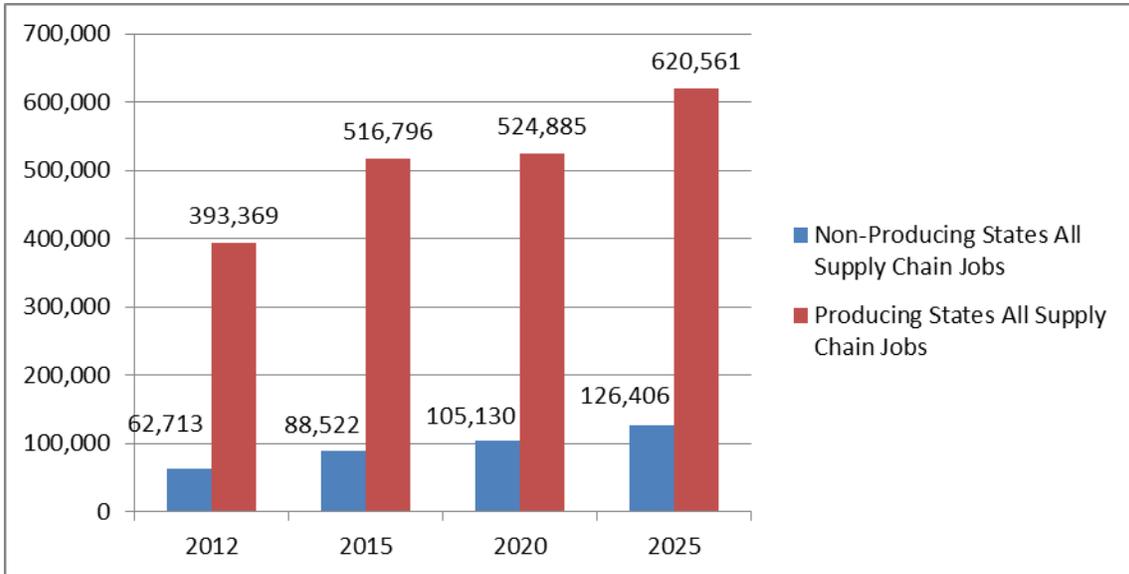
<b>LOGISTICS</b>						
Non-Producing State Logistics Jobs	5,352	7,552	8,949	10,628	99%	5,276
Producing State Logistics Jobs	26,830	35,124	40,674	47,831	78%	21,002
All Logistics Jobs	32,181	42,676	49,622	58,459	82%	26,278

<b>SERVICES</b>						
Non-Producing State Services Jobs	2,356	3,347	3,934	4,610	96%	2,254
Producing State Services Jobs	77,635	102,842	122,990	152,578	97%	74,943
All Services Jobs	79,990	106,189	126,924	157,187	97%	77,197

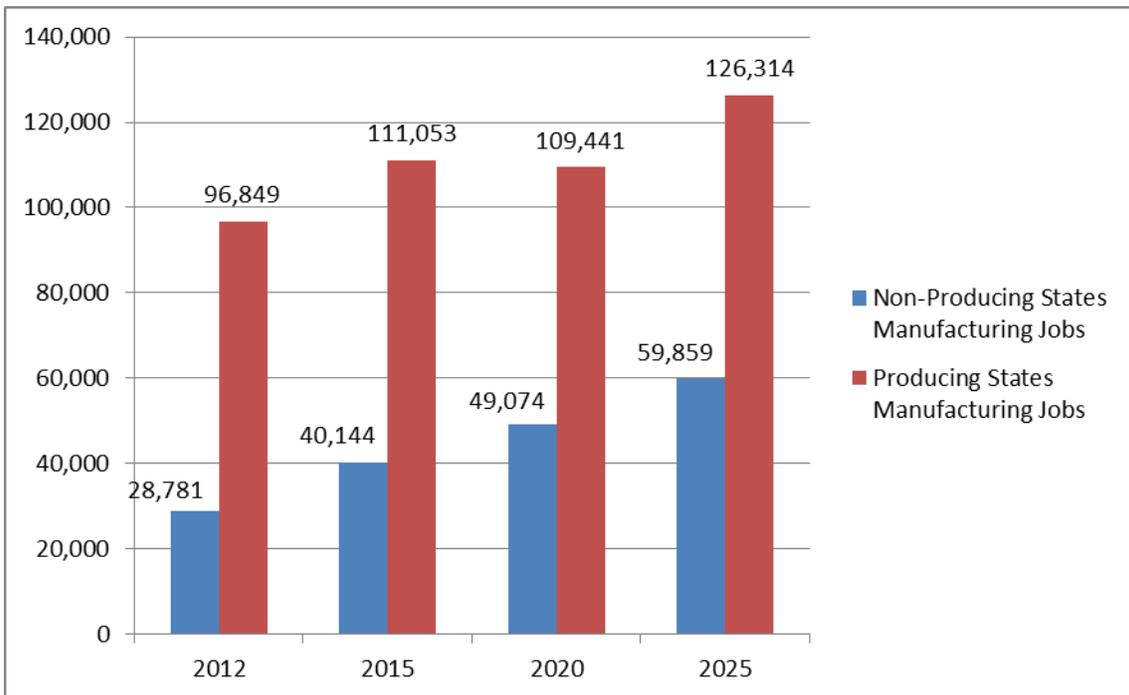
<b>ALL JOBS</b>						
Non-Producing States Jobs	62,713	88,522	105,130	126,406	102%	63,693
Producing States Jobs	393,369	516,796	524,885	620,561	58%	227,192
All Jobs	456,083	605,317	630,015	746,967	64%	290,884

Percent of total shale supply chain jobs	2012	2015	2020	2025
Manufacturing	28%	25%	25%	25%
Construction	48%	50%	47%	46%
Logistics	7%	7%	8%	8%
Services	18%	18%	20%	21%
All Jobs	100%	100%	100%	100%

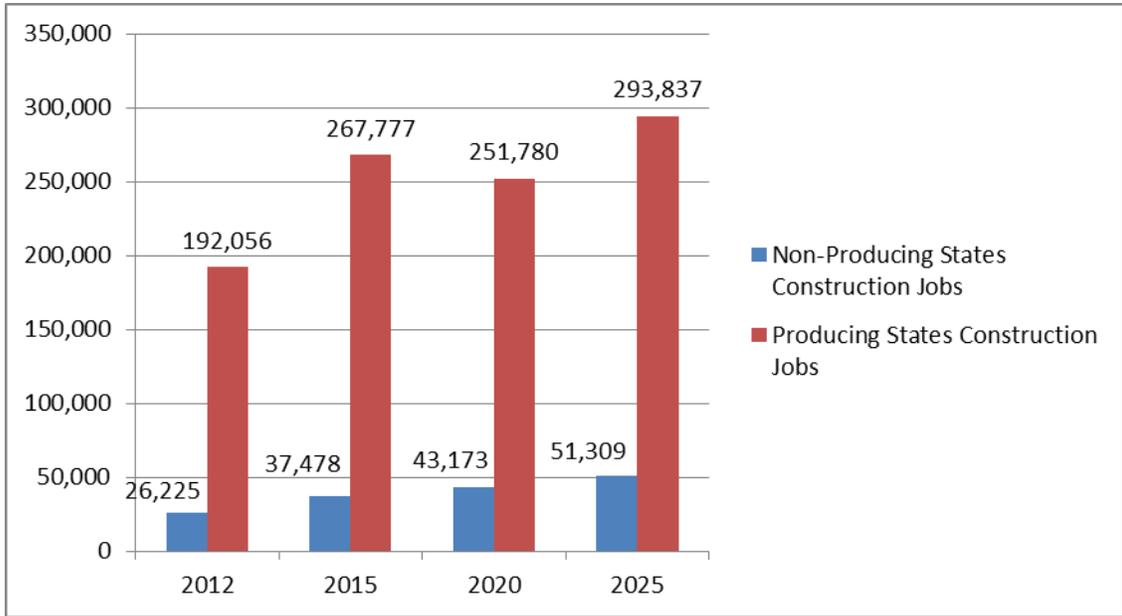
### All Supply Chain Jobs



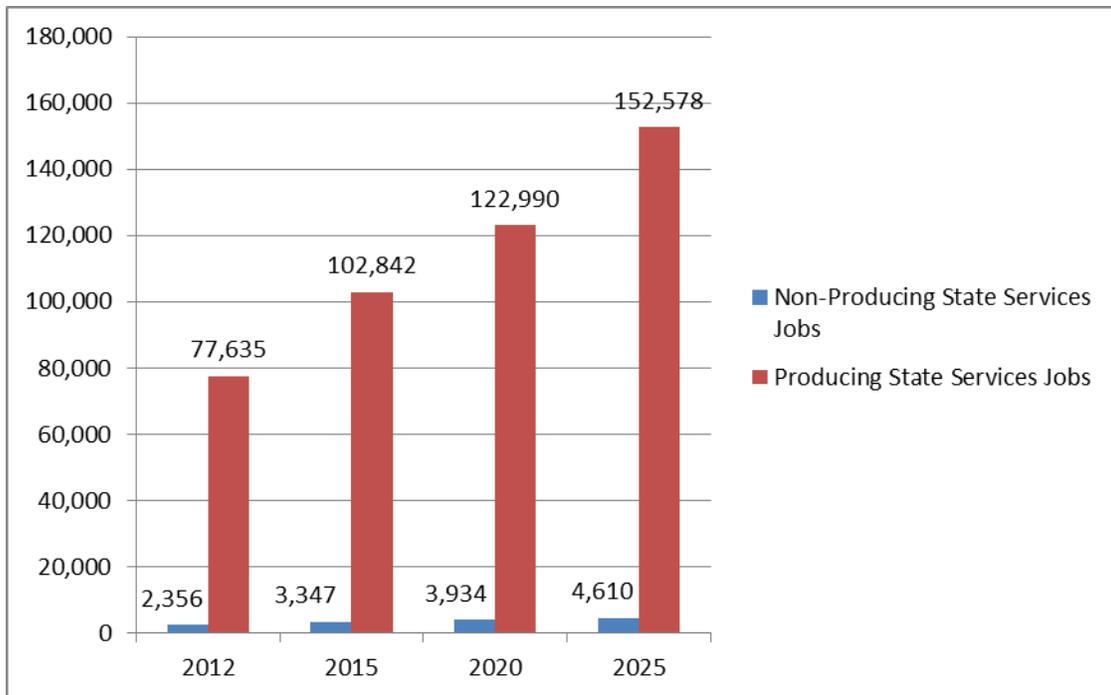
### Supply Chain Manufacturing Jobs



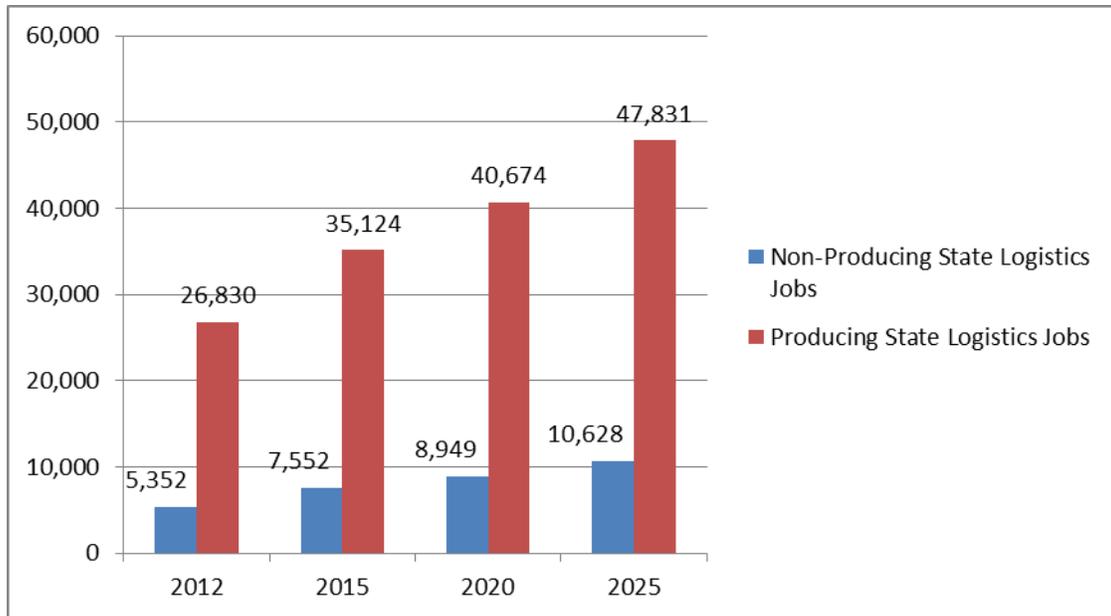
### Supply Chain Construction Jobs



### Supply Chain Services Jobs



### Supply Chain Logistics Jobs



### Producing States

- Arkansas
- California
- Colorado
- Kansas
- Louisiana
- Mississippi
- Montana
- New Mexico
- North Dakota
- Ohio
- Oklahoma
- Pennsylvania
- Texas
- Utah
- West Virginia
- Wyoming

## **Manufacturing Sectors**

- Construction Equipment
- Engine, Turbine, and Power Transmission Equipment
- Pumps and Compressors
- Material Handling Equipment
- Oil and Gas Field Machinery and Equipment
- Cement
- Iron and Steel Pipe and Tubes
- Fabricated Pipe and Pipefitting
- Power Boiler and Heat Exchangers
- Metal Tanks
- Metal Valves
- Cutting and Machine Tool Accessories
- Welding and Soldering Equipment
- Measurement, Display, and Control Instruments
- Trucks and Utility Vehicles
- Truck Trailers
- Railroad Rolling Stock
- Aluminum Sheet, Plate, and Foil
- Iron and Steel Mills
- Aluminum Refining and Production

## **Construction Sectors**

- General Construction Contracting
- Highway, Street, and Bridge Construction Contracting
- Specialty Trade Contracting
- Construction Sand and Gravel Mining
- Machinery, Equipment, and Supplies Distribution
- Construction and Mining Equipment Distribution, Rental and Leasing
- Commercial and Industrial Equipment Repair and Maintenance
- Architectural, Engineering, and Related Services
- Building Materials and Supplies Distributors
- Water and Sewage Systems
- Ready-Mix Concrete
- Concrete Block and Brick
- Concrete Pipe

## **Services Sectors**

- Drilling Oil and Gas Wells
- Support Activities for Oil and Gas Operations
- Insurance Carriers
- Nonhazardous Waste Treatment and Disposal
- Professional, Scientific, and Technical Services

## **Logistics Sectors**

- Line-Haul and Short Line Railroads
- General and Specialized Freight Trucking
- Crude Oil, Liquids and Natural Gas Pipelines
- Water transportation