2022 U.S. LABOR-ENERGY INPUT SURVEY

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U.S. LABOR-ENERGY INPUT SURVEY

2022

The following analysis is prepared by the American Cement Association's Market Intelligence Group based on data sources believed to be reliable; however, accuracy cannot be guaranteed. This report is not intended to represent the viewpoint of American Cement Association member companies. The American Cement Association assumes no legal responsibility for the outcome of decisions or commitments made on the basis of this information.

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U.S. Labor-Energy Input Survey

2022

Executive Summary

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Labor Productivit

U.S. labor productivi r (mtph) in 2022. This measure increa level, productivity ranged f egan tracking labor productivity in past five years, tons per hour have a y over the past 40 years.

Hourly labor represe laried labor and contracted labor acc ed to the previous year, contracted labo ere engaged in direct labor – in the f bor, which includes plant mana ratory work hours, represented r ing, accounting, personnel, sales, an nergy Survey.

Energy Efficiency

The amount of energ f cement averaged the previous year The long-te rgy efficient technologies. Since er ton energy intensity by In BTU/ ton and the 75th perc

While cement produ and petroleum coke, their share of t decrease from 2021. This is the low ral gas has been trending upward, wit esenting a increase from last ye y years but the percentage of ceme at just over The share of total en ncrease from last year's alternative fue , hovering between ve fuel usage in fuel mixtures, replaci ed alternative fuels include: rail roa n the form of biofuels and biomas d plants utilized renewable energy, a

Survey Overview

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The **U.S. La** r and
energy usa and
energy effic ith the
understandi encies
from year to ater
significance

Only clinke
"Grinding O

Equivalent

Because a age in
this report i es are
being analy

Energy con nds
directly to th nts for
92% of a pl enerally
reflects elec
production

In this repor eights for
an equivale .

Equivalen

Clinker Pro
Finish Cem

Labor

	Equi
Clinker Product	
Finish Cement	

Energy

Fuel Type	per Ton
Example (tons	8,341.97

United States

Cement Industry

Labor Statistics
Portland Cement Industry Historic Summary

Year	Clinker Capacity Utilization	Employee Hours per 1000 Metric Tons			Production *(Metric Tons)* per Employee Hour
		Direct	Indirect	Total	

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Labor Efficiency
U.S. Cement Industry

Metric Tons per
Employee Hour

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Output Per Employee Hour

Year-Year
Percent Change

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Manufacturing **Non-Farm Business** **Cement**

Energy Statistics
Portland Cement Industry Historic Summary

Year	Clinker Capacity Utilization	Million BTU's per Metric Ton					Total Million BTU's per Metric Ton
		Coal & Coke	Natural Gas	Petrol. Products	Alt Fuels	Electricity	

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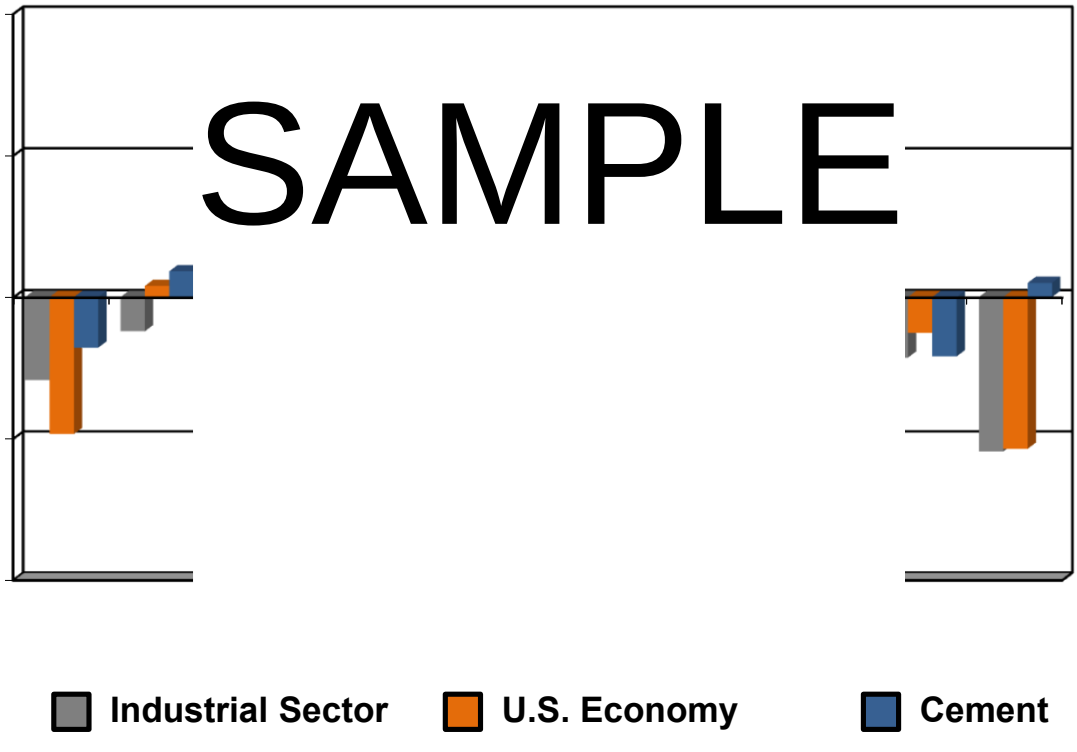
Energy Efficiency
U.S. Cement Industry

Millions of BTU's
Per Metric Ton

Energy Input (BTU) Per Output

Year-Year
Percent Change



U.S. Labor Productivity

(Equivalent Tons [1] per Employee Hour)

	2012	2016	2017	2018	2019	2020	2021	2022	% Change 2022/2012	% Change 2022/2021
All Plants*										
Wet Process										
Dry Process										

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[1] Metric tons used to measure labor efficiency are an equivalent ton measure composed of 85% clinker production plus 15% finished cement production

** Grinding only and white cement plants not included*

Energy Consumption by Type of U.S. Cement Plant

(Million BTU per Equivalent Tons [1])

	2012	2016	2017	2018	2019	2020	2021	2022	% Change 2022/2012	% Change 2022/2021
All Plants*										
Wet Process										
Dry Process										
No Preheater										
Preheater										
Precalciner										
Preheater/Precalciner										

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[1] Metric tons used to measure energy efficiency are an equivalent ton measure composed of 92% clinker production plus 8% finished cement production

** Grinding only and white cement plants not included*

*** Includes plants that are Preheater only*

NOTE: Dash marks denote withheld data due to low plant counts for the given categories

Distribution of Energy Consumption*

(U.S. Cement Plants)

	1972	2016	2017	2018	2019	2020	2021	2022
Coal and Coke								
Natural Gas								
Petroleum Products								
Electricity								
Alternative Fuels	-							
Total Fuel	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

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** Based on Btu's consumed*

Alternative Fuel Summary

(U.S. Cement Plants)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Plants Reporting									
Plants using Alternative Fuels									
Percent									
Types of Alternative Fuels Utilized*									
Tire Derived									
Waste Oil									
Solvents									
Other									
Renewables									

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**Plants may use more than one type of alternative fuel*

U.S. Energy Consumption

Percent Distribution

(Based on BTU's consumed)

Fuel Distribution

Alternative Fuels Breakout

2022 Total Labor Productivity and Energy Efficiency

	Tons[(1)] per Employee Hour	Million BTU per Metric Ton[(2)]
All Plants*		
Built or Modernized		
Wet Process		
Dry Process		

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(1) Metric tons used to measure labor efficiency are an equivalent ton measure composed of 85% clinker production plus 15% finished cement production

(2) Metric tons used to measure energy efficiency are an equivalent ton measure composed of 92% clinker production plus 8% finished cement production

** Grinding only and white cement plants not included*
NOTE: Dash marks denote withheld data due to low plant counts for the given categories

U.S. Labor Productivity
2022

Metric Tons [1]
Per Employee Hour

U.S. Energy Efficiency
2022

Million BTU Per
Metric Ton [2]

U.S. LABOR & ENERGY SURVEY

All Plants

I. INDUSTRY INFORMATION

Metric tons

Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	
Response Rate (% of capacity)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salaried Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal (tons)			
Petroluem Coke (tons)			
Natural Gas (millions cu. ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (H			
Renewable - Seeds and Shells (Hea			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

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U.S. LABOR & ENERGY SURVEY

Less than 1,000,000 Clinker Capacity

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal (tons)			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Heat: Wood & Agricultu			
Renewable - Heat: Seeds and Shells			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

1,000,000 and Greater Clinker Capacity

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal (tons)			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Heat: Wood & Agricult			
Renewable - Heat: Seeds and Shell			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

Built or Modernized before 1980

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons			
Middle Distillates - Fuel Oil (gallon			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Heat: Wood & Agric			
Renewable - Heat: Seeds and Sh			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

Built or Modernized between 1980 and 1999

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Heat: Wood & Agricult			
Renewable - Heat: Seeds and Shell			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

Built or Modernized after 1999

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallon			
Middle Distillates - Fuel Oil (gallo			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Heat: Wood & Agric			
Renewable - Heat: Seeds and Sh			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

Wet Process

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (H			
Renewable - Seeds and Shells (He			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

Dry Process - Preheater

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons			
Middle Distillates - Fuel Oil (gallo			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural			
Renewable - Seeds and Shells (H			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

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U.S. LABOR & ENERGY SURVEY

Dry Process - Precalciner

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (H			
Renewable - Seeds and Shells (He			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

Dry Process - Preheater or Precalciner

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (H			
Renewable - Seeds and Shells (Hea			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

Pacific Region

I. INDUSTRY INFORMATION

Metric tons

Clinker Production
Finish Cement Production
Annual Practical Clinker Capacity
Capacity Utilization Rate (%)

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (He			
Renewable - Seeds and Shells (Heat			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

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U.S. LABOR & ENERGY SURVEY

Mountain Region

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (			
Renewable - Seeds and Shells (He			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

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U.S. LABOR & ENERGY SURVEY

West North Central Region

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallo			
Middle Distillates - Fuel Oil (gal			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultu			
Renewable - Seeds and Shells			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

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U.S. LABOR & ENERGY SURVEY

East North Central Region

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gall			
Middle Distillates - Fuel Oil (gal			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultu			
Renewable - Seeds and Shells			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

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U.S. LABOR & ENERGY SURVEY

West South Central Region

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (H			
Renewable - Seeds and Shells (Heat			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

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U.S. LABOR & ENERGY SURVEY

East South Central Region

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallon			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (			
Renewable - Seeds and Shells (H			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

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U.S. LABOR & ENERGY SURVEY

South Atlantic Region

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

Fuel Type	Quantity	BTUs (Billions)	BTUs per Ton
Coal			
Petroluem Coke (tons)			
Natural Gas (million cu. Ft.)			
Gasoline (gallons)			
Middle Distillates - Diesel (gallons)			
Middle Distillates - Fuel Oil (gallon			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (			
Renewable - Seeds and Shells (He			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			

SAMPLE

U.S. LABOR & ENERGY SURVEY

Middle Atlantic and New England Regions

I. INDUSTRY INFORMATION

	Metric tons
Clinker Production	
Finish Cement Production	
Annual Practical Clinker Capacity	
Capacity Utilization Rate (%)	

II. LABOR INFORMATION

	Number of Employees	Empoyee Hours	Tons per Employee Hour
Direct Labor			
Indirect Labor			
Total Labor			
Hourly Labor			
Salary Labor			
Contract Labor			

SAMPLE

III. ENERGY INFORMATION

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Middle Distillates - Fuel Oil (gallons)			
Residual Oil			
LPG (gallons)			
Renewable - Power			
Renewable - Wood & Agricultural (Heat)			
Renewable - Seeds and Shells (Heat)			
Biomass			
Alt. Fuel - Waste Oil			
Alt. Fuel - Solvents			
Alt. Fuel - Tire Derived			
Alt. Fuel - Refuse Derived			
Alt. Fuel - Hazardous Waste			
Alt. Fuel - Tire Fluff & Ashes			
Alt. Fuel - Other Solid			
	TOTAL F		
Electricity (Heat) (1000 kWh)			
Electricity (Power) (1000 kWh)			
	TOTAL:		

SAMPLE

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SAMPLE

Contract Em
If contract em the prior
year's industry unt
adjusted acco

Annual Clink
If annual clink ity and
reported down

Heat Content
Changes to d inistration
are indicated i

(1)
alue)

Gasoline	
Middle Distill	
Middle Distill	
Coal	
Residual Oil	
Natural Gas	
Petroleum C	
LPG	
Electricity	
Alternative F	5-150,000/gallon
Alternative F	5-100,000/gallon
Alternative F	2-35,000,000/ton
Alternative F	ent
Alternative F	ent
Alternative F	ent

(1) Source: Argon

High and Low

Prior to 2021, n Canada,
and most othe efore,
ACA has use e discounts
the heat losse m the
combustion of .

SAMPLE

ALTERNATIVE F ient energy to either supplement or pa combustion.

CAPACITY UTILI as a share of estimated maxim heoretical value estimated by mult

CEMENT: Any ch unique and separate materials into a u

CLINKER: The fu

CLINKER CAPA n produce per day given a realistic w s normal downtime days. Normal do ntenance, repair or clean-up. Accord raged 37.7 days in 2019. Clinker ca

COAL: A readily uding inherent moisture, consist volume of carbonaceous ma hardened, chemically altered

DIESEL: A liquid compression.

DIRECT LABOR: aterial handling, production, distrib

DRY PROCESS: ound, conveyed, blended and store

FINISH GRINDIN dition gypsum and limestone.

GASOLINE: A liq distillation of petroleum.

HAZARDOUS W ses or specific industries that can with specific ignitability, corrosi

INDIRECT LABO a specific department; such sonnel, clerks, watchmen, and la or research is not considered indirec

KILN: Equipment emperature of about 1450 degrees C.

LPG: Liquified pet ixtures of hydrocarbon gase

SAMPLE

NATURAL GAS enings or bored
wells. Consists e e, hydrogen, oxide
of carbon, nitrog

OIL: A mixture of und pools or
reservoirs, broad ude oil, lease
condensate, unfi il, and natural gas
plant liquids. Not compounds, such
as additives and

PETROLEUM C e final product of
thermal decomp

PRECALCINER: exit gases with
separate burners lash furnace,
calciner, calcinin

PREHEATER: In ry kiln proper to
improve over-all f : (1) Suspension
Parallel Flow Cy d or Grate,(5)
Fluidized Bed, an Beds, (2) Chains,
or (3) Crosses.

REFUSE-DERIV waste.

RENEWABLE F s include biofuels
like ethanol and nsist of fuels
synthesized from

SOLVENTS: Mat stituents. Example
applications inclu s an extractant.

TIRE DERIVED

WET PROCESS king and pumping
cement raw mate s are extremely wet
and sticky, which

AMERICAN CEMENT ASSOCIATION

MEMBER COMPANIES

SAMPLE

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