

Welcome to your CDP Climate Change Questionnaire 2020

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Vulcan Materials Company is the largest producer of construction aggregates in the United States—primarily crushed stone, sand and gravel—and a major producer of aggregates-based construction materials including asphalt and ready-mixed concrete. Our coast-to-coast footprint and strategic distribution network align with and serve the nation’s growth centers. We are headquartered in Birmingham, Alabama. Vulcan’s number of active operations is continually changing due to strategic growth opportunities. As of January 1, 2020, the Company had 366 aggregate sites, 70 hot-mix asphalt operations, and 53 concrete product operations. All of these are located in the U.S. except for our large quarry and marine terminal on Mexico’s Yucatán Peninsula and a smaller quarry in the Bahamas. The products from this facility are primarily exported by ship to the U.S. Gulf Coast.

What we produce is used in nearly all forms of construction. In particular, large quantities of aggregates are used to build and repair valuable infrastructure such as roads, bridges, waterworks and ports, and to construct buildings both residential and nonresidential, such as manufacturing facilities, office buildings, schools, hospitals and places of worship.

The Company’s carbon footprint is primarily comprised of Scope 1 greenhouse gas emissions from the use of diesel and other fuels that power mobile equipment and the use of natural gas, propane and other carbon based fuels that are used in the production of hot-mix asphalt. The Company’s operations also use purchased electricity to power the equipment and provide power to the facilities for lighting, cooling and heating, and other uses. The Scope 2 greenhouse gas emissions attributable to the utilities that provide electricity to Vulcan’s operations are an additional component of Vulcan’s carbon footprint. At this time, Vulcan is not reporting the full range of Scope 3 emissions information, but has included complete information for a partial list of Scope 3 categories. The additional Scope 3 emissions will be reported as data becomes available.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
--	------------	----------	---	--

Reporting year	January 1, 2019	December 31, 2019	Yes	3 years
----------------	-----------------	-------------------	-----	---------

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Financial control

C-CE0.7

(C-CE0.7) Which part of the concrete value chain does your organization operate in?

- Limestone quarrying
- Aggregates production
- Concrete production
- Concrete pavement / asphalt / tarmac

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
---------------------------	----------------

Board-level committee	The Safety, Health and Environmental Committee of the Board of Directors has oversight authority for all environmental matters including climate related issues. The Committee is comprised of members of the Board of Directors. There is also oversight of climate change issues as part of the Board Audit Committee that focuses on risk assessments conducted regarding company operations and products.
Board Chair	The Board chair is also the President and Chief Executive Officer for the Company. He has ultimate responsibility and authority for commitment of company resources (financial, personnel, equipment)

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	<ul style="list-style-type: none"> Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues 	<p>Routine reporting to the Board includes as warranted climate change risks; emission reduction goals and targets; performance towards achievement of goals; major capital projects that impact climate change; and impacts and opportunities regarding climate issues. Anticipated impacts of climate change on company financial reporting is also performed in response to major climate related events and disasters.</p>

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other committee, please specify SHE Management Committee ☞ ₁	Managing climate-related risks and opportunities ☞ ₂	Quarterly
Chief Executive Officer (CEO) ☞ ₃	Managing climate-related risks and opportunities ☞ ₄	More frequently than quarterly
Chief Financial Officer (CFO) ☞ ₅	Both assessing and managing climate-related risks and opportunities ☞ ₆	More frequently than quarterly
Chief Risks Officer (CRO) ☞ ₇	Other, please specify (Chief Legal Officer) Assessing and managing climate change risks and ensuring that proper disclosures are made as part of financial reporting (10k, 10Q, Annual Reports, Sustainability Documents, etc.) ☞ ₈	More frequently than quarterly
Energy manager ☞ ₉	Other, please specify Responsible for management of company energy supply and resources and for procurement of clean energy sources. Identifies opportunities for partnerships and other arrangements to procure green energy sources such as wind turbines. ☞ ₁₀	Quarterly
Environment/Sustainability manager ☞ ₁₁	Both assessing and managing climate-related risks and opportunities ☞ ₁₂	More frequently than quarterly

☞₁ SHE management committee comprised of company president/ceo; chief legal counsel; environmental and health/safety director; director of risk management; division presidents. Committee has the authority to authorize resources to address climate change and to set company policy regarding climate change strategy and GHG emission reduction targets.

☞₂ This committee includes the Chief Executive Officer/Chairman of the Board, Chief Legal Officer, Chief Financial Officer, Directors of Safety/Health and Environmental Compliance,

Division Presidents and Head of Operations. This committee has the responsibility and authority to direct the resources needed to assess and manage climate change risks and opportunities; climate change performance assessment and goals setting; evaluation of operational and direct impacts of climate change on company properties and operations; direct and indirect impacts on financial performance due to physical impacts to operations and infrastructure; impacts on the supply chain and customer base due to damage to infrastructure that adversely impacts product demand or interrupt distribution and delivery/supply of raw materials such as fuel and product shipments to customers.

☞³CEO is also the Company President and Chairman of the Board. He is ultimately responsible for committing the company to targets and goals regarding GHG emissions reductions and strategy regarding management of climate change risk.

☞⁴The Chief Executive Officer for Vulcan Materials Company is also the Chairman of the Board of Directors. He has ultimate authority to ensure that proper resources including financial, engineering and environmental experts, operational management personnel, energy management personnel, procurement, and other support groups are assigned to ensure management of climate change issues across the company. He also has responsibility for providing leadership and direction regarding company climate change goal setting and performance measurement and assessment. He also has responsibility for setting the tone company-wide regarding the significance and importance of climate change management to the company and company shareholders. He also serves to represent the company in leadership forums focused on climate change.

☞⁵Chief Financial Officer is responsible for accounting and financed functions of the organization and has a major role in determining capital expenditure budgets and for directing funds towards projects that target GHG emission reductions.

☞⁶The Chief Financial Officer has responsibility for assessing impacts of climate change on financial reporting, including assessment of financial performance impacts to company budgets and projections; identification of impacts to reported financial reporting and financial guidance and evaluation of potential restatements of financial plans. Position is also responsible for ensuring that processes are in place and functioning regarding capital project budgeting and approval to ensure that funds are available to support capital projects that are associated with climate change.

☞⁷Chief Legal Counsel also responsible for addressing potential legal risks facing the company, including ensuring that climate change risks are being adequately managed and properly disclosed through financial reporting.

☞⁸Have a Chief Legal and a Risk Management Officer, Risk Management reports through legal.

☞⁹Manages the energy supply for the company and is responsible for finding new opportunities in energy procurement that are financially viable for the company while also minimizing the impact of these sources on company's carbon footprint.

☞¹⁰Identified opportunities for procurement of renewable and low carbon energy sources and helps identify opportunities to partner with other companies and utilities for participation in pursuit of new renewable energy platforms.

☞¹¹Roles regarding climate change currently jointly managed by Corporate Director of Environmental Compliance and Director of Environmental Services positions.

¹²This position is responsible for working with other functional group leaders to ensure that plans and processes are in place to address climate change management and that emerging issues are identified and reported as needed to company management. This individual works closely with other leaders to provide GHG emissions estimates and projections and to assess the impacts of company activities on climate change reporting. Works closely with external affairs and governance personnel to ensure that climate change information is accurately reported to external parties including investment groups, shareholders, customers and suppliers, etc.

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

(SHE Management Committee) Highest level management committee responsible for oversight of Safety, Health and Environmental issues reports to Board SHE Committee. The committee includes top executives for the Company including the Company's Chief Executive Officer and Chairman of the Board; Chief Financial Officer; Chief Legal Officer; Chief Administrative Officer; Head of Risk Management; and senior level SHE managers. The impact of climate issues has historically focused on developments related to carbon emissions regulations; information on the Company's greenhouse gas emissions; climate change content for the Company's Social Responsibility Report (on the Company website); and public disclosure content and process for climate issues. The focus is being expanded to include goal and target setting and performance measurement and reporting. (Chief Executive Officer/Chairman of the Board) Reports to Board of Directors and he has ultimate responsibility to ensure that company impacts to/climate change are managed.) (Chief Financial Officer) Reports to CEO and is responsible for management of fiduciary impacts to company and application and compliance with approved accounting methods and financial reporting requirements. (Chief Risk/Legal Officer reports to CEO) Responsible for ensuring accuracy of external reporting of climate change impacts to the company. Responsible for ensuring that company processes and procedures are fully compliant with legal requirements and for representing the company on legal matters such as government enforcement cases. (Energy Manager) Reports to VP of Procurement and is responsible for management of supply and infrastructure of energy for the company. Engages in establishment of business agreement with green energy and renewable energy providers and sources. (Environmental Compliance and Environmental Services Directors (currently vacant and being supported by retired director) Reports to VP of Operations and are responsible for management of environmental compliance programs for the company including climate change management.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Board of Directors has set performance objects for CEO regarding climate change. Majority of company management on incentives program that can be impacted by energy management performance tied directly to climate change.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Management group	Monetary reward	Emissions reduction target Energy reduction target Efficiency target Company performance against a climate-related sustainability index	<p>The Board of Directors has set ESG performance goals for the President/CEO, which includes climate change issue management.</p> <p>Company's financial performance directly impacts the compensation for all employees, but especially for people in management positions up through the company executives. Financial performance of the Company is impacted by the cost of energy. Key performance indicators are established associated with energy efficiency that are factors in the performance evaluations of the operations and their management team. This establishes a correlation between financial performance and activities designed to reduce the usage of carbon based fuels, thus financial incentives are impacted by the Company's management of carbon based fuels. Additionally, the investment community is increasingly focusing on management of climate issues as a performance indicator for companies that are targeted for investment. The success of the Company's climate issues management affects investor sentiment and potentially stock price, which also affects executive compensation. The Company has established specific performance metrics for measurement and reporting of climate issues. Performance overtime is being measured and reported internally and externally through the Company CSR website and report and to the</p>

			investment community via performance presentations.
--	--	--	---

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	5	
Medium-term	5	10	
Long-term	10	50	

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

A substantial financial impact occurs when an event or series of events related to Vulcan's business, among others, could cause actual results to differ materially from those described in the forward-looking statements. Climate change is one of the issues identified in Vulcan's forward looking statement at the end of the most recent quarterly earnings report as a potential risk. Substantive strategic impacts would be events or series of events that inhibit Vulcan's ability to secure and permit aggregates reserves in strategically located areas; Vulcan's ability to manage and successfully integrate acquisitions; events that cause a disruption of the way Vulcan does business and how Vulcan's products are distributed; and other assumptions, risks and uncertainties detailed from time to time in the reports filed by Vulcan with the SEC.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream

Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Description of process

There are multiple processes where risks of climate change impacts are identified, evaluated and reported. At the Corporate level, there is a formal twice per year risk assessment process that is implemented under Board of Directors authority and climate change risks are evaluated; The SHE management committee and other Vulcan teams focuses on climate related risks and disclosure of climate change impacts. Climate change risks are also discussed and evaluated to ensure adequate disclosures as part of the financial reporting process, including preparation of the company annual report. Climate change risks are also identified and evaluated in preparation for completion of the CDP survey and in advance of major meetings with financial analysts. Climate change risks evaluation is also inherent to the planning process for facility improvements, equipment purchases, and capital project planning as part of the focus on reducing ongoing GHG emissions and improving energy efficiencies. The procurement process is also integrated into the planning process for reduction of climate change impacts through procurement of clean energy (low carbon and renewable) sources.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Impact of current regulation and public policy is always a component of risk assessment process. For instance, EPA Greenhouse Gas Reporting Rule.
Emerging regulation	Relevant, always included	Impact of emerging regulation and public policy developments are always a component of risk assessment process. For instance, potential expansions of EPA Greenhouse Gas Reporting Rule and anticipated actions related to climate change at the State and Federal levels of government; within the US Congress; and at the Presidential level.

Technology	Relevant, always included	Impact of technology used to produce Vulcan's products and impacts climate-related issues could have on that technology and potential costs of upgrade are considered (such as replacement of mobile equipment with new units that incorporate Tier IV clean engine technology).
Legal	Relevant, always included	Legal matters associated with climate-related issues are always included such as compliance obligations under climate-related laws and regulations; consideration of when a climate-related issue should be considered material; regulatory impacts.
Market	Relevant, always included	Climate-related issues and their impacts on markets and demand for products are always considered. The best example of this are the issues associated with weather impact on demand and how to best consider and manage the associated risk.
Reputation	Relevant, always included	The impact on the Company's reputation and the public perception of the Company's management of climate issues is one of the more significant risks that climate-related issues have on the Company. The impact to Company reputation is considered as part of the risk assessment process and as part of the process of reviewing and commenting on external ESG reviews of the Company.
Acute physical	Relevant, always included	Acute physical impacts of climate-related issues that are assessed include extreme weather impacts on Vulcan's operating facilities that could interfere with the ability to supply materials to our customers; impact on construction activity (timing and scope) due to extreme weather events that affect material sales and Company revenue; impact on infrastructure that affect ability to deliver product to our customers;
Chronic physical	Relevant, sometimes included	Chronic issues considered include longer term concerns such as water level rises and the impacts on operations that are in close proximity to affected waters; and water supply issues that develop due to periods of extended drought. The impact of extreme weather on the Company/s ability to accurately estimate future earnings is a chronic risk in that repeated earnings misses could affect the Company's reputation regarding the ability to accurately project future earnings.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Increases in frequency and severity of storms as well as an expanded storm season could result in production and sales interruptions that affect earnings. Uncertainty and variability around weather and climate could affect the Company's operations (which are outdoor) and financial results.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,000,000

Potential financial impact figure – maximum (currency)

10,000,000

Explanation of financial impact figure

Estimate of annual impact on aggregate, asphalt and ready-mix concrete shipments from storms, floods and fires from 2017 to current.

Cost of response to risk

5,000,000

Description of response and explanation of cost calculation

Weather is factored into the budgeting and financial forecasting processes. If impacts continue to increase then these processes would be adjusted accordingly.

Comment

Management process already established and not impacted financially.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Rising sea levels

Primary potential financial impact

Increased direct costs

Company-specific description

Rising water levels potential to impact operations that are within the water rise zone to the extent that major facility improvements or relocation of operation is required. The potential for multiple site impacts raised the risk of this issue having a substantial financial and/or strategic impact on the company.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Estimates would need to be developed on a site specific basis as engineering of potential site improvements and/or identification of sites for possible relocation too would need to be known to produce an accurate estimate.

Cost of response to risk

1,000,000

Description of response and explanation of cost calculation

Cost for development of site engineering plans, surveys, and engineering estimates for relocation and/or shoring up of site with impacts from water rising. Assuming 10 sites potentially impacted but this is not definitive.

Comment

Estimate is not engineered and is subject to considerable uncertainty and variability.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Reputation

Increased stakeholder concern or negative stakeholder feedback

Primary potential financial impact

Decreased access to capital

Company-specific description

Negative ratings regarding climate change policies and the lack of specific GHG emission reduction goals negatively impact sentiment of potential investors, analysts, and creditors.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The impact of lost reputation and negative investor sentiment has not been estimated due to variable and uncertainty associated with issue.

Cost of response to risk

1,000,000

Description of response and explanation of cost calculation

Upgrade data collection and reporting to collect information needed to improve ESG disclosures and to release expanded disclosures to communicate more effectively ESG programs and support.

Comment

This action is intended to provide more transparent and comprehensive information to investors to improve ESG rankings. Costs for potential projects and activities to reduce GHG emissions to achieve stated targets and goals is in addition to this amount.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Returns on investment in low-emission technology

Company-specific description

Vulcan is engaging with Florida Power and Light for supply of 100 zero carbon renewable (solar) energy for locations supplier power by the utility in Florida. This will come on line project for 2021 if schedules hold. Commitment to purchase and solar plants utility approval are complete. This will reduce Vulcan's carbon emissions in Florida by an estimated 14,000 tpy based on 2019 production rates and cut statewide emissions in Florida by over 35%.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

200,000

Potential financial impact figure – maximum (currency)

2,000,000

Explanation of financial impact figure

Based on cost of carbon and savings on fuel supply cost with utility. Potential additional savings in rates and company reputation improvements that could impact customers and investors.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

When Vulcan can find opportunities to procure low carbon renewable energy supply sources the opportunity is being evaluated. Strategy involved entering into agreement to purchase above a stated amount of energy for a set period of time to be provided with assurances of commitment to supply the energy.

Comment

The terms of contracts for these opportunities vary and numbers provided are rough estimates as actual figures are either not determined or confidential. If data on costs and benefits becomes available for release it will be provided on future survey responses.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Vulcan Materials Company's concrete business unit has licensed the CarbonCure technology that provided capture and sequestration of carbon dioxide within ready-mix concrete. The carbon dioxide becomes chemically bound within the concrete matrix and is not released even when the concrete is recycled following use. The technology also reduces the demand for cement and other cementitious materials which reduces the supply side carbon footprint. The resulting concrete is also stronger than it would have been without use of the technology.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

1,000,000

Explanation of financial impact figure

Financial impacts are tied to the marketing strategy for our concrete business line and are considered confidential and cannot be disclosed.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

Opportunity is already being realized and the intent is to expand the use of this technology for our ready-mix production.

Comment

Costs to realize have already been incurred and are considered confidential and cannot be disclosed.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Company conducts energy audits of operations and identifies areas for operational efficiency improvements and energy savings opportunities. Some of the opportunities that are being implemented are provided separately in additional entries following this one. Specific areas of focus include replacement of older motors with new ultra high efficiency motors to power plant processing equipment; improvements in water handling systems to reduce water pumping needed; optimizing process equipment flow to maximize efficiency; use of led lighting and optimization of air conditioning and lighting control to reduce energy consumption.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

100,000

Potential financial impact figure – maximum (currency)

2,000,000

Explanation of financial impact figure

Projects are being implemented across the Company on an ongoing basis. The financial impact values are an estimate range of reduced costs for efficiency changes that occur annually. The cumulative impact of these changes is much larger as increased efficiency continues to reduce cost going forward.

Cost to realize opportunity

100,000

Strategy to realize opportunity and explanation of cost calculation

Opportunities identified by a multi-functional team including Corporate, Division and Facility personnel. Implementation of recommended actions responsibility of plant operations management with support of engineering, procurement and other Company resources.

Comment

Cost varies based on specific changes being implemented. This is likely the low end of a range that could extend into the millions for major plant rebuilds to implement more efficient operations.

Identifier

Opp4

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Returns on investment in low-emission technology

Company-specific description

Company is working on multiple projects involving potential location of solar generation facilities for the company on our property. Still ongoing and dependent obtaining necessary government approvals and resolution of any legal considerations. The sites currently being evaluated on in Vulcan western operations.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

100,000

Potential financial impact figure – maximum (currency)

5,000,000

Explanation of financial impact figure

Impact figures dependent on number of facilities that can be brought online and size of operations. Benefits include decreased operating costs, potential to sell back energy, and possible carbon credits.

Cost to realize opportunity

1,000,000

Strategy to realize opportunity and explanation of cost calculation

Utilizing Vulcan land to locate renewable energy facilities to supply power to Vulcan operations. Strategy is to reduce cost, lowers company's climate change impact, and potentially derive revenue from operation.

Comment

Projects like this being evaluated constantly but they often take years to mature.

Identifier

Opp5

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient modes of transport

Primary potential financial impact

Company-specific description

Company is engaged in a multi-year ongoing program of replacing older mobile equipment (Loaders, Haul Trucks, etc.) with new unit that utilize the newest most energy efficient motors (Tier 4 Engines). In the last 4 years over \$180 million dollars was invested in new equipment with Tier 4 engines. As the fleet is upgraded the Company will see a reduction in direct emissions of CO₂e from the combustion of diesel fuel. The energy savings are subject to many variables but a 5-10% reduction in the amount of diesel consumed by the off-road equipment per ton of production is anticipated.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

50,000

Potential financial impact figure – maximum (currency)

500,000

Explanation of financial impact figure

Potential energy cost savings for 5-10% efficiency gains as fleet nears 100% Tier 4 equipment. Estimate based on projected fuel saving however additional benefits and impacts include higher efficiency so more material can be processed increasing profitability.

Cost to realize opportunity

250,000,000

Strategy to realize opportunity and explanation of cost calculation

Continue to purchase Tier 4 equipment and to take older equipment out of service.

Comment

Rough estimate of dollars that will be spent upgrading equipment including the \$180,000,000 already spent.

Identifier

Opp6

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced direct costs

Company-specific description

Vulcan is entered into agreement with energy supplier in Eastern US to supply renewable energy from landfill gas electrical generation system.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

100,000

Potential financial impact figure – maximum (currency)

2,000,000

Explanation of financial impact figure

Potential rate savings and carbon credit values. Direct reduction of emissions of GHG methane emissions from landfill.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

Negotiations with utility supplier with renewable energy source.

Comment

Project complete and being implemented at multiple plants.

Identifier

Opp7

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of new technologies

Primary potential financial impact

Reduced direct costs

Company-specific description

Company exploring installation of battery storage for electricity at multiple locations so that energy can be stored during off peak periods to run the plant equipment so that peak load usage is minimized. This has significant implications with the ability of the utility to meet peak demands and to reduce the use of the older plants that burn coal or oil and emit greater concentrations of GHG emissions.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

100,000

Potential financial impact figure – maximum (currency)

5,000,000

Explanation of financial impact figure

Estimated savings on electricity cost and revenue from sell back of electricity.

Cost to realize opportunity

200,000

Strategy to realize opportunity and explanation of cost calculation

Utilization of new technology and electricity rate structure management.

Comment

May end up with multiple locations employing this technology.

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.1b

(C3.1b) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
IEA 450 IEA Sustainable development scenario	Incorporation of weather forecasting into the process for projecting production and sales targets. Incorporation of emissions reduction efforts into project planning and budgeting. Incorporation of climate change risks and impacts into financial reporting. Focus on more energy efficient equipment.

C3.1d

(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.

Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence

Products and services	Yes	Impacts of climate on product quality and quality of end products that our material is a supply source for are part of the quality control process and product development and testing process. For instance, porous pavement is a product that takes into account impact of water from rainfall on highway surfaces and is designed to reduce ponding or build-up of water during a storm event. Changes in product mix design demand due to climate affecting job mix are monitored to allow for adjustment to prevent supply disruption.
Supply chain and/or value chain	Yes	Impacts of weather on ability to recover raw materials for producing product are considered in setting production estimates and financial planning. Impacts on supply chain of severe weather events that delays shipments of needed materials to Vulcan.
Investment in R&D	Yes	Focus on product development and optimization where products are needed to combat effects of climate change including porous pavements that help to keep vehicles from hydroplaning on highways; erosion control products including armor stone and rip rap; easy flow material to aide in filling of eroded areas from runoff; material for use in flood control barriers (sand bags and others). These materials are in high demand when areas are preparing for or responding to hurricanes and other severe weather events.
Operations	Yes	Impacts of climate on equipment, personnel and facilities are considered both in the design and operation of our plants. Equipment must be able to withstand the forces of wind and rain and other climate related issues. Consideration of flood plane locations and shifting due to water level rising from climate change are also considered. Sites are designed with sufficient containments and water impoundment capacity to handle anticipated storm event.

C3.1e

(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Capital expenditures Capital allocation	Projection of climate related impacts are factored into estimating production capability as well as for adjusting market forecasts regarding demand for products. This information impacts the projection of

		revenues for the company. Climate events can also impact projections and forecasts for revenues for the company. Impacts of water rise can impact future capital expenditures for relocation or renovation and upgrading of facilities to control impact. Perception of investment community and financial organization of the company's preparedness for climate change impacts can influence perception of risk and willingness to provide capital and/or credit for future projects.
--	--	---

C3.1f

(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

Vulcan is in the position where climate related issues can impact the company negatively or positively depending on the circumstances. Major climate events such as hurricanes, droughts, etc. can impact the ability of the company to meet production projections in the short term. These same events create increased demand for Vulcan's products as infrastructure is repaired and replaced to correct damage caused by the event.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

No target

C4.1c

(C4.1c) Explain why you did not have an emissions target, and forecast how your emissions will change over the next five years.

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	Expect overall emissions to follow the demand for aggregate in the near term. However, the increases in energy efficiency and use of more efficient plant mobile equipment will allow the amount of emissions per ton of production or \$ revenue to go down. So on a unitized basis we will improve.	Construction spending is anticipated to continue to increase as will production and sales. Execution of additional growth opportunities will likely continue to move our baseline. As opportunities for carbon reduction projects and energy efficiency improvement ideas are implemented the unitized GHG emission rate numbers should decrease (improve) each year.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

No other climate-related targets

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	6	20,000
To be implemented*	4	35,000
Implementation commenced*	1	25,000
Implemented*	3	25,000
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes
Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)

10,000

Scope(s)

Scope 1
Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

75,000

Investment required (unit currency – as specified in C0.4)

50,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Dollars based on 20 units installed and rough estimates not actual procurement or purchasing estimates.'

Initiative category & Initiative type

Low-carbon energy consumption
Biogas

Estimated annual CO2e savings (metric tonnes CO2e)

10,000

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

50,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Savings on utility costs for electricity from landfill gas use to fuel electrical generators.

Initiative category & Initiative type

Transportation
Company fleet vehicle replacement

Estimated annual CO2e savings (metric tonnes CO2e)

5,000

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

120,000

Investment required (unit currency – as specified in C0.4)

150,000,000

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

Payback is primarily for increased production and decreased operating cost. Estimates based on 100 units purchased.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Financial optimization calculations	Vulcan is always looking for ways to be more energy efficient and organized operating teams evaluate the opportunities for increasing efficiency on an ongoing basis. These opportunities are identified through site review conducted with input provided from plant personnel and with the engagement of engineers committed to identify production optimization ideas and opportunities. Projects are prioritized and authorized based on calculated financial benefits.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

Vulcan licenses a technology (Carbon Cure) from Carbon-Cure Technologies at our Edsall Road Ready-mix Concrete facility in Springfield, Virginia that sequesters carbon dioxide into the ready-mix concrete products. The source of the carbon dioxide are industrial sources where the gas is captured then purified and compressed. The compressed gas is fed into the concrete manufacturing process where it chemically reacts with the ready-mix concrete and is incorporated into the product. The carbon dioxide is not released from the concrete and its chemical components are incorporated into the concrete. This process sequesters carbon dioxide that would otherwise have been released and also replaces some of the cement and other materials that is needed to make the concrete subsequently reducing the carbon footprint of the concrete.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product and avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

% revenue from low carbon product(s) in the reporting year

1

Comment

Percentage is provided as an estimate based on the amount of concrete that used the CarbonCare process versus the total amount of concrete produced. The revenue generated by the concrete produced using CarbonCare versus total Company revenue is less than 1%.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1, 2013

Base year end

December 31, 2013

Base year emissions (metric tons CO₂e)

1,154,980

Comment

Base year emissions include cement plant that was divested the following year. Baseline year has not been adjusted to account for acquisitions and divestitures that have occurred since 2013. Vulcan's position is that these numbers are representative of the company's emissions profile that existed each year. This provides more accurate reporting of our carbon signature. When GHG emissions reduction goals are set, the data will be standardized to account for organizational changes that occur following the baseline year for performance measurement.

Scope 2 (location-based)

Base year start

January 1, 2013

Base year end

December 31, 2013

Base year emissions (metric tons CO₂e)

430,555

Comment

Same approach was used for Scope 2 emissions, the eGRID values that were available in 2013 were used and have not been adjusted as the factors change, as this reflects emissions based on the supply mix available at that time.

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

Base year market data is not available so location based information is being used.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

US EPA Center for Corporate Climate Leadership: Indirect Emissions From Purchased Electricity
US EPA Center for Corporate Climate Leadership: Direct Emissions from Stationary Combustion Sources

US EPA Center for Corporate Climate Leadership: Direct Emissions from Mobile Combustion Sources

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO₂e?

Reporting year

Gross global Scope 1 emissions (metric tons CO₂e)

626,221

Start date

January 1, 2019

End date

December 31, 2019

Comment

Calendar year annual basis, doesn't include transportation or international operations.

Past year 1

Gross global Scope 1 emissions (metric tons CO₂e)

588,921

Start date

January 1, 2018

End date

December 31, 2018

Comment

Calendar year annual basis, doesn't include transportation or international operations.

Past year 2

Gross global Scope 1 emissions (metric tons CO₂e)

592,159

Start date

January 1, 2017

End date

December 31, 2017

Comment

Calendar year annual basis, doesn't include transportation or international operations.

Past year 3

Gross global Scope 1 emissions (metric tons CO₂e)

580,756

Start date

January 1, 2016

End date

December 31, 2016

Comment

Calendar year annual basis, doesn't include transportation or international operations.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We have operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report a Scope 2, market-based figure

Comment

Do not have market based figures for entire company.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO₂e?

Reporting year

Scope 2, location-based

371,778

Start date

January 1, 2019

End date

December 31, 2019

Comment

Calendar year annual basis, doesn't include transportation or international operations.

Past year 1

Scope 2, location-based

362,248

Start date

January 1, 2018

End date

December 31, 2018

Comment

Calendar year annual basis, doesn't include transportation or international operations.

Past year 2

Scope 2, location-based

330,000

Start date

January 1, 2017

End date

December 31, 2017

Comment

Calendar year annual basis, doesn't include transportation or international operations.

Past year 3

Scope 2, location-based

308,042

Start date

January 1, 2016

End date

December 31, 2016

Comment

Calendar year annual basis, doesn't include transportation or international operations.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Fuel used for transportation of products to customer locations and emissions for international operations.

Relevance of Scope 1 emissions from this source

Emissions are relevant and calculated, but not disclosed

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

Vulcan uses a combination of company owned vehicles and third party vehicles to supply products to customers. In many cases customers arrange for pickup and delivery. Vulcan believes the best representation of our business model is for all product delivery related emissions to be reported as Scope 3 values. This allows for more direct comparison related to operation of our facilities versus data related to transportation of products.

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, not yet calculated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Not evaluated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Upstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Waste generated in operations

Evaluation status

Not evaluated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

1,032

Emissions calculation methodology

Estimate based on rental car miles and airline mileage provided by travel services vendor.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Obtained mileage data from travel services agent and used EPA emission factors to estimate emissions.

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

96

Emissions calculation methodology

Used estimate of employee commuting distance and number of employees.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Used internal employee count and best estimate of average employee commute.

Upstream leased assets

Evaluation status

Not evaluated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

472,879

Emissions calculation methodology

Estimated emissions based on product shipments and size of shipping vehicle to get number of deliveries, used estimated average haul distance to calculate total miles driven, then applied EPA emission factors to calculate emissions. Equipment under Vulcan's control committed to transportation is included based on actual fuel usage data. These sources account for roughly 64,000 tons of the 473,879 total scope 3 downstream emission amount.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

All internal information and EPA emission factors.

Processing of sold products

Evaluation status

Not evaluated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Use of sold products

Evaluation status

Not evaluated

Please explain

The company is evaluating the most effective way to calculate these emissions.

End of life treatment of sold products

Evaluation status

Not evaluated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Downstream leased assets

Evaluation status

Not evaluated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

None expected.

Investments

Evaluation status

Not evaluated

Please explain

The company is evaluating the most effective way to calculate these emissions.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

None expected.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

None expected

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO₂e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.002025

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

997,999

Metric denominator

unit total revenue

Metric denominator: Unit total

4,929,103,000

Scope 2 figure used

Location-based

% change from previous year

6.7

Direction of change

Decreased

Reason for change

Improvements in operational efficiency and higher renewable energy source utilization by utilities, plus impacts of investments in newer more efficient mobile equipment.

C-CE6.11

(C-CE6.11) State your organization's Scope 1 and Scope 2 emissions intensities related to cement production activities.

	Gross Scope 1 emissions intensity, metric tons CO ₂ e per metric ton	Net Scope 1 emissions intensity, metric tons CO ₂ e per metric ton	Scope 2, location-based emissions intensity, metric tons CO ₂ e per metric ton

Clinker	0	0	0
Cement equivalent	0	0	0
Cementitious products	0	0	0
Low-CO2 materials	0	0	0

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	626,221

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
-------------------	-------------------------------------

Mideast Division (All Vulcan Materials Operations Located Within the Following States (Virginia, North Carolina, Pennsylvania, Maryland, Delaware) and the District of Columbia	141,511
Central Division (All Vulcan operations in Kentucky, Tennessee, Illinois, and Arkansas.	100,998
Southeast Division (All Vulcan operations in South Carolina, Georgia, and Florida.	126,225
Southern and Gulf Coast Division (Vulcan operations in Alabama, Mississippi, Louisiana, and Florida panhandle.	51,577
Southwest Division (Vulcan sites in Oklahoma and Texas)	127,370
Mountain West Division (Vulcan sites in Arizona and New Mexico)	32,830
Western Division (California sites)	45,700

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	0	0	Not in the cement business

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
United States of America 🗨️ ₁	371,778	0	846,355	0

🗨️₁ Vulcan does buy low carbon energy and will refine data for next report.

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Mideast Division (All Vulcan Materials Operations Located Within the Following States (Virginia, North Carolina, Pennsylvania, Maryland, Delaware) and the District of Columbia	52,917.9	
Central Division (All Vulcan operations in Kentucky, Tennessee, Illinois, and Arkansas..	93,570.757	
Southeast Division ((All Vulcan operations in South Carolina, Georgia, and Florida.	99,080.495	
Southern and Gulf Coast Division (Vulcan operations in Alabama, Mississippi, Louisiana, and Florida panhandle).	36,625.268	
Southwest Division (Vulcan sites in Oklahoma and Texas)	43,866.513	
Mountain West Division (Vulcan sites in Arizona and New Mexico)	18,830.923	
Western Division (California sites)	26,886.13	

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	0	0	Not in the cement business

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	15,000	Decreased	5	Higher renewable energy factors with utilities supplying Vulcan electricity. A 5% improvement was estimated which is roughly 15000 tons of emissions avoided.
Other emissions reduction activities	0	No change	0	Not available
Divestment	0	No change	0	Not available
Acquisitions	0	No change	0	Not available
Mergers	0	No change	0	Not available
Change in output	58,000	Increased	1	Increased productions impact on GHG emissions.
Change in methodology	0	No change	0	No
Change in boundary	0	No change	0	No
Change in physical operating conditions	0	No change	0	Not available
Unidentified	0	No change	0	Not available

Other	0	No change	0	Not available
-------	---	-----------	---	---------------

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 10% but less than or equal to 15%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	Unable to confirm heating value	0	3,115,000	3,115,000
Consumption of purchased or acquired electricity		330,078.45	516,276.55	846,354
Consumption of self-generated non-fuel renewable energy				
Total energy consumption		330,078.45	3,631,276.55	3,961,354

C-CE8.2a

(C-CE8.2a) Report your organization's energy consumption totals (excluding feedstocks) for cement production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	Unable to confirm heating value	0
Consumption of purchased or acquired electricity		0
Total energy consumption		0

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

2,240,362

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

50,000

Emission factor

10.33

Unit

kg CO2e per gallon

Emissions factor source

Federal US EPA Air Emission Factors for Greenhouse Gases

Comment

No comment

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

854,441

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

854,441

Emission factor

53.31

Unit

kg CO₂e per million Btu

Emissions factor source

Federal US EPA Air Emission Factors for Greenhouse Gases

Comment

Have to convert therms to mmbtus

Fuels (excluding feedstocks)

Propane Liquid

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

20,179

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

20,179

Emission factor

63.31

Unit

kg CO₂e per million Btu

Emissions factor source

Federal US EPA Air Emission Factors for Greenhouse Gases

Comment

Need to do unit conversions.

Fuels (excluding feedstocks)

Fuel Oil Number 2

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

46,322

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

46,322

Emission factor

74

Unit

kg CO2 per MWh

Emissions factor source

Federal EPA

Comment

C-CE8.2c

(C-CE8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel for cement production activities.

Fuels (excluding feedstocks)

Other, please specify

Vulcan is not in the cement business and does not operate any cement kilns or plants.

Heating value

Unable to confirm heating value

Total MWh fuel consumed for cement production activities

0

MWh fuel consumed at the kiln

0

MWh fuel consumed for the generation of heat that is not used in the kiln

0

MWh fuel consumed for the self-generation of electricity

0

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity				
Heat	940,922	920,942	0	0
Steam				
Cooling				

C-CE8.2d

(C-CE8.2d) Provide details on the electricity and heat your organization has generated and consumed for cement production activities.

	Total gross generation (MWh) inside the cement sector boundary	Generation that is consumed (MWh) inside the cement sector boundary
Electricity	0	0
Heat	0	0
Steam	0	0

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Energy usage

Metric value

0

Metric numerator

emissions per production 997999

Metric denominator (intensity metric only)

Production tons 234700000 tons

% change from previous year

1.79

Direction of change

Decreased

Please explain

Making more product with fewer emissions.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	Work through trade associations on projects to evaluate low carbon products. Also, do planning and research to evaluate low carbon energy sources and supply opportunities. Have used CO2 reducing product in some of our concrete plants (Carbon Cure).

C-CE9.6a

(C-CE9.6a) Provide details of your organization’s low-carbon investments for cement production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Other, please specify			0	Vulcan is not in the cement business.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, we do not verify any other climate-related information reported in our CDP disclosure

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, and we do not currently anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Other, please specify

Working directly with energy suppliers to participate in establishment of low carbon energy sources. Current project is with a Florida utility where Vulcan has negotiated a share of the production.

% of suppliers by number

30

% total procurement spend (direct and indirect)

30

% of supplier-related Scope 3 emissions as reported in C6.5

5

Rationale for the coverage of your engagement

Vulcan controls a large amount of land and is a large consumer of electricity and natural gas. Vulcan is looking at opportunities that leverages our strengths to provide a stable supply of low carbon energy resources to the company. For example, considering placement of wind farms or solar panels on company property through lease or other arrangement. Participation in Florida project is a prime example of the types of business relationships we are exploring. By agreeing to purchase electricity upfront before construction, Vulcan and other participants helped contributed to the success in gaining approval from the utility commission for the project. Vulcan is not interested in being in the utility business, but we are interested in helping make their job of producing low carbon energy to supply to Vulcan easier when possible.

Impact of engagement, including measures of success

Not certain at this time, engagement will result in higher proportion of low carbon energy being purchased in the area serviced by the utility. Arrangement will also provide a degree of protection from a rise in rates that is possible as more entities pursue low carbon energy sources.

Comment

The Florida project is one of many opportunities that have been evaluated within the last 5 years or are still under evaluation.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Other, please specify

Discussing with electricity supply vendors (utilities) their current and projected ratio of low carbon supply sources and plans to increase percentage of sources that are low carbon. Also, discussing potential ways to lock down low carbon supply.

% of suppliers by number

30

% total procurement spend (direct and indirect)

30

% of supplier-related Scope 3 emissions as reported in C6.5

5

Rationale for the coverage of your engagement

Vulcan is pursuing low carbon and renewable energy sources. Roughly 1/3 of Vulcan's GHG emissions are from electricity supply sources. Vulcan is targeting opportunities to procure low carbon electricity through its relationships with the suppliers.

Impact of engagement, including measures of success

Impact is uncertain from a financial perspective. The current % of low carbon sources with Vulcan's electricity suppliers is an average of , but potential to reduce carbon footprint by 5-10% is believed to b

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number

1

% of customer - related Scope 3 emissions as reported in C6.5

1

Please explain the rationale for selecting this group of customers and scope of engagement

Respond to requests for climate information from a small group of customers. More engaged with investment analysts.

Impact of engagement, including measures of success

Facilitates understanding of business and promotes good customer/supplier relations

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Trade associations

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

No

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Experienced personnel at director or higher position engaged with associations on climate matters. Management oversight of activities.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

Page/Section reference

<https://csr.vulcanmaterials.com/>
Environmental commitment section

Content elements

Strategy
Emissions figures

Comment

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

We appreciate your upcoming review of our response. Vulcan is actively discussing targets to set going forward. We have essentially been operating under the goal of continuous improvement of our carbon efficiency as a emission per unit of revenue and unit of production without a stated target. Our indexes show that we are achieving that goal, but we want to set more specific and longer term goals and targets in the next few months.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Janet F. Kavinoky Vice President, External Affairs & Corporate Communications Vulcan Materials Company	Other, please specify Vice President, External Affairs & Corporate Communications

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Vulcan appreciates the interest of our suppliers and customers in the company's approach to reducing climate change impacts both to and from our operations. We have made significant progress in improving the efficiency of operations and reducing our per ton production or per dollar revenue production rations. Our overall GHG numbers have been slowly rising but not at the same rate as production. In other words, we are providing more product to our customers while reducing the amount of GHG emissions per ton. Our suppliers play a huge role in helping to make this happen with their focus on providing their products and services with a smaller GHG footprint than before. Success will depend on these partnerships and everyone paying attention and taking action regarding climate change.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

Annual Revenue

Row 1	4,929,000,000
-------	---------------

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

No

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	System for accounting for site and product specific data is not currently in place. Considering development of Environmental Product Declarations as means of generating this information. However, if a decision to proceed is reached the implementations timeframe will still be years.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

Working on internal processes for compiling the data needed to complete the allocation process. The data that is needed includes total sales across multiple product lines to the customers. The customers are serviced from multiple production locations. The process requires calculation of site specific emissions rates for the specific products and calculation of unitized emission rates per production unit.. The process also requires site specific production

information. Separate calculations are required for the specific products being supplied to the customer.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

Yes

SC2.2a

(SC2.2a) Specify the requesting member(s) that have driven organizational-level emissions reduction initiatives, and provide information on the initiatives.

SC3.1

(SC3.1) Do you want to enroll in the 2020-2021 CDP Action Exchange initiative?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2019-2020 Action Exchange initiative?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain Questions?
--	--------------------	---------------------------------	--

I am submitting my response	Investors Customers	Public	Yes, submit Supply Chain Questions now
-----------------------------	------------------------	--------	--

Please confirm below

I have read and accept the applicable Terms