

Module: Introduction

Page: Introduction

0.1

Introduction

Please give a general description and introduction to your organization

Entergy Corporation is an integrated energy company engaged primarily in electric power production and retail distribution operations. Entergy owns and operates power plants with approximately 30,000 megawatts of electric generating capacity, including more than 10,000 megawatts of nuclear power, making it one of the nation's leading nuclear generators. Entergy delivers electricity to 2.8 million utility customers in Arkansas, Louisiana, Mississippi and Texas. Entergy has annual revenues of more than \$10 billion and approximately 15,000 employees

0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed

Sun 01 Jan 2012 - Mon 31 Dec 2012

0.3

Country list configuration

Please select the countries for which you will be supplying data. This selection will be carried forward to assist you in completing your response

Select country

United States of America

0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD(\$)

0.6

Modules

As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sectors, companies in the oil and gas industry and companies in the information technology and telecommunications sectors should complete supplementary questions in addition to the main questionnaire.

If you are in these sectors (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email respond@cdproject.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see <https://www.cdproject.net/en-US/Programmes/Pages/More-questionnaires.aspx>.

Further Information

2012 Sustainability Report http://www.energy.com/investor_relations/2012_publications.aspx

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/Introduction/2013_proxy.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/Introduction/2013_proxy.pdf)
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[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/Introduction/2011_sustainability_report.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/Introduction/2011_sustainability_report.pdf)

Module: Management [Investor]**Page: 1. Governance**

1.1**Where is the highest level of direct responsibility for climate change within your company?**

Individual/Sub-set of the Board or other committee appointed by the Board

1.1a**Please identify the position of the individual or name of the committee with this responsibility**

- (i) Chairman and CEO of Entergy - Leo Denault. Mr. Denault has direct responsibility for managing risk including climate change risk, executing strategy that positions the company to prosper in a carbon constrained economy and ensuring actions are taken to meet Entergy's 10-year voluntary greenhouse gas stabilization goal.
- (ii) The Chairman and CEO is the highest ranking executive in charge of the company. He chairs the Board of Directors and oversees Entergy's entire corporate structure, governance and management.
- The Audit Committee of the Board of Directors, Rod West, Executive Vice President and Chief Administrative Officer and the Vice President, Environmental Strategy & Policy have responsibility for oversight and implementation of Entergy's position, performance and advocacy associated with climate change.

The Chief Financial Officer has general responsibility for the process of ensuring that all risks are identified, evaluated and, if necessary, quantified through the Enterprise Risk Management Process. Business Function executive management is responsible for participating in this process to ensure that risks, including climate change risks associated with its operations are accurately represented.

1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

1.2a

Please complete the table

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator
Corporate executive team	Monetary reward	<p>Entergy's compensation programs for Named Executive Officers are based on a philosophy of pay-for-performance which is embodied in the design of our annual and long-term monetary incentive plans. Our annual monetary incentive plan incentivizes and rewards the achievement of operational and financial metrics that are deemed by the Board to be consistent with the overall goals and strategic direction that the Board has set for the Company. There are several climate related performance indicators linked to this incentive plan . During 2012, significant achievements related to executing climate strategy and achieving Entergy's voluntary 10-yr GHG stabilization commitment were reflected in the 2012 incentive awards. These include successful acquisition of 1,070 of natural gas fired CCGT capacity, start of construction of a 550 MW natural gas fired CCGT, completion of a 178 MW capacity uprate at Grand Gulf Nuclear Station and obtaining license renewals for Pilgrim Nuclear. These achievements are all integral to the successfully achieving Entergy's 10-year commitment to stabilize its cumulative CO2 emissions at 20 percent below year 2000 levels through 2020 Other climate change-linked items include execution of Entergy's portfolio management strategy (including expansion of Nuclear energy through license renewals; acquisition of Hinds and Hot Spring CCGT plants and self-build of an additional CCGT) and overall sustainability performance/recognition of sustainability leadership and recognition of climate protection efforts. These items are outlined as achievements in 2012 as influencing Executive compensation (see page 12 of Entergy's 2013 Proxy Statement - attached). Achievement of corporate objectives is recognized via compensation in the Non-Equity Incentive Plan. Entergy's various business functions integrate indicators that impact Entergy's overall Scope 1 and Scope 2 emissions. As an</p>

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator
		example, Entergy's Utility Operations business has specific CO2 (and other GHG) reduction targets associated with mobile fleet operation, transmission equipment (SF6) and facility operations (energy use).
Other: Environment/sustainability managers	Monetary reward	Through the company's Annual Planning, Performance and Review (PP&R) process and the Management/Employee Incentive Plans, environmental/sustainability managers and staff are systematically held accountable for various climate change-related goals, objectives and measurable targets. These include climate change position advocacy; adaptation position advocacy; communicating climate change issues and GHG accounting/verification efforts. These employees work directly on Entergy's climate change/sustainability position, carbon accounting/inventory/verification, stakeholder engagement and advocacy. These employees have specific performance goals regarding these climate change activities and receive incentives commensurate with successful completion of these goals.
All employees	Recognition (non-monetary)	Entergy recognizes employees for participation in climate-related activities including climate/adaptation issue advocacy, communicating climate change issues and participation in climate-related volunteerism.
All employees	Monetary reward	Impact Awards (monetary bonus) and Community Connector Grants (monetary grant to non-profit) are awarded as deemed appropriate by supervisors for employee activities in the climate change and environmental area.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/1.Governance/091212-AWF-BRRCFinalReportEmailVerson.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/1.Governance/091212-AWF-BRRCFinalReportEmailVerson.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/1.Governance/Building_a_Resilient_Gulf_Coast.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/1.Governance/Building_a_Resilient_Gulf_Coast.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/1.Governance/Overcoming Barriers to resilience Final.docx](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/1.Governance/Overcoming%20Barriers%20to%20resilience%20Final.docx)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/1.Governance/JWL_NWF.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/1.Governance/JWL_NWF.pdf)
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[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/1.Governance/J Wayne Leonard Highlights.doc](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/1.Governance/J%20Wayne%20Leonard%20Highlights.doc)

Page: 2. Strategy

2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

2.1a

Please provide further details

(i)SCOPE- Entergy's Enterprise Risk Management process and Investment Approval Process are comprehensive in scope and include analysis of many types of risk, including regulatory, environmental, weather/physical climate risk, reputation, and socio-economic for all of its businesses. The risk analysis includes legislative/regulatory proposals, adaptation issues, customer impacts, physical risks, economic impacts and litigation issues. Entergy maintains a strong risk culture due to its historic service mission, focus on "safety first", and organizational structure.

(iia) Enterprise Risk Management (ERM) - Company Level

Internal Audit facilitates an integrated company-wide process through which all businesses and support groups analyze risks for their particular area, including climate change. The risks are fully described, evaluated and scored based on probability of occurrence and severity of outcome. Based on this evaluation, controls are established for priority items and, if necessary, testing conducted on a periodic basis to ensure that priority items are adequately addressed.

(iib) Investment Approval Process (IAP) - Company/Investment Level

Entergy's IAP requires all projects of sufficient materiality to include scenarios reflecting the impacts (costs and/or benefits) of carbon regulation utilizing the company's CO2 projections. These projections include a range of estimates of the future cost of carbon regulation/legislation and also uses outside forecasts. Capital project evaluations must include the costs of compliance for all options considered across the spectrum of compliance scenarios. This cost is further internalized by setting voluntary stabilization commitments in 2001, 2006 and again in 2011. Entergy's most recent voluntary greenhouse gas stabilization commitment limits CO2 emissions from generation and controlled purchases to 20% below 2000 levels through 2020. In order to meet this commitment and energy demand growth, Entergy must continue to improve the efficiency of its generating fleet, decarbonize fuel supply and encourage customers to become more energy efficient.

(iiaa) Asset Level: Regional and Local Risk – Building Resilient Communities

Entergy has deep experience/expertise in assessing operating risks from extreme weather events. Its service territory along the Gulf Coast is in a hurricane prone area that is also at risk of sea-level rise. Entergy is headquartered in New Orleans; Hurricane Katrina in 2005 resulted in \$150 billion in losses to our communities. Katrina and Rita combined resulted in approximately 1.1 million customers without power and approximately \$1.5 billion in restoration costs. In 2008, Gustav and Ike combined to result in \$1.3 billion in restoration costs. While Entergy is focused on business continuity and reducing losses to our assets, our larger strategic focus is on working with our communities to enhance their prosperity and plan for a more resilient future. Entergy is assessing physical risks that include an increase in sea level, coastal erosion, subsidence and changes in weather conditions, such as changes in precipitation, average temperatures and potential increased impacts of weather conditions/storms. The company participates in/funds extensive research in adaptation responses to the physical effects of climate change and works collaboratively with stakeholders and effected communities in developing these responses.

In October 2010, Entergy in partnership with America's WETLAND Foundation released a \$4 million study commissioned to provide a granular, bottom-up assessment of the risks Gulf Coast communities face from the current climate and from future climate change scenario forecasts (study attached). The Gulf Coast today faces average annual losses of \$14 billion. Assuming no change in climate, losses going forward are expected to grow to nearly \$19 billion per year by 2030 due to growth, development in at risk areas and the continued erosion of natural protections. By 2030, these losses could be \$23 billion per year with climate change. This study was initiated internally by Entergy's Executive Management and reported to the Board of Directors. Over the last year (2011-12), Entergy has worked with AWF to engage local and regional leaders to evaluate readiness and, where necessary, initiate the adaptation process. Eleven stakeholder engagement meetings, called Blue Ribbon Resilient Community (BRRC) meetings, and two Technical Forums were held along the Gulf Coast with state/local political leaders, business leaders, and local NGOs. See details of the 2010 Adaptation Study and examples of the 2011/12 BRRC meeting outcome attached.

(iibb) Asset Level Risk Assessment and Monitoring

Entergy's individual businesses assess risks to the assets in their responsibility area consistent with the ERM and IAP processes described above. The risks are fully described, evaluated and scored based on probability of occurrence and severity of outcome. Based on this evaluation, controls are established for priority items and, if necessary, testing

conducted on a periodic basis to ensure that priority items are adequately addressed. Asset level investment decisions incorporate scenarios on the cost of carbon regulation/legislation. Physical impacts to facilities in sensitive areas from factors such as severe weather, subsidence, wetlands loss and sea level rise are evaluated on an ongoing basis. Results are reported to business function executive management with priorities identified by the likelihood of occurrence and severity of impact.

(iv) FREQUENCY OF MONITORING - Risks in sensitive areas are monitored at the asset, regional and business level on an ongoing basis. At the company level, risks are monitored at least quarterly.

(v) MATERIALITY CRITERIA - At the Corporate Level, Entergy's ERM process evaluates materiality based on the likelihood/severity of a risk. At the asset/operating company level, each business has a certain materiality threshold that depends on its valuation and proportion of the company. These thresholds are set by the company's External Reporting/Accounting groups and are used to determine the significance of quantifiable risks.

(vi) RESULTS REPORTING - Results of risk evaluations are summarized on a quarterly basis and presented to executive management and the Audit Committee of the Board Of Directors via the SEC reporting process.

2.2

Is climate change integrated into your business strategy?

Yes

2.2a

Please describe the process and outcomes

(i) How Entergy's business strategy has been influenced - Entergy aggressively manages business risks posed by climate change. Decisions on investments include scenarios reflecting the impacts (costs and/or benefits) of carbon regulation utilizing the company's CO2 projections. These projections include a range of estimates of the future cost of carbon regulation/legislation and also uses outside forecasts. Internal subject matter experts and teams analyse and communicate the regulatory, physical and other business risks posed by climate change to executive management and incorporates these risks into the multi-disciplinary integrated company-wide risk management process. Entergy includes stabilization of carbon emissions and adaptation to climate change impacts into its business strategy. Integration of these issues into Entergy's business strategy generates the need to coordinate, communicate and educate our stakeholders on how climate change impacts our business and adaptation measures that can be employed today. Entergy monitors and engages in the regulatory and legislative process to inform its business strategy and encourage rational GHG controls.

(ii) Aspects of climate change that have influenced the strategy - Aspects of this issue that have influenced Entergy's strategy include the issue's impact on energy prices, both short and long term, impacts to decisions regarding energy production and sourcing and impacts to Entergy's customer base due to changes in the physical environment. Substantive business decisions have resulted from this influence, including portfolio management activities, acquisition of more efficient generation sources, purchased power buying decisions and our adaptation strategy. Details of these substantive business decisions are provided below.

(iii) Short-term strategy influence - The most important components of Entergy's short term strategy influenced by climate change are portfolio management of electric generation, completion and renewal of our CO2 stabilization commitment, continued R&D related to carbon capture and sequestration (CCS), long-term

resource buying decisions and the company's environmental goals. One example is the company's short-term planned construction and capital investments in clean energy combined-cycle gas and nuclear generation (2013-2015), ~\$400 – \$700 million per year (see Entergy's 2012 SEC 10K pg 22-23)

(iv) Long-term strategy influence - The most important components of Entergy's long-term strategy influenced by climate change are the company's ongoing CO2 stabilization commitment to 2020, its long-term electric generation portfolio management activities, inclusion of a carbon price into investment decisions, our adaptation strategy and stakeholder engagement. Entergy's 2012 Integrated Resource Plans go out through 2030. The resource planning process, after considering scenarios for fuel prices, CO2 prices, energy efficiency penetration, regulatory and market frameworks and load growth, identifies a Preferred Portfolio that describes the System's long-range strategy for managing risk and meeting customers' power needs. As discussed in the 2012 System IRP pg 22-25, the major components influencing long term risk are the future price of natural gas and future price of CO2. An example of our long term strategy influence is in Entergy's decision to award \$450,000 to America's WETLAND Foundation to help build public support for policies to protect the Gulf Coast region against the long-term (to 2050+) physical risks posed by climate change to our customers, the company's assets and the economic viability of our service territory.

(v) Strategic business advantage - Entergy's proactive leadership on climate change has resulted in an electric generation portfolio that is top quartile low CO2 emitting (compared with the 100 largest utilities in the US) thereby providing a competitive advantage in any current or future carbon constrained economy. Currently, our low and no-emitting facilities in the northeast US are enjoying this advantage under the RGGI cap and trade program. In addition, this leadership position provides the company with credibility amongst the highest circles of advocacy in the country and world. Entergy leverages this credibility to advocate for sensible immediate action on climate change and adaptation.

(vi) Substantive Business Decisions during the Reporting Year (2012)

Portfolio Management

Entergy's Utility has embarked on an effort to transform its generation portfolio. This business decision is linked to the company's voluntary emissions reduction target, to maintain CO2 emissions from Entergy-owned power plants and controllable power purchases at 20% below year 2000 levels through 2020, and the overall desire to increase the efficiency of its natural gas generation fleet, retire older, less efficient natural gas steam electric generating units, deliver affordable, clean reliable electric energy to our customers and position the company to prosper in a carbon constrained economy. During 2012, Entergy invested \$253 million to purchase the Hot Spring Energy Facility, a highly efficient, 620 MW natural gas fired combined cycle gas turbine (CCGT) power plant, invested \$206 million to purchase the 450 MW Hinds CCGT power plant, completed the \$874 million, 178 MW capacity uprate at the Grand Gulf Nuclear Station, and began construction on the 550 MW Ninemile Unit 6 CCGT power plant. The Entergy utility operating companies reported plans to invest ~\$400 - 700 million per year over the 2013 - 2015 period, which includes the Ninemile Unit 6 CCGT, final spending on the Waterford 3 nuclear plant steam generator replacement project and environmental compliance spending at Entergy's generating plants. Over the past eleven years, the Utility Operating Companies and Entergy Wholesale Commodities (EWC) have together added 3,991 MW of clean, efficient, natural gas fired CCGT generation resources and nearly 700 MW of new, non-emitting nuclear capacity.

Stabilization of Carbon Emissions - 2001 to 2012

In 2012 the company's actions contributed to our voluntary goal to stabilize our cumulative CO2 emissions at 20 percent below year 2000 levels through 2020. This decision was influenced by the desire to reduce the company's carbon footprint and reduce the regulatory risk of carbon regulation. As of the end of 2012, Entergy was 57.1 million short tons CO2 below its 2001 through 2012 stabilization goals on a cumulative basis. The company is gaining valuable experience, enhancing knowledge and building capacity for operating in a carbon constrained environment. These efforts and these voluntary targets also result in higher overall company efficiency – this reduces costs while simultaneously reducing overall environmental footprint. Both of these factors can make the company more profitable and sustainable over the long-term.

Climate Change Physical Risks and Adaptation

Entergy continued and expanded its outreach to manage adaptation risk and build more resilient communities. In 2012 Entergy, in collaboration with two local universities, participated in two Coastal Resilience Technical Conferences with its customers to identify ways to cost effectively reduce business interruption losses from extreme weather and climate change.

In 2012 in collaboration with National Wildlife Federation, Renaissance Reinsurance, Americas Wetland Foundation and Weather Predict, Entergy sponsored a highly successful forum "Preparing the Gulf Coast for Extreme Weather that brought scientists, conservationists, local officials and coastal businesses together for an exchange of ideas. Participants identified best practices in preparedness, outlined cost-benefits for mitigation and discussed the role the business community, energy industry, national and state policy makers can play in safeguarding people from natural disasters.

In 2011 – 2012, working with Americas Wetland Foundation, Entergy participated in eleven "Blue Ribbon Resilient Community Leadership Forums" across the Gulf Coast to reach out to stakeholders in coastal communities. The leadership forums provided a balanced regional dialogue on local coastal issues, identified specific vulnerabilities, educated stakeholders on risk mitigation options and served as a catalyst for investing in solutions that preserve and protect prosperity, safety and quality of life. These efforts build on Entergy's publication of a \$4 million "Building a Resilient Gulf Coast" study that provides the first comprehensive analysis of climate risks and adaptation economics along the U.S. Gulf Coast.

2.2b

Please explain why not

2.3

Do you engage in activities that could either directly or indirectly influence policy on climate change through any of the following? (tick all that apply)

- Direct engagement
- Trade associations
- Funding research organizations

2.3a

On what issues have you been engaging directly?

Focus of legislation	Corporate Position	Details of engagement	Proposed solution
Cap and trade	Support	Over the past several years: CEO face to face meetings with over 40 members of Congress, five key Administration officials, and three southern state governors; public letter of support for Waxman - Markey cap and trade legislation; delivered keynote addresses, speaking at public forums, collaborating with others, writing articles and by authoring four op-eds and one advertorial; Charter member of C2ES BELC advocating for market mechanisms to place a price on carbon; CEO a member of the	Economy-wide, sustainable price on carbon that predictably increases over time; investment in R&D for development and deployment of retrofit carbon capture and sequestration that is affordable enough for China and the developing world to invest in; auction of allowances with a portion recycled to neutralize regressive impacts of higher energy prices on low income families; Check and assess provisions if global agreements to reduce GHG emissions don't materialize.

Focus of legislation	Corporate Position	Details of engagement	Proposed solution
		C2ES Board of Directors and a C2ES Strategic Partner; CEO participated in "We Can Lead" on the need for a climate bill; CEO presentations to investors, at Annual Meeting, in Annual Reports, In Sustainability Reports calling for cap and trade with a predictable price on carbon.	
Carbon tax	Support	In 2012, CEO publicly called for a "Carbon Tax" at C2ES in Washington DC; CEO gave a defense of that position before Louisiana Public Service Commissioners	Sustainable, predictable price on carbon that increases over time with revenues recycled to reduce deficit, reduce distortionary taxes and recycles revenue to low income families to reduce regressive impacts of higher energy prices
Energy efficiency	Support	In 2012, Investing in Energy Efficiency at Entergy Texas, Entergy Arkansas and Entergy New Orleans; Supports weatherization initiatives for low income customers	Work with regulatory commissions to allow rate of return on energy efficiency investments and deals equitable with lost revenues
Clean energy generation	Support	In 2011, CEO participated in interview with Washington Post Editorial Staff advocating a modified CES as an effective market mechanism for placing a price on carbon; CEO wrote Wall Street Journal Op-Ed titled "Cool the Planet with Natural Gas" advocating a CES that substitutes natural gas for coal as a way to reduce carbon emissions	CES that allows trading of credits around reduced coal utilization for increased natural gas utilization
Adaptation resiliency	Support	In 2011 - 2012, participated in 11 Blue Ribbon Resilient Community Leadership Forums to educate stakeholders on risk mitigation options and served as a catalyst for investing in solutions that preserve and protect prosperity, safety and quality of life; Organized and participated in two Coastal Resilience Technical Conferences with customers to quantify risks and work collaboratively towards developing economically sensible investment approaches to manage risk and build a more resilient Gulf Coast. In 2013 Entergy is collaborating with the World Business Council for Sustainable Development (WBCSD) and is a lead author on a report on Adaptation and Climate Resilience in the Power Sector that will identify best practices and discuss the cost benefits for a number of resilience investments.	Work with stakeholders to quantify risks to coastal communities, identify cost effective adaptation investments to manage risks. Work collaboratively with customers to prioritize utility system hardening investments to compliment actions and investments they've taken to become more resilient. Prioritize hardening investments to reduce business interruption economic losses. Work to enhance prosperity, ensure safety for families and preserve quality of life in coastal communities we serve. Preserve and enhance economic viability of customer base.
Other: Retrofit CCS Technology	Support	In 2009, Entergy asked the MIT Energy Initiative (MITEI) to bring together the nation's leading experts in this field to assess the current issues surrounding retrofit technologies and to formulate a concrete action plan to move forward quickly	Accelerate research for low carbon technologies, including retrofit CCS technology, for coal-fired power plants – There is a critical need to develop and deploy cost-effective retrofit CCS technology that can be deployed here in the U.S., but, more importantly, in China, India, and developing nations, where the vast majority of new coal-fired power plants are being built. If we are to be successful in meeting climate change goals, we

Focus of legislation	Corporate Position	Details of engagement	Proposed solution
			need to develop cost-effective solutions for coal

2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to influence the position?
EEI	Mixed	EEI believes efforts to further reduce GHG emissions should involve all sectors of the economy and seek to minimize their cumulative effects on costs to customers, impact on the economy, and the reliability of the electric system. Electric utilities will continue their efforts to transition to a cleaner, more modern electric generating fleet, help improve energy efficiency, and electrify the transportation sector. EEI supports R&D to accelerate deployment of Carbon Capture and Sequestration (CCS) and advocates for laws and regulation to remove barriers to implementation.	Entergy is an EEI member company and actively participates on EEI's Executive Committee, Environmental Committee, Legislative Committee and GHG Committee where it shares its points of view climate change and clean energy policy.
C2ES	Consistent	C2ES continues to favor market-based approaches that put a price on carbon as the most cost-effective means of reducing GHG emissions. Apart from such approaches, which would require major new legislation, there is a range of actions the Administration and Congress can take to significantly reduce GHG emissions, expand clean energy sources, and make communities and critical infrastructure more climate-resilient. For	As a Strategic Partner with the Center for Climate and Energy Solutions (a non-profit working to advance strong policy on the twin challenges of energy and climate change) Entergy is closely aligned with the Center's vision that using economy-wide market mechanisms to put a price on carbon as the most efficient method for incentivizing investment in energy efficiency and clean technologies to reduce GHG emissions.

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to influence the position?
		<p>example: the Administration can adopt stronger standards through 2025 for medium- and heavy-duty vehicles; finalize its proposed GHG emission standards for new power plants; set GHG emissions standards for existing power plants, while allowing states to meet them with a range of market-based measures; increase the energy efficiency of appliances and industrial equipment; open more federal lands to renewable energy development; and increase efforts to tackle short-lived climate forcers such as methane, black carbon, and HFCs. Please find attached a paper that C2ES recently published on "Federal Action on Climate Change and Clean Energy" describing these and other measures. C2ES also supports carbon capture and storage (CCS) is likely to be critical for reducing global greenhouse gas emissions from stationary sources.</p>	<p>Entergy participates on the C2ES Board of Directors and is a charter member of the C2ES Business Environment Leadership Council (BELC). Entergy supports C2ES position on the importance of CO2 Carbon Capture and Sequestration (CCS).</p>
Clean Energy Group	Consistent	<p>Advocates using economy-wide market mechanisms to put a price on carbon as the most efficient method for incentivizing investment in energy efficiency and clean technologies to reduce GHG emissions; Could be in the form of cap and trade, For Utility Sector cap and trade, CEG favors an output based allocation of allowances clean Energy Standard or a Carbon Tax</p>	<p>Entergy is a Clean Energy Group member company and actively participates in shaping Clean Energy Group strategy energy and environmental policy.</p>
Center for Clean Air Policy	Consistent	<p>Advocates using economy-wide market mechanisms to put a price on carbon as the most efficient method for incentivizing investment in energy efficiency and clean technologies to reduce GHG emissions; Could be in the form of cap and trade, Clean Energy Standard or a Carbon Tax</p>	<p>Entergy actively participates in the Center for Clean Air Policy Climate Policy initiative where it exchanges ideas on innovative policy to further the company's points of view on climate change and clean energy.</p>
Americas Energy Coast	Consistent	<p>Advocates for a systems approach to building resilience to wind damage, flooding and storm surge along the Gulf Coast; Advocates for "multiple lines of defense" that includes wetlands restoration, barrier island restoration paired with levy protection; encourages communities to invest in economically sensible resilience measures to reduce vulnerability to risks from climate change impacts</p>	<p>Entergy is Americas Wetland Foundation member and a member of AWF's Americas Energy Coast organizations. Entergy and AWF share a strong view on the importance restoring and maintaining coastal wetlands and barrier islands are to building resilient communities. Entergy and AWF have worked closely on launching the Gulf Coast Adaptation Study and organizing eleven Blue Ribbon Resilient Community</p>

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to influence the position?
			Leadership Forums throughout the Gulf Coast.

2.3d

Do you publically disclose a list of all the research organizations that you fund?

Yes

2.3e

Do you fund any research organizations to produce public work on climate change?

Yes

2.3f

Please describe the work and how it aligns with your own strategy on climate change

Entergy funds research with the Electric Power Research Institute (EPRI) to develop retrofit carbon capture and sequestration technology for fossil power plants. Entergy also funded research at MIT's Energy Initiatives to explore existing retrofit CCS Technology and to provide recommendations on additional research the Department of Energy could do to help accelerate the deployment of this technology. Entergy funds research with the Center for Climate and Energy Solutions (C2ES), the Clean Energy Group (CEG) and Center for Clean Air Policy (CCAP) to explore innovative policy solutions that puts an economy-wide price on carbon and utilizes market mechanisms to ensure economic efficiency. These projects are in direct support of Entergy's Guiding Principles for Climate Policy described in 2.3h

2.3g

Please provide details of the other engagement activities that you undertake

2.3h

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?

Entergy has established "Guiding Principles" for Climate Policy to help ensure our actions and activities are consistent with our climate strategy.

These Guiding Principles are:

1) Risks are real, we need to act now;

2) Use an economy wide, market based approach to find efficient solutions (need a strong, sustainable price on carbon)

3) Build in permanent low income protection by recycling revenue to offset higher energy costs

4) U.S. policy must be informed by global reality - research on retrofit CCS that's affordable enough for China to invest in; "pledge and review"

5) plan for adaptation;

In addition, Entergy employs a proactive "Issues Management Process" to help proactively identify preferred positions on 34 key issues important to the company. Climate Change and Adaptation are two of the key issues included in this process. Annually subject matter experts are asked to provide input and help prepare an Issues Sheet on each of the key issues. The Issue Sheet provides definition of the issue, describes Entergy's current approach to addressing the issue and a timeline of current activity. The draft is circulated for comment, sent for review by Entergy's Strategy Committee to assure the approach is consistent with the diverse interests of Entergy's Businesses, reviewed and approved by management and then circulated broadly within the company. The Issues Management process is refreshed annually.

In 2012, Entergy created the officer-level position of Vice President, Environmental Strategy & Policy, partially in order to oversee the consistent development and implementation of climate policy across the Company's business units.

2.3i

Please explain why you do not engage with policy makers

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/2012_Entergy_Form_10K.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/2012_Entergy_Form_10K.pdf)

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/Jeff Williams for New Orleans.pptx](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/Jeff%20Williams%20for%20New%20Orleans.pptx)

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/Jeff Williams for LSU Tech Conf final v1.pptx](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/Jeff%20Williams%20for%20LSU%20Tech%20Conf%20final%20v1.pptx)

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/Jeff Williams for Lamar Tech Conf 4-](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/Jeff%20Williams%20for%20Lamar%20Tech%20Conf%204-)

02-12.ppt
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/2012_EAI_IRP_Filing_103112.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/2012_EAI_IRP_Filing_103112.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/Jeff Williams for Extreme Weather.pptx](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/Jeff%20Williams%20for%20Extreme%20Weather.pptx)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/2012_Annual_Report.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/2012_Annual_Report.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/2012 System IRP Report - Final 02Oct2012.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/2012%20System%20IRP%20Report%20-%20Final%2002Oct2012.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/ETR Bicameral Letter 051513 Final.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/ETR%20Bicameral%20Letter%20051513%20Final.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/091212-AWF-BRRCFinalReportEmailVerson.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/091212-AWF-BRRCFinalReportEmailVerson.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/2.Strategy/Benchmarking-Air-Emissions-2013-Embargoed Until May 8.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/2.Strategy/Benchmarking-Air-Emissions-2013-Embargoed%20Until%20May%208.pdf)

Page: 3. Targets and Initiatives

3.1

Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?

Absolute target

3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
3rd	Scope 1+2+3	84%	20%	2000	48260000	2020	2011 to 2020. In 2011, after completing two five year commitments, Entergy made a 10-year commitment to stabilize our cumulative CO2 emissions at 20 percent below year 2000 levels through 2020, taking into account all three commitment periods.

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
2nd	Scope 1+2+3	84%	20%	2000	48260000	2010	2006 to 2010. Entergy's second commitment expanded the scope and length of the overall goal. In 2006, Entergy committed to stabilizing direct CO2 emissions from its owned power plants and controllable purchases at 20% below 2000 levels. Entergy beat this commitment on a cumulative basis by more than 3 percent. Additionally, Entergy secured a significant portfolio of carbon offsets (see www.americancarbonregistry.org for details)
1st	Scope 1	63%	0%	2000	48260000	2006	2001 - 2006. Entergy's first voluntary commitment was to stabilize direct CO2 emissions from owned power plants at year 2000 levels through 2005. The company completed this commitment at 23% below year 2000 levels while increasing power production by 21% in the same time period. Entergy was cumulatively 57 million metric tons below its CO2 stabilization commitment and six percent below 1990 levels. Additionally, Entergy has secured a significant portfolio of carbon offsets (see www.americancarbonregistry.org for details)

3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
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3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
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3.1d

Please provide details on your progress against this target made in the reporting year

ID	% complete (time)	% complete (emissions)	Comment
3rd	20%	22%	Entergy committed to a third voluntary CO2 stabilization goal (2011 to 2020) after successfully completing two five year commitments (2001 to 2005 and 2006 to 2010). Since inception through the end of 2012, the company's actual cumulative emissions were 11% below our targets, taking into account all three commitment periods.
2nd	100%	100%	Entergy beat its 2006 to 2010 voluntary commitment stabilizing CO2 emissions from owned power plants (Scope 1) and controllable purchases (Scope 3) at 20% below 2000 levels by more than 3 percent.
1st	100%	100%	Entergy beat its 2001 to 2005 voluntary commitment of stabilizing CO2 emissions from owned generation (Scope 1) at 2000 levels by 23%.

3.1e

Please explain (i) why not; and (ii) forecast how your emissions will change over the next five years

3.2

Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?

Yes

3.2a

Please provide details (see guidance)

Energy Efficiency Programs

(i) How emissions are avoided: Scope 2 emissions of Entergy's customers are reduced by Entergy's products/services, such as demand side management (DSM), that help customers use electricity more efficiently. These efforts focus on efficient use of electricity through outreach programs, low-income initiatives and grants. Reducing energy consumption eliminates emissions associated with generation, reduces the amount of new generation to be built and has the added benefit of reducing customer's electric bills. Entergy has active DSM programs in Texas, Arkansas and New Orleans that include 32 DSM programs for all customer classes (residential, commercial and industrial).

(ii) Estimate of avoided emissions: Entergy estimates that the reduction in MWhs energy efficiency during 2012 avoided approximately 42,500 metric tons of CO₂. In 2012 approximately \$44 million was invested in DSM programs creating 40 MWs and 159,000 MWh of annual energy savings. A total of \$120 million was invested over the period of 2002-2012 to create a total of 238 MWs and 529,000 MWh of energy savings.

(iii) Methodology used for estimations: This emission avoidance estimate was generated using the EPA Climate Leaders GHG Inventory Protocol and the Standard for Greenhouse Gas Accounting and Verification (ISO 14064). GWP for carbon dioxide of 1 was used.

(iv) Entergy is not considering originating CERs or ERUs within the framework of CDM or JI for these activities.

In 2012, Entergy helped weatherize over 9,000 homes and 1,500 weatherization kits, helping low income homeowners reduce their energy use and costs. Entergy distributed over 6,500 fans and 133 energy-efficient air conditioning units through our Beat the Heat program. In 2012, Entergy also continued its participation with Energy Star to help businesses and individuals save money through improved energy efficiency.

Over 119,000 customers visited Entergy's Save Money web page (www.entergy.com/savemoney). In an effort to enhance the online experience and customer value of Entergy's Save Money page, Entergy launched a Customer Experience program in 2011 designed to help customers save money by expanding educational material on energy efficiency.

Low Carbon Energy Production Installation

(i) How emissions are avoided: Scope 2 emissions for Entergy's customers are reduced as a result of the company's Portfolio Transformation Strategy. In 2012 Entergy acquired Hot Spring (620 MW) and Hinds (450 MW). Both plants are highly efficient, natural gas fired combined cycle gas turbines (CCGT). Entergy's operating companies have procured 3,991 megawatts of highly efficient natural gas fired CCGT capacity since 2005. The heat rates for utility operating companies' CCGT fleet were 7,339 Btu/KWh in 2010, 7,403 Btu/Kwh in 2011 and 7,289 Btu/Kwh in 2012. In 2010, 20% of the electric energy produced by Entergy's natural gas units came from the CCGT units (both Utility and EWC). That percentage increased to 33% in 2012. Increased electric energy production by the CCGT units emit ~40% less CO₂ than if that electrical energy was generated by Entergy's older legacy Natural Gas units. In addition, Scope 2 emissions for Entergy's customers are reduced as a result of nuclear capacity uprates. In 2012, Grand Gulf Nuclear Station completed a 178 MW capacity uprate adding nearly emission free energy supply. Over the last decade, Entergy has increased the output of its EWC and Utility nuclear fleet by nearly 700 megawatts - the equivalent of adding a new reactor - through power upgrades, turbine replacements and cooling-tower modifications.

(ii) Estimate of avoided emissions: Entergy estimates that CO₂ emissions avoided from investments it made during 2012 on 1,070 MW of highly efficient, natural gas fired CCGT and the 178 MW nuclear uprate will avoid 3,179,000 metric tons of CO₂ per year going forward. Entergy estimates that direct, Scope 1 emissions avoided through its employment of nuclear generation total over 50 million metric tons per year.

(iii) Methodology used for estimations: This emission avoidance estimate was generated using the EPA Climate Leaders GHG Inventory Protocol and the Standard for Greenhouse Gas Accounting and Verification (ISO 14064). A GWP for carbon dioxide (1) is used. In simple terms, Entergy's GHG emission intensity for energy displaced from older gas units (metric tons per MWh) was multiplied by the number of nuclear MWhs generated. For the emissions avoided from added CCGT

capacity the emission rate for older gas units being displaced was subtracted from the CCGT emission rate multiplied the annual MWH generated from the new CCGT capacity. The emission intensity represents the emission factor used and the GWP for carbon dioxide (1). The key assumption is that the energy from added CCGT and nuclear will displace energy from Entergy's legacy gas fired units with a ~12,500 btu/Kwh heat rate.
 (iv) Entergy is not considering originating CERs or ERUs within the framework of CDM or JI for these activities.

3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and implementation phases)

Yes

3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	1	0
To be implemented*	10	4974000
Implementation commenced*	1	738615
Implemented*	4	3214157
Not to be implemented	0	0

3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
Low carbon energy installation	<p>The activities described here are in the same scope as Entergy's 3rd target, its Scope 1+2+3 voluntary emission stabilization goal. (i) In 2012, Entergy invested \$253 million for the 620 MW Hot Spring Energy Facility, \$206 million for the 450 MW Hinds Power Plant. Both units are highly efficient, natural gas fired CCGT units. In 2012 Entergy also expanded its virtually emission-free nuclear generation by completing the \$874 million, 178 MW uprate at the Grand Gulf Nuclear Station. . (ii) Entergy estimates that in 2012 direct, Scope 1 emissions avoided from the addition of 1,070 MW of CCGT capacity and the 178 MW nuclear uprate will avoid 3.2 million metric tons CO2 per year. (iii) This is a voluntary activity driven by a business opportunity with fuel cost savings passed on to customers. Until there is an economy wide price on carbon emissions, there are no monetary savings associated with this type of generation directly associated with GHG avoidance. However, in addition to fuel cost savings, we are saving the compliance costs of certain air regulations (hazardous air pollutants) and lessening the impact of others (such as the Cross-State Air Pollution Rule). (iv) This activity is expected to continue in the near term (5 years) and the lifetime of these efforts are 20+ years. (i) Additionally, Entergy continues it's portfolio management activities, adding newer, more efficient generation (CCGT and CT) and deactivating legacy units as it is able (see Entergy's 2012 Integrated Resource Plans). (ii) These investments can reduce both Scope 1 and Scope 3 emissions for the company, the scopes included in the company's voluntary commitment. (iii) This is a voluntary activity, ongoing and (iv) expected to continue over the next five years and the lifetime of these efforts is 20+ years. Investment shown is for 2012. Entergy estimates spending \$400 - \$700 million per year for 2013 through 2015 on generation investments (see Entergy's 2012 SEC 10 K pg 22 - 24)</p>	3179000	0	1213000000	4-10 years
Low carbon energy purchase	<p>The activities described here are in the same scope as Entergy's 3rd target, its Scope 1+2+3 voluntary emission stabilization goal. (i) Entergy's 2nd and 3rd voluntary GHG stabilization commitment includes a purchased power component referred to as "controllable purchases". Including this aspect in our GHG commitment has resulted in constant evaluation of the sources of power that the company purchases through long-term agreements and other PPAs. (ii) In 2012 Entergy estimates that controllable purchases avoided 4.5 million metric tons of Scope 3 CO2</p>	4570837	0	1255800000	<1 year

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
	emissions for the company. (iii) This is a voluntary activity and (iv) is expected to continue into the near future (5 years). Additionally, Entergy purchases renewable energy credits (RECs) required by the State of Texas.				
Energy efficiency: Processes	The activities described here are in the same scope as Entergy's 3rd target, its Scope 1+2+3 voluntary emission stabilization goal. (i) In 2012 Entergy invested approximately \$44 million in DSM programs creating 40 MWs and 159,000 MWHs of annual energy savings. Entergy currently has active DSM programs in Entergy Texas, Inc., Entergy Arkansas, Inc. and Entergy New Orleans, Inc. that include 32 DSM programs for all customer classes (residential, commercial and industrial). Entergy recovers its investment in EE/DSM projects on an annual basis through various rate mechanisms. Cost savings are realized by Entergy's customers. (ii) Emission reductions resulting from 2012 energy savings are estimated to have avoided 42,500 metric tons CO2. This activity can result in a reduction of Scope 1, 2 and 3 emissions for the company. (iii) This is a mandatory activity in AR, TX and New Orleans, but Entergy advocates for these activities in all jurisdictions. (iv) This activity is expected to continue both near and long term. (Estimated 1-10 years).	42500	0	44000000	<1 year
Transportation: fleet	The activities described here are in the same scope as Entergy's 3rd target, its Scope 1+2+3 voluntary emission stabilization goal (i) Entergy's utility operating companies operate a fleet of vehicles, resulting in GHG emissions. Since 2009, the Utility Operations group has set a goal to reduce vehicle emissions through various initiatives including mileage reduction, weight reduction and fleet turnover, including some hybrid vehicles. (ii) Emissions reductions during 2012 are estimated at 230 metric tons - these are direct, Scope 1 emission reductions. (iii) This is a voluntary activity and (iv) is expected to continue in the near term (5 years).	230	0		1-3 years
Other	The activities described here are in the same scope as Entergy's 3rd target, its Scope 1+2+3 voluntary emission stabilization goal (i) For the last decade, Entergy has invested in equipment upgrades, carbon sequestration projects and carbon offsets to lower CO2 emissions. An Environmental Initiatives Fund was created in 2001 to purchase high quality external offsets and help fund internal equipment upgrades such as neural network control systems to improve generation plant efficiency. (ii) Entergy invested approximately \$32 million from 2001 to 2012 in these projects and has	9850000	0	32000000	4-10 years

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
	established a portfolio of over 2.7 million metric tons of offsets (registered at www.americancarbonregistry.org). In 2012, Entergy funded a 3,000 acre bottomland hardwood reforestation project that will remove over 460,000 metric tons of CO2 from the atmosphere over the next 40 years. These investments can offset the company's Scope 1 emissions to help meet our voluntary commitment. (iii) This is a voluntary effort (iv) that we expect to continue through 2020.				

3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Compliance with permit limits, mandates for energy efficiency programs, preparation of mandatory/voluntary GHG emissions inventories and participation in voluntary carbon markets has driven investment in emission reduction activities.
Dedicated budget for energy efficiency	Entergy's Integrated Energy Management (IEM) group implements energy efficiency programs through the utility's regulated operating companies. These programs have a dedicated budget and result in both capacity and energy savings for Entergy. These programs result in energy/cost savings and environmental footprint reduction for our customers. Additionally, investments in generation portfolio management and individual facility efficiency improvements result in overall emission reductions for the company.
Dedicated budget for low carbon product R&D	Entergy participates in R&D programs through the Electric Power Research Institute (EPRI) dedicated to nuclear generation, emission reductions, sustainability and low carbon generation research.
Employee engagement	Entergy's employees are engaged through a variety of programs, including volunteerism, the Make an Impact program and the goal to engage 25% of the Utility's employees in environmental activities, initiatives and programs.
Financial optimization calculations	As with any legislative or regulatory proposal, Entergy engages in rigorous internal evaluations of carbon policy in order to optimize the company's decisions. These decisions include whether or not to conduct power uprates, acquisitions,

Method	Comment
	deactivations, power purchases and divestitures.
Internal price of carbon	Entergy maintains a projection on CO2 pricing. This internal cost and projection is used to evaluate business decisions such as whether or not to conduct power uprates, acquisitions, deactivations, power purchases and divestitures.
Internal finance mechanisms	Entergy's Environmental Initiative Fund remains at a funding level of approximately \$1 million per year. This fund is primarily used to fund carbon offset projects in Entergy's utility service area and states in which we operate wholesale assets. It also funds efforts to facilitate economy-wide emission reductions through reforestation, sequestration and wetlands restoration.
Marginal abatement cost curve	Entergy has engaged third-party consultants to produce and evaluate marginal cost abatement curves both for climate change mitigation and adaptation measures.
Partnering with governments on technology development	Entergy believes that we must institute a large, government-led innovation effort that is directed toward basic research and funding demonstration projects. The only long-term solution to climate change is new technology. A government-led effort would jump-start innovation, provide financing until private funding becomes available and serve a great national purpose.

3.3d

If you do not have any emissions reduction initiatives, please explain why not

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/Hot Spring Purchase.mht](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/Hot%20Spring%20Purchase.mht)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/ENO Energy Efficiency.mht](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/ENO%20Energy%20Efficiency.mht)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/2012_Entergy_Form_10K.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/2012_Entergy_Form_10K.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/Entergy%20GHG%20Inventory%202012%20FINAL%20VERIFIED%20030813.pdf)
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[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/2012 System IRP Report - Final 02Oct2012.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/3.TargetsandInitiatives/2012%20System%20IRP%20Report%20-%20Final%2002Oct2012.pdf)

Page: 4. Communication

4.1

Have you published information about your company’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	Page/Section reference	Attach the document
In mainstream financial reports (complete)	Pages 5,7,11,22,47	https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation1/2012_Annual_Report.pdf
In mainstream financial reports (complete)	Pages 237, 262-264, 431	https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation2/2012_Entergy_Form_10K.pdf
In voluntary communications (underway) – previous year attached	Pages 2,6,16,18,32-33,35-36,40-41,43,48,58	https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation3/2011_sustainability_report.pdf
In voluntary communications (underway) – previous year attached	Pages 40,43,45,47,49,55	https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation4/2011_Investor_Guide.pdf
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation5/Jeff Williams for Lamar Tech Conf 4-02-12.ppt
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation6/Jeff Williams for LSU Tech Conf final v1.pptx
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation7/Jeff Williams for Biloxi v3.ppt
In voluntary		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-

Publication	Page/Section reference	Attach the document
communications (complete)		4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation8/Jeff Williams for Avery Island[1].pptx
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation9/Jeff Williams for Houma v3.pptx
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation10/Jeff Williams for Mobile v1.pptx
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation11/Jeff_Williams_for_Orange_Beach.ppt
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation12/Jeff Williams for New Orleans.pptx
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation13/Jeff Williams for Extreme Weather.pptx
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation14/Jeff Williams for DOE 012612.pdf
In voluntary communications (complete)		
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation16/Jeff Williams for CoP 051412.pptx
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation17/Jeff Williams for South Padre v2.ppt
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In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation19/JeffWilliamsforNRDCWrkshp011112.pptx

Publication	Page/Section reference	Attach the document
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation20/Jeff Williams for CEG 062712[1].ppt
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In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation25/JeffWilliamsforNRCCanada.pdf
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In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation29/EFFECT 2012 Talk Points.pdf
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation30/E2S2.ppt
In voluntary communications		https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation31/Building_a_Resilient_Gulf_Coast.pdf

Publication	Page/Section reference	Attach the document
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In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation32/091212-AWF-BRRCFinalReportEmailVerson.pdf
In voluntary communications (complete)		https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation33/Working to cope with climate change A guest column by J_ Wayne Leonard and Raymond C_ Offenheiser NOLA_com.mht

Module: Risks and Opportunities [Investor]

Page: 5. Climate Change Risks

5.1

Have you identified any climate change risks (current or future) that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Risks driven by changes in regulation
- Risks driven by changes in physical climate parameters
- Risks driven by changes in other climate-related developments

5.1a

Please describe your risks driven by changes in regulation

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
RR1	International agreements	Entergy may be affected by operational restrictions of fossil-fuel power plants and/or emissions control requirements as a result of International agreements that impact U.S. policy on climate change if ratified by Congress. This could result in additional restrictions on the operation of fossil-fuel power plants and or requirements to control emissions. This may require additional capital budget and/or incremental operating costs. Additionally, the potential for offset project development in other countries may limit the availability of inexpensive offsets in the U.S.	Increased operational cost	6-10 years	Direct	More likely than not	Medium-high
RR2	Air pollution limits	Entergy may be required to install best available control technology (BACT) for new and/or upgraded power generation facilities leading to increased capital costs .The USEPA currently is requiring a BACT analysis for new and/or upgraded power generation facilities and has proposed a new source performance standard for GHGs. This is based on the determination (and case law) that CO2 can be a regulated pollutant under the Clean Air Act. Improper sequencing of regulations and/or lack of comprehensive regulations (all pollutants) could lead to stranded investments for long-lived assets such as power generation plants.	Increased capital cost	Current	Direct	Virtually certain	High
RR3	Cap and trade schemes	A cap and trade scheme, even though unlikely in the next 5 years may result in increased operating costs to Entergy. Entergy believes that this type of scheme or a carbon fee/tax will be the ultimate outcome for controlling carbon in the U.S. Currently, Entergy is advocating an economy-wide carbon fee/tax at the federal level. A number of proposals have been considered by Congress and the Administration. One fee rising at a predictable rate over decades would motivate investment in the most promising solutions and reduce carbon emissions.	Increased operational cost	>10 years	Direct	More likely than not	Medium
RR4	Emission reporting obligations	In 2011, Entergy began reporting various categories of its GHG emissions under EPA's Mandatory GHG Reporting Rule, additional categories were added in 2012. These increased reporting programs increase the company's operational cost.	Increased operational cost	Current	Direct	Virtually certain	Low

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		Entergy has reported its GHG emissions voluntarily for the last ten years through various programs such as EPA Climate Leaders and through the American Carbon Registry (www.americancarbonregistry.org). Additionally, Entergy voluntarily commissions a third-party verification audit of its GHG Inventory under ISO 14064.1-3.					
RR5	Fuel/energy taxes and regulations	Regulation of carbon emissions, either via a cap and trade scheme, carbon tax, fuel/energy/taxes, clean energy standard or the Clean Air Act will likely increase fuel costs and may impose restrictions on use of certain fuels. This essentially results in regulating certain fuels, which is likely already impacting fuel prices.	Increased operational cost	Current	Direct	Virtually certain	Medium
RR6	Product efficiency regulations and standards	Entergy may experience reduced demand for goods and services due to new product efficiency regulations and standards. While, Entergy already has active EE/DSM goals and targets for our utility business. this does reduce demand for electricity. Entergy does not advocate wasteful energy use by our customers. Entergy strongly advocates the efficient use of electricity and understands that this is a technology that can be deployed today to reduce GHG emissions. Additionally, Entergy is planning for increased demand due to new transportation technology such as electric vehicles.	Reduced demand for goods/services	Current	Indirect (Client)	Virtually certain	Low-medium
RR7	General environmental regulations, including planning	Regulatory uncertainty may result in sub-optimal investments that individually appear economically justified but when taken in the aggregate with other environmental compliance obligation may prove uneconomic, This could lead to increased operations costs due to a decrease in power plant heat rates, increases in variable costs for materials and waste disposal and / or decreased utilization. .Entergy undergoes an extensive resource planning exercise on a regular, periodic basis. This plan includes inputs on plant retirements, new builds, uprates and extensive environmental regulatory scenarios.	Increased operational cost	Current	Direct	Virtually certain	Low
RR8	Lack of	Entergy's generation portfolio is one of the cleanest in the	Reduced stock	Current	Direct	Virtually	Medium-

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
	regulation	United States among large electric generators. The company is a strong advocate of regulation of carbon emissions through a cap and trade scheme or a carbon fee/tax (described in RR9). Because of this, Entergy stands to benefit from increased investor interest and market valuation in a carbon constrained economy. Continued uncertainty and lack of regulation of GHGs delays this benefit.	price (market valuation)			certain	high
RR9	Carbon taxes	If adopted, an economy-wide carbon tax would increase Entergy's operating costs and the energy prices for all consumers. Entergy currently advocates a carbon fee or tax as a simple way to put a price on carbon emissions.	Increased operational cost	1-5 years	Direct	Likely	Medium-high

5.1b

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk and (iii) the costs associated with these actions

RR1, RR2, RR3, RR5 and RR9 - (i) The financial implications depend on the ultimate regulatory framework/policy that is adopted, its timeline and the restrictions imposed. For example, the recent EPA GHG new source performance standards (NSPS) proposal provides an example of a regulatory proposal that may increase costs associated with new generation sources. In its regulatory impact analysis for this rule, EPA estimates the incremental compliance costs to be \$0 to negligible for new CCGT units. However, an economy-wide cap and trade program or carbon tax would add cost to every unit of fossil energy sold. Entergy's integrated resource plan evaluates the financial implications of various scenarios: one scenario assumes a start date of 2018 for placing a price on CO2 emissions with an emissions allowance price of \$25.41/U.S. ton and with a 2012-2031 levelized cost in 2011\$ of \$16.65/U.S. ton. Financial implications of a scenario of green growth, high gas price with a 2018 start for cap and trade results in \$23.7 billion net present value of revenue required in excess of a reference gas case with no CO2 costs. (ii) The methods that Entergy uses to manage this risk includes integrated resource planning (IRP), portfolio management, nuclear uprates/maintaining the nuclear option, the voluntary GHG stabilization commitments the company has made over the last decade and hedging techniques to mitigate market risks. Activities in 2012 include the updating the IRP, purchases of 1,070 MW of highly efficient natural gas fired CCGT plants in Arkansas and Mississippi, and completion of a 178 MW capacity up-rate at Grand Gulf Nuclear Station. Also, construction began on the 550 MW Nine Mile 6 CCGT unit in 2012 that is estimated to cost approximately \$721 million to complete. Cumulatively, this is allowing Entergy to reduce utilization and in some cases deactivate older, less efficient legacy gas/oil fired steam electric units. These methods/activities reduce both the likelihood and magnitude of the risk occurring 2014-2031 by informing Entergy's planning, rate negotiation process and pace of electric generation portfolio management. (iii) Costs include staff time to conduct the IRP process, \$0 incremental annual cost in

2012; capital costs of \$459 million to purchase natural gas CCGT generation facilities in Arkansas and Mississippi, \$874 million to complete the capacity up-rate at Grand Gulf, and Entergy's Environmental Initiatives Fund (\$32 million+ over the last decade) to invest in efficiency improvements and high-quality offset projects.

RR4 - (i) The financial implications of increased and mandatory reporting are expected to be \$0 to minimal in the near term because existing staff and budgets will handle this reporting. However in the longer-term (>5 yrs) additional reporting requirements may result in the need for an additional FTE, \$75k/year

(ii) The methods that Entergy is using to manage this risk include voluntary GHG reporting for over a decade, a commitment to continuous improvement of our GHG inventory, and conducting independent assurance. In 2012, activities included third party verification of Scope 1+2+3 emissions, and reporting to the American Carbon Registry. These methods/activities reduce the likelihood and magnitude of the risk now and into the mid-term by providing the company assurance that its GHG data is accurate for compliance and planning purposes. Entergy's early action on GHG accounting and reporting has minimized the incremental costs associated with additional reporting requirements - in many cases, the same data can be used for multiple reports as required. (iii) The costs associated with these activities: Entergy spends ~ \$50-\$100 k on emissions verification annually, and 0.5 FTE, ~\$75k /yr. Incremental costs are expected to be \$0 to minimal near term (0-3 years)

RR6 - (i) The financial implications include loss of revenue due to decreased electricity sales associated with demand side management (DSM) programs; Entergy's Integrated Resource Plan forecast a High DSM scenario where the company's NPV of revenue requirements in excess of the lowest cost scenario outcome is \$8.54 billion (2012). The High DSM case assumes reduced electric generation requirements of ~100-900Mw per year over 2014-2031; Entergy's Utility sales for electricity totalled \$7.8 billion on 110,204 GWh billed electric energy sales in 2012 (all customer classes and sales for resale). (ii) The method that Entergy uses to manage this risk is utilization of Integrated Resource Planning planning for the level and timing of customers' energy use over long term planning horizons. Entergy also works with the utility commissions on alternative cost recovery mechanisms for energy efficiency/demand side management (EE/DSM) activities and advocates for similar EE/DSM programs in the other states that we serve. These methods reduce both the likelihood and magnitude of this risk 2014-2031 by integrating various resource scenarios into Entergy's long term financial planning process. In 2012, activities included implementation of DSM programs with appropriate cost recovery mechanisms.: Entergy offered various products and/or services to help customers use electricity more efficiently. Known broadly as demand side management or energy efficiency programs, these efforts focus on efficient use of electricity through a host of outreach programs, low-income assistance initiatives and grant offerings. Reducing energy consumption eliminates emissions associated with electric generation, reduces the amount of new generation that needs to be built to meet the growth in demand and has the added benefit of reducing customer's electric bills helping all customers, but is especially important for our low income customers. Entergy currently has active DSM programs in Texas, Arkansas and New Orleans that include 32 DSM programs for all customer classes (residential, commercial and industrial). (iii) The cost of producing IRP is estimated to be \$100 - 200k per year; there is no incremental annual cost, \$0, in negotiating DSM lost revenue mechanisms. A total of \$120 million was invested over the period of 2002-2012 to create a total of 185 MWs and 530,000 MWhs of DSM energy savings. In 2012 alone approximately \$44 million capital was invested in DSM programs creating 40 MWs and 159,000 MWhs of annual energy savings.

RR7 RR8 - (i) The financial implications of these risks depends highly on the regulatory framework adopted. Entergy undergoes an extensive integrated resource planning exercise on a regular, periodic basis. This plan includes inputs on plant retirements, new builds, uprates and extensive environmental regulatory scenarios. Uncertainties regarding all environmental regulations, including GHG emissions, create uncertainty in Entergy's resource planning. In Entergy's 2012 System IRP the financial implications of a scenario of green growth, high gas price with a 2018 start for cap and trade results in \$23.7 billion net present value of revenue required in excess of a scenario with reference gas prices with no CO2 costs. The time horizon for this planning is 30+ years - uncertainty regarding any government policy or regulation causes uncertainty in our modelling, makes identifying the optimal investment strategy more risky. (ii) The methods that Entergy uses to manage this risk include: electric generation portfolio management towards cleaner, lower-emitting facilities and continuous monitoring of the regulatory environment. Entergy's generation portfolio is one of the cleanest in the United States among large electric generators. In 2012, activities included continued advocacy for regulatory certainty, preferring regulation of carbon emissions through a cap and trade scheme (described in RR3) or a carbon fee/tax (described in RR9). (iii) Existing staff perform regulatory monitoring and advocacy at \$0 additional cost per year; capital costs of \$459 million to purchase natural gas CCGT generation facilities in Arkansas and Mississippi. These methods/activities reduce both the likelihood and magnitude of the risk occurring by informing Entergy's planning, rate negotiation process and pace of electric generation portfolio management. Because of this, Entergy stands to benefit from increased investor interest and market valuation in a carbon constrained economy. Continued uncertainty and lack of regulation of GHGs delays this benefit.

5.1c

Please describe your risks that are driven by change in physical climate parameters

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
PR1	Sea level rise	Entergy facilities and its customers could be inundated with sea level rise resulting in increased operational and capital cost due to infrastructure damage, loss of sales during power outages and loss of economic productivity to Entergy's customer base. Entergy and its customers are already dealing with potential impacts of climate change from sea level rise and flooding. These factors, in conjunction with coastal erosion and subsidence already are impacting Southeast Texas and South Louisiana.	Increased operational cost	Current	Direct	Very likely	High
PR2	Tropical cyclones (hurricanes and typhoons)	Entergy could experience infrastructure damage and loss of sales during power outages associated with hurricanes. In recent years, hurricanes Katrina, Rita, Gustav and Ike have provided a glimpse into what increased frequency and severity of tropical cyclones will be like under some of the climate change scenario predictions.	Increased operational cost	Current	Direct	More likely than not	High
PR3	Induced changes in natural resources	Entergy could experience lost sales revenue as a result of decreased economic productivity from loss of coastal wetlands and the ecosystem services these wetlands provide. Louisiana's coastline is being impacted today by coastal erosion, sea level rise and subsidence. These factors are impacting Entergy's customers and in some cases, Entergy's assets.	Increased operational cost	Current	Direct	Very likely	Medium-high
PR4	Change in precipitation extremes and droughts	Changes to precipitation extremes and droughts are a potential risk to Entergy because of our need for cooling water to produce electricity and discharge permit limits tied to river flows or levels. Changes to precipitation patterns can impact where cooling water is available and can impact our ability to operate due to flooding events.	Increased operational cost	1-5 years	Direct	More likely than not	Medium-high

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
PR5	Uncertainty of physical risks	Uncertainty regarding physical risks creates uncertainty in Entergy's resource planning. As the region adapts to climate risk, population density and location will shift, impacting Entergy's resource planning. The time horizon for this planning is 30+ years - uncertainty regarding population density and location causes uncertainty in our modelling.	Increased operational cost	6-10 years	Direct	More likely than not	Medium-high
PR6	Change in temperature extremes	Changes in temperature extremes result in variances in Entergy's electricity sales. Billed electricity usage decreases in periods of warmer weather while ice storms can cause severe damage to Entergy's transmission and distribution infrastructure.	Increased operational cost	Current	Direct	More likely than not	Medium

5.1d

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; and (iii) the costs associated with these actions

PR1, PR2, PR3 and PR4 - (i) The financial implications of these risks include infrastructure damage and loss of sales, and possibly customers, due to extreme weather resulting from and worsened by these physical factors. It is plausible that the financial implication may be similar to those experienced in the past ~\$370 - \$1.5 billion and in 2012. As an example, Entergy suffered approximately \$1.5 billion in restoration costs as a result of Hurricanes Katrina and Rita in 2005. In 2012, Hurricane Isaac caused extensive damage to portions of Entergy's Louisiana service territory including its distribution infrastructure and loss of sales during power outages. Restoration costs are estimated at ~\$370 million. In addition, Entergy funded with the America's WETLAND Foundation a \$4.2 million Gulf Coast Adaptation Study that shows communities along the Gulf Coast could suffer nearly \$700 billion in economic losses (\$350 billion direct, \$350 billion indirect) over the next 20 years due to growing environmental risks. The livelihoods of 12 million people living near the coast, the sustainability of rich natural resources that support \$634 billion in annual GDP, and the security of residential, commercial and industrial assets valued at more than \$2 trillion are increasingly vulnerable to storm surge, flooding, wind damage, and the effects of sea level rise.(ii) The methods that Entergy uses to manage risks include storm hardening of facilities, technical conferences with customers to build greater resilience, Blue Ribbon Resilient Community Leadership Forums (BRRC), property insurance, use of securitization bonds to recover restoration costs, establishment of reserve funds, regulatory recovery mechanisms, investment in emergency preparedness, and research into adaptation. Entergy has studied scenarios of future climate change to better understand the challenges and identify cost effective ways to avoid loss and has reached out to our communities to identify cooperative actions to build resilience. These methods reduce the likelihood and magnitude of the risks now and into the longer term, >10 years through hardened facilities, preparedness, and financial mechanisms the aim to cover damage costs. Activities Entergy initiated in 2012 included conducting two Technical Conferences with customers where Entergy discussed with stakeholders highly cost effective measures to avoid losses from wind damage, floods and storm surge. In 2011 and 2012 Entergy and America's WETLAND Foundation engaged 1,100 stakeholders in eleven different Gulf Coast

communities in a dialogue on the region's vulnerability to future scenarios of climate change in Blue Ribbon Resilient Community Leadership Forums. Cost effective investments to build greater resilience to these hazards were discussed and a course of for cooperative action put in place. See attached overall summary of the BRRC effort and an example of the meeting outcome summary (Biloxi, MS - more available at www.futureofthegulfcoast.org); (iii) Costs associated with the above actions is primarily in staff time, an estimated 5 FTEs, \$375 k/yr. Entergy funded the \$4.2 million Gulf Coast Adaptation Study and in 2012 contributed \$200,000 to America's Wetland Foundation to conduct 11 BRRC Leadership Forums. During 2012, Entergy discussed with customers at two Technical Conferences the benefits of an additional \$321 million in Transmission & Distribution hardening over the next 10 years. This is above the T&D hardening that has been accomplished since 2007. Independent economists estimated that the when considering how business interruption losses affect the economy, the benefit to cost ratio for this investment was 5 to 1 or greater. Entergy's costs associated with Hurricane Isaac response was \$370 million. Entergy's combined costs to restore service after Hurricanes Katrina and Rita in 2005, Gustav and Ike in 2008 and Isaac in 2012 was \$3.2 billion. However, combined losses to Gulf Coast communities from these five recent hurricanes were approximately \$175 billion. In the near term, we have attractive, cost-effective actions that can increase resiliency, assist the growth of our economy and restore our environment. Examples include improved building codes, wetland restoration and stronger levee systems and hardened utility T&D systems in at risk areas. The Gulf Coast Adaptation Study Entergy funded has identified \$49 billion in investments over the next 20 years that will cost-effectively avert \$137 billion in losses over the lifetime of the measures.

PR5 - (i) Entergy undergoes an extensive resource planning exercise on a regular, periodic basis. This plan includes inputs on plant retirements, new builds, uprates and resource requirement scenarios. Uncertainty regarding population density, growth and location create uncertainty in Entergy's resource planning. The time horizon for this planning is 30+ years - uncertainty regarding these factors causes uncertainty in our modelling, making the financial implications difficult to quantify. (ii) Key uncertainties regarding physical risks include the ultimate impact of climate change, the cost and effectiveness of mitigation/adaptation measures and the ability to gain alignment and overcome obstacles. Entergy is addressing these uncertainty factors through meaningful stakeholder engagement - this will help us move closer toward consensus on the need for action and alignment on the measures to employ. (iii) In the near term, we have attractive, cost-effective actions that can increase resiliency, assist the growth of our economy and restore our environment. Examples include improved building codes, wetland restoration and stronger levee systems. The Gulf Coast Adaptation Study has identified \$49 billion in investments over the next 20 years that will cost-effectively avert \$137 billion in losses over the lifetime of the measures.

PR6 – (i) Changes in temperature extremes and weather result in variances in Entergy's electricity sales and changes in peak demand. Billed electricity usage increases in periods of extreme warm weather, decrease in periods of milder weather, while ice storms can cause severe damage to Entergy's transmission and distribution infrastructure. It is plausible that financial implications are similar to those experienced in 2012- ~\$50 - \$80 million. Entergy experienced a decrease in net revenue in 2012 compared to 2011 of \$80 million due to the effect of milder weather on sales volumes. In 2012, Entergy Arkansas experienced significant damage estimated ~\$55-65 million to its infrastructure associated with an ice storm. The increase in extreme heat drives up demand for air conditioning load and the peak generating capacity needed to reliably meet that load and provides a disproportionately large impact on low income families where the cost of energy makes up a large portion of their household income. We estimate as many as 25% of our 2.4 million residential customers are at or near poverty levels. (ii) The methods that Entergy uses to manage these risks include Integrated Resource Plans, investments in energy efficiency and demand side management, rate, investment in Low Income Customer Assistance, cost-recovery mechanisms with Public Service Commissions, insurance policies, and emergency preparedness; these methods reduce the likelihood and magnitude of risks now and into the longer term, >10 years. Activities in 2012 included adding 2,080 MW of new generating capacity to meet future demand, completion of the Entergy System Integrated Resource Plan that forecasts optimal resource needs out through 2031, investing in energy efficiency programs that resulted in 40 MW of demand reduction and 159,000 MWhs of energy savings; Entergy helped weatherize ,000 low income homes and distributed 1,500 weatherization kits; raised \$2.7 million in Power to Care Funds and distributed those funds to low-income customers to help them pay their energy bills; advocated for federally funded Low Income Home Energy Assistance Program (LIHEAP) grants to assist customers in need. (iii) The costs of these methods are \$1.3 billion capital cost in new capacity, \$44 million for energy efficiency, \$2.7 million in Power to Care Funds, \$100 -200 thousand for Integrated Resource Plans, costs for low income advocacy, emergency planning and managing restoration are embedded in many existing departments, including working with PSCs on restoration funding.

5.1e

Please describe your risks that are driven by changes in other climate-related developments

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OR1	Reputation	Entergy's may experience a negative perception by its customers and suppliers around its carbon performance and/or ability to provide reliable service in the face of extreme weather events.	Reduced stock price (market valuation)	Current	Direct	Very likely	Medium
OR2	Induced changes in human and cultural environment	Entergy's customers may migrate out of the region due in part to physical climate impacts resulting in reduced revenue from loss of electricity sales. Changes to the coastline of Louisiana and Texas will cause changes in the rich cultural resources of the area. The Acadian French, Native American and other cultures in South Louisiana are at risk and are already being impacted by coastal erosion, subsidence and sea level rise.	Wider social disadvantages	Current	Indirect (Client)	Very likely	Medium
OR3	Fluctuating socio-economic conditions	Entergy's customers may experience negative changes in social and economic prosperity on a regional scale in response to regulatory or physical climate impacts, these negative changes that may result in a loss of revenue to Entergy due to lower electricity sales. Many of the coastal communities that we serve depend the productivity of local environments, such as fisheries, for their economic livelihood – the productivity of these resources may be affected by climate change. In addition, all four states served by the Entergy utility operating companies rank among the top 10 states with the highest poverty rates. Roughly 25 percent of Entergy's 2.4 million residential customers require government assistance to meet their basic daily needs. In addition, the suffering and devastation in the Gulf Coast region following recent hurricanes was disproportionately felt by low-income individuals and families. The predicted impacts of climate change, including potential increases in the cost of electricity, impact to local environments will have the most impact on these same individuals and families. One	Wider social disadvantages	1-5 years	Indirect (Client)	More likely than not	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		of our guiding principles regarding the needed response to climate change is to build in permanent low-income protection similar to the earned income tax credit or other rebate. In addition, the company advocates for continued provision of low income home energy assistance programs.					
OR4	Increasing humanitarian demands	Entergy's customers are being affected by physical climate impacts and these may increase in the future leading to increased humanitarian demands on the company. Unless low-lying coastal areas begin to adapt to changes already occurring along the Gulf Coast, increased frequency of extreme precipitation, heat events and tropical cyclones will result in increased humanitarian demands.	Wider social disadvantages	1-5 years	Indirect (Client)	More likely than not	Medium

5.1f

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; (iii) the costs associated with these actions

OR1 - (i) Financial implications of this risk include loss of goodwill and negative publicity. Both of these factors can result in an impact on the company's stock price and overall valuation. Entergy has long been recognized as being a good corporate citizen. Entergy's success is linked inextricably to the success of the communities it serves. We live and work in the communities we serve; therefore, the company's reputation is an important asset. (ii) One of the company's long-term aspirations is to contribute to a society that is healthy, educated and productive. Toward that end, Entergy's position includes the concept of a portion of the revenue generated from a carbon fee being used to address the regressive effects of a carbon tax on low- and moderate-income households. Any legislation dealing with carbon control must address the regressive nature of the costs. (iii) Since Entergy's success depends on our customers using our product efficiently and being able to pay their electric bill, the costs associated with low-income programs are recovered - both in revenue and in the long term success and sustainability of the economy as a whole.

OR2, OR3 and OR4 - (i) Potential financial implications of these risks may come in the form of lost revenue from lower electricity sales, potential loss of customers, and possible increased financial assistance to low-income customers. It is plausible that the financial implication may be similar to those experienced in 2005 with loss of revenue and number of customers due to Hurricanes Katrina and Rita; approximately 40,000 – 60,000 customers with associated annual revenues in the range of ~\$30-60 million. Documented impacts of Hurricanes Katrina and Rita include the following. The temporary power outages associated with the hurricanes caused Entergy Louisiana's and Entergy New Orleans' sales volumes to be lower than normal; the number of customers as of December, 2005 compared to December, 2004 decreased by 44,000 at Entergy Louisiana and by 20,000 and 15,000 for electric and gas, respectively, at Entergy New Orleans . Entergy

Louisiana estimated lost revenues in 2006 caused by the hurricanes to be approximately \$39 million; Entergy New Orleans experienced a revenue variance of -\$59 million due to a decrease in electricity usage. Because of the effects of Hurricane Katrina, in 2005, Entergy New Orleans filed a voluntary petition in the United States Bankruptcy Court for the Eastern District of Louisiana seeking reorganization relief (see 2005 Sustainability Report and Inside Entergy - Our Finest Hour). In addition, the Gulf Coast Adaptation Study identified average annual storm related business interruption losses today of ~\$700 million for businesses Entergy serves with those losses potentially growing to \$1,400 million by 2030. (ii) Entergy is managing this risk by actively advocating for action at the federal, state and local level to limit GHG emissions economy-wide in a way that also provides protection for low-income individuals and for continued support for LIHEAP. The company is partnering with communities on economic development, supporting multiple lines of defence investments including wetlands restoration, barrier island restoration and levees for greater resilience, collaborating with our customers to learn how to prioritize our infrastructure investments in ways that align with the actions they are taking, partnering with communities and customers to build resilient communities and supporting charitable organizations. These methods may reduce the likelihood and magnitude of the risk occurring now and in the longer term, >10 years. In 2012, activities included government advocacy to gain passage of the RESTORE Act that will provide funding to Louisiana for coastal wetlands restoration, continued work with the America's WETLAND foundation to help raise awareness and build support for policies to protect the Gulf Coast against a changing environment; initiated two Technical Conferences with our customers to help prioritize T&D hardening investments to reduce business interruption losses; partnered in 86 economic development projects that led to \$4 billion in capital investment and creating 9,394 jobs in our utility service area economic development projects with officials in Arkansas, Louisiana, Mississippi and Texas resulting in community investment and job creation; facilitating increased government assistance for low-income customer assistance. (iii) Costs associated with these actions include the time and effort from various personnel within Entergy, \$0 incremental cost; a \$200,000 grant to America's WETLAND foundation; \$355,000 in donations Hurricane Isaac relief efforts in Louisiana; 28% of corporate philanthropy contribution focused on community and economic development (\$4.5 million), and \$2.7 million for low income home energy assistance program. In total Entergy and its charitable foundation donated more than \$16.5 million in 2012 to nonprofit groups that are helping rebuild the physical, intellectual and cultural resources in the communities where we operate. Additionally, Entergy supports and advocates low-income programs focused on efficient use of energy.

5.1g

Please explain why you do not consider your company to be exposed to risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

5.1h

Please explain why you do not consider your company to be exposed to risks driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

Please explain why you do not consider your company to be exposed to risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

In 2013 Entergy is collaborating with the World Business Council for Sustainable Development (WBCSD) and is a lead author on a report on Adaptation and Climate Resilience in the Power Sector that will identify best practices and discuss the cost benefits for a number of resilience investments.

Entergy also manages regulatory risk by active participation in trade groups that closely follow the development of new regulatory proceedings, including the Clean Energy Group, the Edison Electric Institute, and the Center for Climate and Energy Solutions. Participation in these groups and Entergy's individual assessment of regulatory programs has, over the years, resulted in Entergy's active participation in lobbying and litigation designed to support regulatory mechanisms the Company believes are worthwhile and to oppose regulatory mechanism that would unduly harm the Company without corresponding benefits to the environment or Entergy's customers.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/5.ClimateChangeRisks/Hinds Purchase.mht](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/5.ClimateChangeRisks/Hinds%20Purchase.mht)
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[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/5.ClimateChangeRisks/Building_a_Resilient_Gulf_Coast.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/5.ClimateChangeRisks/Building_a_Resilient_Gulf_Coast.pdf)
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Page: 6. Climate Change Opportunities

6.1

Have you identified any climate change opportunities (current or future) that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Opportunities driven by changes in regulation
- Opportunities driven by changes in physical climate parameters
- Opportunities driven by changes in other climate-related developments

6.1a

Please describe your opportunities that are driven by changes in regulation

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
RO1	International agreements	International agreements may hasten US policy on climate change, if ratified by Congress, and carbon regulation may benefit Entergy by driving demand	Increased demand for existing products/services	Current	Direct	Likely	Medium-high

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
		for lower-carbon energy. Compared to the top 100 largest utilities in the US, Entergy ranks in top quartile for lowest CO2 emission rates for all generating sources, therefore the company may have a competitive advantage under any regulatory scenario that places a price on carbon or results in CO2 emission limits. Entergy has long advocated for action on climate change, so any international action on this front will increase pressure for the US to take action. take action.					
RO2	Air pollution limits	Entergy's recent investments in CCGT and nuclear uprates result in top quartile, low CO2 emission rates (compared to the largest 100 electric generators in the US), therefore the company may have an advantage as the the USEPA currently is requiring analysis of the best available control technology (BACT) for new and/or upgraded power generation facilities. Additionally, EPA has proposed a new source performance standard for new power plants of 1000 pounds CO2 per MWh. EPA has indicated it will propose GHG New Source Performance Standards for existing units. All of these actions are based on the determination (and case law) that CO2 can be a regulated pollutant under the Clean Air Act. While Entergy has long advocated for action on climate change, regulation of carbon dioxide through the Clean Air Act is not the most efficient method.	Increased stock price (market valuation)	Current	Direct	Very likely	Medium-high
RO3	Cap and trade schemes	Entergy's electric generation portfolio management strategy anticipated carbon regulation. The company now only operates clean CCGT or non-CO2 emitting nuclear generation in the US states currently operating under the RGGI cap and trade scheme. In the Northeast U.S. an economic incentive for low or non-emitting generation tends to make these assets more profitable. Five of our six plants in this region will not require CO2 emission allowances, and our	Increased stock price (market valuation)	Current	Direct	Unlikely	Medium-high

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
		natural gas CCGT plant is low-emitting when compared to the national average. Even though a national cap and trade system is now unlikely in the US in the next five years, Entergy believes that either this type of scheme or a carbon tax will be the ultimate and most economically efficient mechanism for controlling carbon in the US.					
RO4	Product efficiency regulations and standards	Entergy earns a financial incentive for achieving its energy efficiency / demand side management (EE/DSM) goals and targets for our utility business in Texas, Arkansas and New Orleans while we advocate for similar programs in Louisiana and Mississippi. The Public Service Commissions in Texas and Arkansas allow recovery of DSM and EE investments. While this does reduce demand for electricity (thereby reducing revenue), Entergy is building capacity to operate profitably in an economy where energy efficiency may become mainstream and may benefit commercially by offering energy efficiency services to residential, industrial or commercial markets. In addition, DSM and EE programs allow Entergy to avoid or defer investments in new capacity to meet customer demand and are part of the company's Integrated Resource Plans. Entergy does not advocate wasteful use of energy by our customers. Entergy strongly advocates the efficient use of electricity and understands that this is a technology that can be cost effectively deployed today to reduce GHG emissions economy-wide.	New products/business services	Current	Direct	Virtually certain	Medium-high
RO5	Voluntary agreements	Entergy has voluntarily committed to reduce its GHG emissions for the last decade resulting in the company being positioned in the top quartile of low CO2 emission rates among the largest 100 electric utilities in the US. The know-how developed from this achievement. can be used to develop tools, products and services that will help the business	Increased stock price (market valuation)	Current	Direct	Very likely	Medium-high

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
		and our customers reduce emissions even further. Entergy beat our first commitment (stabilize at 2000 levels through 2005) by 23% and bettered our second commitment (stabilize at 20% below 2000 levels, including controllable purchased power) by 3%, both on a cumulative basis. After successful completion of these commitments, Entergy announced a third voluntary CO2 commitment - stabilization at 20% below year 2000 levels through 2020, taking into account all three commitment periods.					
RO6	Carbon taxes	Entergy ranks in top quartile for lowest CO2 emission rates for all generating sources, therefore the company may have a competitive advantage under any regulatory scenario that places a price on carbon. Currently, Entergy is advocating an economy-wide carbon fee/tax at the federal level. One fee rising at a predictable rate over decades would motivate investment in the most promising solutions and reduce carbon emissions.	Increased stock price (market valuation)	Current	Direct	About as likely as not	Medium-high
RO7	Other regulatory drivers	Entergy's customers are exposed to less risk from higher energy costs because of Entergy's lower exposure to a price on carbon. Additionally, other EPA rules may reduce GHGs as an indirect co-benefit. Entergy's generation portfolio is one of the cleanest in the United States among large electric generators. The company is a strong advocate of regulation of carbon emissions through either a carbon fee/tax, or a cap and trade scheme. Because of this, Entergy stands to benefit from increased investor interest and market valuation in a carbon constrained economy.	Increased stock price (market valuation)	Current	Direct	Very likely	Medium-high

6.1b

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions

RO1, RO2, RO3, RO5, RO6 and RO7 - (i) Entergy is well positioned to adapt to a carbon constrained economy due to investments in a low-emitting generation fleet and significant early action to reduce emissions. Entergy's investment in combined cycle gas turbine (CCGT) generation and nuclear uprates over the last decade has resulted in a 25% reduction in CO2 emissions and a 41% reduction in CO2 emission rates. The company's CO2 intensity is .59 lbs CO2/kWh, ~47% lower than the national average of 1.26 lbs CO2/kwh (2011). The potential financial impact of these technology choices in a scenario when a price on CO2 starts in 2018 at \$25.41/U.S. ton (2012-2031 levelized cost in 2011\$ of \$16.65/U.S. ton) would be in the range of ~\$500 mm/yr. in CO2 costs/yr (~ 47% lower) vs the national average estimated at ~ \$850 mm/yr. for a generation fleet of the same size. Entergy views climate change as a challenge that needs to be engaged - the rewards will be bestowed both on future generations and upon those companies that show leadership and innovation in helping make the transition to a clean energy economy.

(ii) The methods that Entergy uses to manage these opportunities includes developing an integrated resource plan, electric generation portfolio management, and voluntary reduction of GHG emissions. The activities Entergy used to manage these opportunities in 2012 included development of a 2012 integrated resource plan, investments in CCGT technology and nuclear uprates resulting in a cleaner generation portfolio, and implementation of projects to reduce GHG emissions and create offsets. These methods affect the likelihood and magnitude of the opportunity now and into the longer term, >5 years. Entergy's current focus is on the United States; however, international action on climate change, air pollution limits, carbon taxes and cap & trade schemes will hasten action, recognize early action by leaders such as Entergy and create markets through which Entergy can leverage our position. Entergy is moving on these opportunities now and has a portfolio of nearly 4 million tons of carbon offsets.

(iii) The costs of producing an annual updated integrated resource plan is in the range of \$100 - \$200 thousand; capital costs of \$459 million to purchase natural gas CCGT generation facilities in Arkansas and Mississippi, \$874 million to complete the capacity up-rate at Grand Gulf, and Entergy's Environmental Initiatives Fund (\$32 million+ over the last decade) to invest in efficiency improvements and high-quality offset projects. Entergy has invested nearly \$32 million from our Environmental Initiatives Fund over the last twelve years on existing generation fleet efficiency improvements and high-quality emission offset projects. This funding is above and beyond other spending on efficiency improvements and maintenance.

RO4 - (i) Entergy's business units are eligible for financial incentives for meeting the goals related to achieving energy efficiency/demand side management (EE/DSM) programs based on the net benefits achieved; incentives range from \$1 - \$2 million per year. For example, in Texas, Entergy earned a bonus of \$1.4 million for meeting certain goals and passing several financial tests. Similar financial incentive programs exist in Arkansas and New Orleans. Entergy does not advocate wasteful use of energy by our customers and recognizes the payback associated with EE/DSM programs.

(ii) The methods that Entergy uses to manage these opportunities include offering various EE/DSM programs, products and/or services to help customers use electricity more efficiently and negotiation of lost revenue mechanisms with its regulators. The activities that Entergy used in 2012 were negotiation of lost revenue mechanisms with regulators in Texas, Arkansas and New Orleans, and implementing demand side management or energy efficiency programs in those areas, these efforts included focusing on efficient use of electricity through a host of outreach programs, low-income assistance initiatives and even grant offerings. Reducing energy consumption eliminates emissions associated with electric generation, reduces the amount of new generation that needs to be built to meet the growth in demand and has the added benefit of reducing customer's electric bills helping all customers, but is especially important for our low income customers. These methods affect the likelihood and magnitude of the opportunity now and into the longer term, >5 years.

(iii) Existing Entergy staff negotiates lost revenue mechanisms and implements EE/DSM programs at ~\$0 additional cost. Entergy currently has active DSM

programs in Entergy Texas, Inc., Entergy Arkansas, Inc. and Entergy New Orleans, Inc. that include 32 DSM programs for all customer classes (residential, commercial and industrial). A total of \$120 million was invested over the period of 2002-2012 to create a total of 237 MWs and 563,500 MWh of energy savings. In 2012 alone approximately \$44 million was invested in DSM programs creating 40 MWs and 159,000 MWh of annual energy savings. Entergy estimates that this reduction in MWh during 2012 avoided approximately 42,500 metric tons of CO₂.

6.1c

Please describe the opportunities that are driven by changes in physical climate parameters

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
PO1	Other physical climate opportunities	Adaptation Investments - Entergy, its customers and the Gulf Coast economy stand to benefit from investments in needed infrastructure improvements to build more resilient communities, reduce losses from floods, storm surge and hurricanes and sustain the economic viability of our customer base. A large portion of Entergy's customer base and the majority of its utility infrastructure are in the Gulf Coast region. Coastal Louisiana suffers one of the fastest rates of wetland loss in the world, with restoration costs estimated in the tens to hundreds of billions of dollars. In such a rapidly changing physical environment, industries and communities must be resilient to survive.	Wider social benefits	Current	Direct	Very likely	Medium-high
PO2	Induced changes in natural resources	Entergy may benefit from the commercialization of carbon offset opportunities for deltaic wetland restoration, this CO ₂ sequestration opportunities from wetland restoration activity will help protect Entergy facilities and its customer base in the Gulf of Mexico area from the effects of floods, storm surges and hurricanes.	Wider social benefits	Current	Direct	Very likely	Medium
PO3	Change in mean (average) temperature	Entergy may increase its electricity sales, and its revenue, due to an increase in mean temperature. The company's utility business is located in the southern portion of the US, an area prone to warm weather. Changes in mean temperature and changes to severe weather patterns are predicted impacts of climate change. Weather patterns and temperature have a direct impact on electricity usage due to	Increased demand for existing products/services	Current	Direct	Likely	Medium

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		increased use of air conditioning.					

6.1d

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions

PO1 and PO2 - (i) Entergy has the opportunity to protect its physical infrastructure along the U.S. Gulf Coast, valued at \$74 billion; and protect its customer base in that area of 2.8 million customers through proactive adaptation steps. Coastal protection through adaptation may prevent damage to facilities and loss of revenue due to loss of electricity sales. It is plausible that the financial implication may be similar, \$370 million to \$1.5 billion, to preventing losses experienced in the past and in 2012. As an example, Entergy suffered approximately \$1.5 billion in restoration costs as a result of Hurricanes Katrina and Rita in 2005. In 2012, Hurricane Isaac caused extensive damage to portions of Entergy's Louisiana service territory including its distribution infrastructure and loss of sales during power outages. Restoration costs are estimated at ~\$370 million.

The U.S. Gulf Coast faces increased risks from floods, storm surge and hurricanes. Gulf Coast communities are today experiencing \$14 billion in average annual losses. We project this will increase to \$19 billion by 2030 without any change in the climate. With climate change scenarios considered, these losses could be as high as \$24 billion/yr in 2030. Along the Gulf Coast safety, prosperity and the vibrant quality of life are at risk. The livelihoods of 12 million people that live near the coast, the sustainability of rich natural resources that support \$634 billion in annual GDP and the security of residential, commercial and industrial assets valued at more than \$2 trillion are increasingly vulnerable to storm surge, flooding and wind damage. Back to back hurricanes in 2005 and again in 2008 provide a glimpse of what the future could bring if we don't plan for and invest in building more resilient, sustainable communities. They also provide an important lesson demonstrating how the poorest among us, with the fewest adaptation options, are disproportionately impacted by these risks.

(ii) The methods that Entergy uses to manage this opportunity include partnering with government, business, economic development and scientific research entities to approach environmental adaptation as a community-wide strategy. The company is advocating for action, funding research and developing offset protocols in collaboration with others and holding technical and community outreach forums. Activities Entergy used to manage this opportunity includes funding for the America's WETLAND Foundation, the "Gulf Coast Adaptation Study" that shows communities along the Gulf Coast could suffer nearly \$350 billion in direct asset losses over the next 20 years due to growing environmental risks. The study also identified \$49 billion in investments that will cost effectively avert \$137 billion in losses over the lifetime of the measures. Entergy leaders participated in the DELTAS2010 Conference in October 2010 – along with legislative leaders from Texas, Louisiana, Mississippi and Alabama – where the landmark study we funded was presented. We participated and led discussions on how the region can build resiliency to future scenarios of extreme weather. Entergy and America's WETLAND Foundation held eleven Blue Ribbon Resilient Community Leadership Forums during 2011 - 2012 to educate our communities of the risks they're facing and help them identify cost effective measures available to manage risk, avoid losses, ensure safety and preserve quality of life. Entergy also conducted two Technical Conferences with our customers to learn from them where they felt vulnerable, what they've done to become more resilient, what they expected from their energy provider and discuss how Entergy could prioritize its investments

in system hardening to compliment what customers have done and to minimize business interruption losses. Entergy identified \$322 million in cost effective system hardening adaptation investments that achieves \$4.3 to \$5.9 of avoided economic loss from hurricanes, storm surge and flooding for every dollar invested. Regarding CO2 offsets generated as a result of wetland restoration activities, Entergy has supported the development of a protocol through the American Carbon Registry and Tierra Resources (see attached press release and www.americancarbonregistry.org for additional details). Entergy currently is evaluating a proof of concept project and an initial demonstration project to occur sometime in 2012 or 2013. These methods increase the likelihood and magnitude of the opportunity now and into the longer term, 5+ years.

(iii) The costs of these methods include funding the America Wetland Foundation study, \$200,000 in 2012, for further research in in deltaic wetlands; the company funded Tierra Resources \$150,000 to develop the world's first methodology to establish carbon offsets for deltaic wetlands restoration. Existing Entergy staff advocates for action, and participates in technical and community outreach forums at no, \$0, additional cost. Our conclusion is that in the near term, we have attractive, cost-effective actions that can increase resiliency, assist the growth of our economy and restore our environment. Examples include improved building codes, wetland restoration and stronger levee systems. However, it will take bold vision, leadership and significant engagement.

PO3 - (i) It is plausible that the financial implications of a change in mean temperature that leads to increased electricity sales may be similar to those experienced by Entergy between 2009 and 2010, when a revenue increase of \$231 million was attributed to "...colder weather in the first quarter of 2010 compared to 2009 and warmer weather in the second and third quarters of 2010 compared to 2009." These sorts of year-on-year weather variations are a predicted impact of climate change's effect on weather patterns.

(ii) The method that Entergy uses to manage this opportunity is through integrated resource planning assuring it has sufficient generation resources to meet increased demand - the planning process includes load forecasts through 2029. Activities in 2012 included an update of integrated resource plans for the system and for business units such as Entergy Arkansas, as appropriate. These methods increase the likelihood and magnitude of the opportunity now and into the longer term, 5+ years.

(iii) Costs include the planning process which is a function of Entergy's system planning and operations group, are staff time and acquisition of third-party forecasts of various parameters that feed into the load forecasting process. The cost for IRPs range from \$100 - \$200 thousand dollars.

6.1e

Please describe the opportunities that are driven by changes in other climate-related developments

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OO1	Reputation	Entergy is viewed as a thought leader in the area of climate change and adaptation and the company stands to benefit from its integrated resource planning that incorporates a cost of carbon into its future electric generation strategy.	Increased stock price (market valuation)	Current	Direct	Very likely	Medium-high

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		As these issues increase in exposure and importance in the social conscience, Entergy will be viewed as a leader.					
OO2	Changing consumer behaviour	Entergy's skills and capabilities in energy efficiency and demand side management may be leveraged with greater recognition and understanding of climate issues. An increasing number of Entergy customers may evaluate and take action to reduce their energy/carbon footprint thereby leading to new products and business services.	New products/business services	Current	Direct	Very likely	Medium-high
OO3	Changing consumer behaviour	Entergy may benefit from increased sales of electricity due to electrification of transportation sector.	New products/business services	Current	Direct	Likely	Medium-high

6.1f

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity; (iii) the costs associated with these actions

OO1 - (i) We grow the business by providing customers with low-emission, reliable energy at reasonable cost; superior service; a strict focus on safety; operational excellence and engaged employees. The financial implications of doing this well for 2010 through 2014, as stated in the 2012 Annual Report, include deploying \$4 billion to shareholders through dividends and share repurchases. This result will be facilitated in part by maintaining a positive reputation that can manifest in terms of "goodwill". Recognition from external rating agencies and Non-Governmental Organizations (NGOs) can also build goodwill.

(ii) The method that Entergy uses to manage this opportunity include providing extensive external reporting benchmarking, participating in the local, regional and national public policy debates and integrated resource planning. In 2012, activities that Entergy engaged in included: numerous presentations on its climate change position and thought-leadership work on adaptation, publishing articles on its climate change position our CEO engaged directly with policymakers at all levels to influence policy and establish Entergy as a thought leader on the topic of climate change and energy policy and including a cost of carbon in its 2012 integrated resource planning update. Entergy also participated in and sponsored a 2012 report on Benchmarking Air Emissions in the Electric Utility Sector.

(iii) These activities are performed by existing Entergy functions, therefore the incremental costs are small. The cost of sponsoring the 2012 Benchmarking report was \$30 thousand.

OO2 - (i) The financial implications may be similar to the incentives that Entergy receives for its energy efficiency/demand side management programs in its business units, \$1-2 million/year. For example, Entergy Texas received a bonus of \$1.4 million for meeting certain EE/DSM goals and passing several financial tests. Similar financial incentive programs exist in Arkansas and New Orleans. However, Entergy does not advocate wasteful use of energy by our customers.

Additionally, the financial opportunities include offering products and services that allow customers to reduce their energy usage and carbon footprint.

(ii) The methods that Entergy uses to manage this opportunity is to engage with its regulators and customers to determine the types of products and/or services that may help customers use electricity more efficiently. The activities that Entergy used in 2012 include engagement with regulators and customers on EE/DSM mechanisms, and implementing EE/DSM programs in those areas, these efforts included focusing on efficient use of electricity through a host of outreach programs, low-income assistance initiatives and even grant offerings. Each year the company seeks to learn from these activities and tailor its EE/DSM offer accordingly. These methods affect the likelihood and magnitude of the opportunity now and into the longer term, >5 years.

(iii) Existing Entergy staff negotiates lost revenue mechanisms and implements EE/DSM programs at ~\$0 additional cost. The company also uses existing staff, \$0 additional cost, to engage its customers and obtain feedback on EE/DSM programs. Entergy currently has active DSM programs in Entergy Texas, Inc., Entergy Arkansas, Inc. and Entergy New Orleans, Inc. that include 32 DSM programs for all customer classes (residential, commercial and industrial). A total of \$120 million was invested over the period of 2002-2012 to create a total of 237 MWs and 563,500 MWhs of energy savings. In 2012 alone approximately \$44 million was invested in DSM programs creating 40 MWs and 159,000 MWhs of annual energy savings. Entergy estimates that this reduction in MWh during 2012 avoided approximately 42,500 metric tons of CO2.

OO3 - (i) The financial implications of electric vehicles include increase revenue from additional electricity sales. In 2011, Entergy collected \$8.7 billion from utility sales. Increased electric energy demand due to use of electric vehicles would correlate into increased sales and revenue for the company. In the near term however, increased sales from electric vehicle usage will likely remain less than 1% of total electric energy sales.

(ii) Entergy manages this opportunity through an extensive planning and forecasting effort regarding the market for electric vehicles and through implementing pilot programs. Through Entergy's Environmental Initiatives Fund, Entergy has partnered with Coulomb Technologies to fund the installation of 17 Level 2 charging stations at college campuses in Entergy's service areas. The charging stations will provide real world operational information and consumer behavior characteristics for EVSE at these locations. This will assist Entergy and the colleges/universities in future deployment of the technology. Entergy fleet management has closely monitored developments in the EV and EV infrastructure market for several years. As a result of this research, both hybrid work trucks and cars have been added to the Entergy fleet and plans are pending for adding additional EVs during upcoming vehicle replacement cycles.

(iii) These planning and forecasting activities are performed by existing Entergy functions and using existing external research resources, therefore the incremental costs are \$0 to minimal. The installation of 17 Level 2 Charging Stations cost \$170 thousand.

6.1g

Please explain why you do not consider your company to be exposed to opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

6.1h

Please explain why you do not consider your company to be exposed to opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

6.1i

Please explain why you do not consider your company to be exposed to opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Jeff Williams for LSU Tech Conf final v1.pptx](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Jeff%20Williams%20for%20LSU%20Tech%20Conf%20final%20v1.pptx)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Jeff Williams for LSU Tech Conf final.pptx](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Jeff%20Williams%20for%20LSU%20Tech%20Conf%20final.pptx)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/091212-AWF-BRRCFinalReportEmailVerson.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/091212-AWF-BRRCFinalReportEmailVerson.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Gulf Coast Adaptation Study Final report.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Gulf%20Coast%20Adaptation%20Study%20Final%20report.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Coastal Resilience 1 .pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Coastal%20Resilience%201.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Benchmarking-Air-Emissions-2013-Embargoed Until May 8.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Benchmarking-Air-Emissions-2013-Embargoed%20Until%20May%208.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Dennis Dawsey LA Entergy Storm Hardening 5 13 12.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Dennis%20Dawsey%20LA%20Entergy%20Storm%20Hardening%205%2013%2012.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Building_a_Resilient_Gulf_Coast.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/6.ClimateChangeOpportunities/Building_a_Resilient_Gulf_Coast.pdf)

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading [Investor]

Page: 7. Emissions Methodology

7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Base year	Scope 1 Base year emissions (metric tonnes CO2e)	Scope 2 Base year emissions (metric tonnes CO2e)
Sat 01 Jan 2000 - Sun 31 Dec 2000	48260000	788000

7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Climate Leaders: Direct Emissions from Stationary Combustion
US EPA Climate Leaders: Indirect Emissions from Purchases/Sales of Electricity and Steam

7.2a

If you have selected "Other", please provide details below

7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Second Assessment Report (SAR - 100 year)
CH4	IPCC Second Assessment Report (SAR - 100 year)
Other: N20	IPCC Second Assessment Report (SAR - 100 year)
HFCs	IPCC Second Assessment Report (SAR - 100 year)
PFCs	IPCC Second Assessment Report (SAR - 100 year)
SF6	IPCC Second Assessment Report (SAR - 100 year)

7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data

Fuel/Material/Energy	Emission Factor	Unit	Reference
Anthracite	5675.30	lb CO2 per short ton	EPA Climate Leaders GHG Inventory Protocol, October 2004
Bituminous coal	5086.36	lb CO2 per short ton	EPA Climate Leaders GHG Inventory Protocol, October 2004
Sub bituminous coal	3656.36	lb CO2 per short ton	EPA Climate Leaders GHG Inventory Protocol, October 2004
Lignite	2991.33	lb CO2 per short ton	EPA Climate Leaders GHG Inventory Protocol, October 2004
Coke oven coke	5528.31	lb CO2 per short ton	EPA Climate Leaders GHG Inventory Protocol, October 2004
Other:	4289.96	lb CO2 per short ton	EPA Climate Leaders GHG Inventory Protocol, October 2004
Other:	4744.81	lb CO2 per short ton	EPA Climate Leaders GHG Inventory Protocol,

Fuel/Material/Energy	Emission Factor	Unit	Reference
			October 2004
Wood or wood waste	3135.2	lb CO2 per short ton	EPA Climate Leaders GHG Inventory Protocol, October 2004
Landfill gas	57.33	lb CO2 per 1000 ft3	EPA Climate Leaders GHG Inventory Protocol, October 2004
Biodiesels	20.48	lb CO2 per gallon	EPA Climate Leaders GHG Inventory Protocol, October 2004
Other:	12.13	lb CO2 per gallon	EPA Climate Leaders GHG Inventory Protocol, October 2004

Further Information

The 2012 revision of Entergy's GHG Inventory Management Plan and Reporting Document (IMPRD) is attached and contains additional information regarding the methodology used to develop our GHG Inventory. The IMPRD is revised each year after our third-party verification audit is conducted (see revision log). In 2012 the IMPRD was upgraded significantly to meet the requirements of ISO 14064-1. The IMPRD was revised again March 2013.

The global warming potentials and emission factors in 7.3 and 7.4 also are contained within the GHG Inventory attached. See appropriate pages in the GHG Inventory document.

Note regarding Entergy's Scope 2 emissions - Entergy's only category of Scope 2 emissions is power consumed on Entergy's transmission and distribution system (T&D line losses and company usage). Emissions from this loss/usage already are accounted for in Entergy's direct emissions and/or purchased power emissions (Scope 3) since the additional generation required to make up for this loss/usage is accounted for in these categories. See Entergy's 2012 GHG Inventory.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/Entergy%20GHG%20Inventory%202012%20FINAL%20VERIFIED%20030813.pdf)

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/ICF Verification Statement and Report - ISO 14064-3 - Entergy - 2012 GHG Inventory - FINAL - 8 March 2013.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/ICF%20Verification%20Statement%20and%20Report%20-%20ISO%2014064-3%20-%20Entergy%20-%202012%20GHG%20Inventory%20-%20FINAL%20-%208%20March%202013.pdf)

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf)

8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Equity share

8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO₂e

34827380

8.3

Please provide your gross global Scope 2 emissions figures in metric tonnes CO₂e

812825

8.4

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

No

8.4a

Please complete the table

Source	Scope	Explain why the source is excluded
--------	-------	------------------------------------

8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
Less than or equal to 2%	Metering/ Measurement Constraints	The primary source of data for Scope 1 emissions is the Continuous Emission Monitoring System (CEMS) at Entergy's fossil-fired power plants. Also, transposition errors are possible during development of the GHG Inventory, as this process is not automated. These sources of error are minimized by data quality assurance checks, substantial internal peer review, as well as the third-party verification audit of the data. Additionally, during 2010, a third-party conducted a CEMS program compliance audit on behalf of Entergy to ensure the program is meeting all regulatory and internal requirements. Entergy has developed a GHG emissions Inventory Management and Reporting Document (IMPRD). This document (attached) was upgraded during 2011, 2012 and 2013 in accordance with ISO 14064-1 and includes all institutional, managerial and technical	Less than or equal to 2%	Metering/ Measurement Constraints	The primary source of data for Scope 2 emissions is Entergy's measurement of line losses and company usage. Entergy uses power that is generated or purchased by the company for supplemental power and at company service and office locations. Additionally, a small percentage of power is consumed on the T&D system through efficiency losses. These Scope 2 emissions are actually accounted for by the additional generation necessary to make up for the loss/usage. Accordingly these emissions are not added to Entergy's overall emissions inventory, as they already are accounted for within Entergy's Scope 1 emissions (for self generation) and Scope 3 emissions (for purchased power).

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
		arrangements made for the collection of data, preparation of the inventory and implementation of steps to manage the quality of the inventory. As part of this upgrade, an assessment and discussion of uncertainty was included. The IMPRD provides a systematic process for ensuring data quality, and identifies areas where investments will likely lead to the greatest improvements in overall inventory quality and uncertainty reduction. The primary objective of the IMPRD is ensuring the credibility of the company's GHG inventory information.			

8.6

Please indicate the verification/assurance status that applies to your Scope 1 emissions

Third party verification or assurance complete

8.6a

Please indicate the proportion of your Scope 1 emissions that are verified/assured

More than 90% but less than or equal to 100%

8.6b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
Limited assurance	ISO14064-3	https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Investor-8.6b-VerificationDetails1/ICF Verification Statement and Report - ISO 14064-3 - Entergy - 2012 GHG Inventory - FINAL - 8 March 2013.pdf

8.6c

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emissions Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission
------------	--------------------------------------	-------------------	------------------------

8.7

Please indicate the verification/assurance status that applies to your Scope 2 emissions

Third party verification or assurance complete

8.7a

Please indicate the proportion of your Scope 2 emissions that are verified/assured

More than 90% but less than or equal to 100%

8.7b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
Limited assurance	ISO14064-3	https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-8.7b-C3-RelevantStatement/Investor-8.7b-VerificationDetailsS21/ICF Verification Statement and Report - ISO 14064-3 - Entergy - 2012 GHG Inventory - FINAL - 8 March 2013.pdf

8.8

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

8.8a

Please provide the emissions in metric tonnes CO2

Further Information

Entergy commissions an independent third party verification audit of its GHG Inventory each year. For the 2012 Inventory, the audit was performed to the ISO 14064-3 standard. The audit is conducted such that the verified information is available for publication in Entergy's Annual Reporting. In addition to the annual verification audit, Entergy, using a third-party, in 2010 conducted an audit of its Continuous Emission Monitoring System (CEMS) program, and continued this at the facility level during 2011.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/ICF Verification Statement and Report - ISO 14064-3 - Entergy - 2012 GHG Inventory - FINAL - 8 March 2013.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/ICF%20Verification%20Statement%20and%20Report%20-%20ISO%2014064-3%20-%20Entergy%20-%202012%20GHG%20Inventory%20-%20FINAL%20-%208%20March%202013.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Entergy%20GHG%20Inventory%202012%20FINAL%20VERIFIED%20030813.pdf)

Page: 9. Scope 1 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

9.1

Do you have Scope 1 emissions sources in more than one country?

No

9.1a

Please complete the table below

Country/Region	Scope 1 metric tonnes CO ₂ e
----------------	---

9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

- By business division
- By facility
- By GHG type
- By activity

9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Electric Generation (includes Fossil Operations and Nuclear)	34524121
Natural Gas and Electric Transmission and Distribution (includes Gas Operations)	294293
Corporate	8966

9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Acadia	872014		
Attala	653140		
Baxter Wilson	1701258		
Big Cajun 2	1304033		
Calcasieu	155419		

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Cecil Lynch	2937		
Gerald Andrus	807770		
Hinds Energy Facility	25933		
Hot Spring Energy Facility	41194		
Independence	5141387		
Lake Catherine	398643		
Lewis Creek	940758		
Little Gypsy	1206689		
Michoud	1431085		
Nine Mile Point	2623655		
Ouachita Power	611493		
Perryville	1034253		
Rhode Island State Energy	909511		
RS Cogen	740003		
R S Nelson	3869105		
Rex Brown	170821		
Sabine	2292818		
Sterlington	4349		
Waterford	521456		
White Bluff	5825924		
Willow Glen	769178		
Misc Small Combustion Sources	469295		
Mobile Combustion	52979		
T&D	145864		
Gas Operations	95450		
Corporate/Offices	8966		

9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	34485452
CH4	106080
N2O	81018
SF6	145864
HFCs	8966

9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
Stationary Combustion	34524121
Mobile Combustion	52979
Fugitive Emissions	250280

9.2e

Please break down your total gross global Scope 1 emissions by legal structure

Legal structure	Scope 1 emissions (metric tonnes CO2e)
-----------------	--

Further Information

Entergy's operations are entirely within the United States of America. Additional detail on each of the breakdowns provided is available in the attached 2012 GHG Inventory file.

Additionally, verification and validation of the numbers presented above are provided by the attached third-party verification report. The verification audit was conducted in accordance with ISO 14064-3.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/9.Scope1EmissionsBreakdown\(1Jan2012-31Dec2012\)/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/9.Scope1EmissionsBreakdown(1Jan2012-31Dec2012)/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/9.Scope1EmissionsBreakdown\(1Jan2012-31Dec2012\)/ICF Verification Statement and Report - ISO 14064-3 - Entergy - 2012 GHG Inventory - FINAL - 8 March 2013.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/9.Scope1EmissionsBreakdown(1Jan2012-31Dec2012)/ICF%20Verification%20Statement%20and%20Report%20-%20ISO%2014064-3%20-%20Entergy%20-%202012%20GHG%20Inventory%20-%20FINAL%20-%208%20March%202013.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/9.Scope1EmissionsBreakdown\(1Jan2012-31Dec2012\)/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/9.Scope1EmissionsBreakdown(1Jan2012-31Dec2012)/Entergy%20GHG%20Inventory%202012%20FINAL%20VERIFIED%20030813.pdf)

Page: 10. Scope 2 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

10.1

Do you have Scope 2 emissions sources in more than one country?

No

10.1a

Please complete the table below

Country/Region	Scope 2 metric tonnes CO ₂ e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)
----------------	---	--	---

10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division
By activity

10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2 emissions (metric tonnes CO2e)
Utility Operations	812825

10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions (metric tonnes CO2e)
-----------------	---

10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 emissions (metric tonnes CO2e)
Lines losses and company usage	812825

10.2d

Please break down your total gross global Scope 2 emissions by legal structure

Legal structure	Scope 2 emissions (metric tonnes CO2e)
-----------------	--

Further Information

Note regarding Entergy's Scope 2 emissions - Entergy's only category of Scope 2 emissions is power consumed on Entergy's T&D system and company usage. Emissions from this loss/usage are already accounted for in Entergy's direct emissions (Scope 1) and/or purchased power emissions (Scope 3) since the additional generation required to make up for this loss/usage is accounted for in these categories. See Entergy's 2012 GHG Inventory, Inventory Management Plan and Reporting Document (IMPRD) and the ICF Verification Report for additional detail and description of this note

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/10.Scope2EmissionsBreakdown\(1Jan2012-31Dec2012\)/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/10.Scope2EmissionsBreakdown(1Jan2012-31Dec2012)/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/10.Scope2EmissionsBreakdown\(1Jan2012-31Dec2012\)/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/10.Scope2EmissionsBreakdown(1Jan2012-31Dec2012)/Entergy%20GHG%20Inventory%202012%20FINAL%20VERIFIED%20030813.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/10.Scope2EmissionsBreakdown\(1Jan2012-31Dec2012\)/ICF Verification Statement and Report - ISO 14064-3 - Entergy - 2012 GHG Inventory - FINAL - 8 March 2013.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/10.Scope2EmissionsBreakdown(1Jan2012-31Dec2012)/ICF%20Verification%20Statement%20and%20Report%20-%20ISO%2014064-3%20-%20Entergy%20-%202012%20GHG%20Inventory%20-%20FINAL%20-%208%20March%202013.pdf)

Page: 11. Energy

11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 50% but less than or equal to 55%

11.2

Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Fuel	47015784
Electricity	5951016
Heat	0
Steam	0
Cooling	0

11.3

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	31201513
Sub bituminous coal	23068106
Diesel/Gas oil	191388
Jet gasoline	21321

11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comments
Grid connected low carbon electricity generation owned by company, no instruments created	77409320	During 2012, 50% of Entergy's 156,382,000 MWhs billed electric energy sales were supplied by Entergy owned and operated non-emitting nuclear power plants.
Tracking instruments, RECS (USA)	682574	During 2012 Entergy purchased 682,574 Renewable Energy Credits (RECs) to satisfy the Public Utility Commission of Texas (PUCT) requirements. In 1999 the (PUCT) adopted rules for the state's Renewable Energy Mandate, establishing a renewable portfolio standard (RPS), a renewable-energy credit (REC) trading program, and renewable-energy purchase requirements for competitive retailers in Texas. The PUCT established a renewable-energy credit (REC) trading program that began in July 2001 and will continue through 2019. Under PUCT rules, one REC represents one megawatt-hour (MWh) of qualified renewable energy that is generated and metered in Texas.
Grid connected low carbon electricity generation owned by company, no instruments created	319376	Entergy Wholesale Commodities owns 80 MW of wind power that in 2012 generated 211,376 MWh of electric energy that is sold to customers through power purchase agreements. In addition, Entergy Arkansas owns 74 MW of Hydro Power and generated 108,000 MWh of hydro power.

Further Information

Regarding 12.1, this percentage is calculated using Entergy's 2012 Consolidated Income Statement - refer to page 50 of the 2012 Annual Report (attached) - Operating Expenses - O&M Section). Operational spend on energy is defined as 'Fuel, fuel-related expenses and gas purchased for resale' (first item) PLUS 'Purchased power' (second item) PLUS 'Nuclear refuelling outage expenses' (third item) = \$3,583,235,000. Please note that this includes ALL fuel types (natural gas, oil, coal and nuclear). Total operational spend is the sum of the Operating Expenses - O&M Section (less Asset Impairment) = \$6,583,627,000. A simple percentage calculation yields 54 percent.

Regarding 12.2, Fuel consumption by Entergy includes two categories:

- 1 - Natural gas and coal consumed in the electrical generation process; and,
- 2 - Fuel burned for our fleet vehicles and corporate aircraft.

Electricity consumption by Entergy represents the company's line losses and company usage.

Regarding 12.3, conversion of liquid fuels (diesel, gas and jet fuels) to MWh performed using a conversion to energy content/consumption ('MMBtu consumed' column on 'Mobile Combustion' tab of the GHG Inventory) times a conversion factor.

Source for all of these numbers is the 2012 Statistical Report and Investor Guide (pg 36, under 'SOURCES OF ENERGY') and Entergy's 2012 GHG Inventory ('Mobile Combustion' tab), both attached.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/11.Energy/2012_Annual_Report.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/11.Energy/2012_Annual_Report.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/11.Energy/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/11.Energy/Entergy%20GHG%20Inventory%202012%20FINAL%20VERIFIED%20030813.pdf)

Page: 12. Emissions Performance

12.1

How do your absolute emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

12.1a

Please complete the table

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	9.2	Decrease	Entergy's proactive emission reduction activities in 2012 resulted in reduced or avoided emissions, these activities help Entergy meet its GHG emissions stabilization target; emission reduction activities include: energy efficiency and demand side management processes, reducing emissions with fleet vehicles, low carbon energy purchases and low carbon energy installations. For example, in 2012 Entergy made

Reason	Emissions value (percentage)	Direction of change	Comment
			investments in 1,070 MW of CCGT capacity displacing less efficient legacy gas units, a 178 MW nuclear uprate and 159,000 MWhs in energy efficiency. These investments will avoid 3.2 million metric tons CO2 per year of Scope 1 emissions going forward.
Divestment	0		Entergy did not divest facilities in 2012
Acquisitions	2.9	Increase	Entergy Wholesale Commodities acquired the Rhode Island State Energy Facility a natural gas fired CCGT power plant, late in 2011. During 2012 that plant had a full year of operation and as a result added 1.0 million metric tons of CO2 emissions that were not in the inventory in 2011.
Mergers	0		Entergy did not close a merger in 2012
Change in output	4.9	Increase	During 2012 Entergy's utility nuclear generating fleet experienced reduced electric energy production due to an planned outage at Grand Gulf Nuclear Station needed to complete the 178 MW capacity uprate and due to increased number of forced outages. That production shortfall was made up by an increase in electric energy production from natural gas CCGT units resulting in 1.7 million metric tons of CO2 emissions that were not in the inventory in 2011
Change in methodology	0		Entergy did not change its emissions methodology in 2012
Change in boundary	1.3	Increase	During 2012 there was a decline in emissions from purchased power to meet Entergy's Utility energy supply that is accounted for as a Scope 3 emission in Entergy's GHG Emissions Inventory. That energy supply was made up by an increase in self-generation which added 482,000 metric tons of CO2 to Entergy's 2012 Scope 1 emissions. The sum of Scope 1, 2 & 3 emissions was nearly 1% lower in 2012 than Scope 1, 2 & 3 emissions in 2011
Change in physical operating conditions	0		Entergy did not experience a material change in physical operating conditions in 2012.
Unidentified	0		Entergy did not have unidentified reasons for changes in emissions values in 2012
Other	0		Entergy did not have other reasons for changes in emissions values in 2012

12.2

Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.0338	metric tonnes CO2e	unit total revenue	9.0	Increase	Revenue declined by 8.3% in 2012 while Scope 1 & 2 CO2e emissions increased slightly by 0.2%. Entergy's absolute Scope 1 CO2 emissions are sensitive to the capacity factor of its non-emitting nuclear units which displace fossil fired generation. During 2012 nuclear production declined in part due to the Grand Gulf Nuclear Generating Plant being out of service to complete its, 178 MW capacity uprate. The replacement power for while it was out of service came from gas fired units that have CO2 emissions that will not run with Grand Guld back in service. The second factor contributing to the slight increase in absolute CO2 emissions was a 9.3% decrease in Scope 3 purchased power CO2 emissions with that power being supplied for econmic reasons by self generation from the newly acquired, highly efficient, natural gas CCGT capacity. This resulted in an increase in Scope 1 emissions. However on net Entergy's Scope 1, 2 & 3 emissions declined by 0.8% The third factor was a full year of production at Entergy Wholesale Commodities (EWCs) natural gas fired CCGT Rhode Island Entergy Center (RIESC). This is a merchant energy plant which adds to EWC's electricity sales, The plant was acquired in December 2011 and ran for a full year during 2012 adding 1 million metric tons of CO2 emissions of new Scope 1 emissions. Entergy's \$1.3 billion investment in proactive emission reduction activities in 2012 resulted in reduced or avoided emissions, these activities will be instrumental in helping Entergy meet its GHG emissions stabilization target which extends out until 2020. Emission reduction activities include: energy efficiency and demand side management processes, reducing emissions with fleet vehicles, low carbon energy purchases and low carbon energy installations. For example, in 2012 Entergy made investments in 1,070 MW of CCGT capacity displacing less efficient legacy gas units, a 178 MW nuclear uprate mentioned above was completed in 2012 and 159,000 MWhs in energy efficiency. These investments will avoid 3.2 million metric tons CO2 per year of Scope 1 emissions going forward. While on balance there was a slight increase in Scope 1 and 2 CO2 emissions, ther was decline in electric sales revenue for Entergy's utility operating companies due in large part to mild weather. This points to the uncontrollable year to year variability in this denominator.

Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per full time equivalent (FTE) employee

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
2436.9	metric tonnes CO2e	FTE employee	0.6	Increase	<p>Employment decreased by 0.4% while CO2e emissions increased by 0.2%. However, emission reduction activities in 2012 resulted in lower Scope 1 and 2 emissions than would have occurred without those activities. Entergy's absolute CO2 emissions year to year are sensitive to the capacity factor of its non-emitting nuclear units which displace fossil fired generation. During 2012 nuclear production declined in large part because the Grand Gulf Nuclear Generating Plant was out of service in a planned outage completing its \$874 million, 178 MW capacity uprate. The temporary replacement power for this unit while it was out of service came from gas fired units that have CO2 emissions and would not normally run when Grand Gulf is in production, especially at its new higher capacity level. The second factor contributing to the slight increase in absolute CO2 emissions was a 9.3% decrease in Scope 3 purchased power CO2 emissions with that power being supplied for economic reasons by self generation from the newly acquired, highly efficient, natural gas CCGT capacity which resulted in an increase in Scope 1 emissions. However on net Entergy's Scope 1, 2 & 3 emissions declined by 0.8%. The third factor was a full year of production at Entergy Wholesale Commodities (EWCs) natural gas fired CCGT Rhode Island Entergy Center (RIESC). This is a merchant energy plant adding to EWC's electricity sales, The plant was acquired in December 2011 and ran for a full year during 2012 adding 1 million metric tons of CO2 emissions to Entergy's absolute emissions. Entergy's \$1.3 billion investment in proactive emission reduction activities in 2012 resulted in reduced or avoided emissions, these activities will be instrumental in helping Entergy meet its GHG emissions stabilization target which extends out until 2020. Emission reduction activities include: energy efficiency and demand side management processes, reducing emissions with fleet vehicles, low carbon energy purchases and low carbon energy installations. For example, in 2012 Entergy made investments in 1,070 MW of CCGT capacity displacing less efficient legacy gas units, a 178 MW nuclear uprate mentioned above was completed in 2012 and 159,000 MWhs in energy efficiency. These investments will avoid 3.2 million metric tons CO2 per year of Scope 1 emissions going forward.</p>

Please provide an additional intensity (normalized) metric that is appropriate to your business operations

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.316	metric tonnes CO2e	megawatt hour (MWh)	0.9	Decrease	Consolidated electricity sales increased 0.1% in 2012 compared to 2011 with a 6% increase in EWC's sales paired with a 2.3% decline in the utility operating companies electric energy sales. Entergy's consolidated Scope 1, 2 & 3 emissions declined 0.8% resulting in 0.9% improvement in this metric. Energy's energy supply comes from self generation (Scope 1 emissions) and purchase power (Scope 3 emissions). There was a decrease in the amount of purchase power (Scope 3) in 2012 compared to 2011 which was made up by self generation which added to Entergy's Scope 1 emissions. During 2012 there was a 2% reduction in non-emitting nuclear generation. This shortfall was made up with natural gas generation which has CO2 emissions. In addition, emission reduction activities in 2012 resulted in lower Scope 1 and 2 emissions than would have occurred without those activities. Emission reduction activities included: low carbon energy installation, low carbon energy purchases, energy efficiency and transportation fleet initiatives .

Further Information

Entergy's \$3.2 billion investment in more efficient CCGT capacity and nuclear uprates over the last decade has resulted in a 25% reduction in CO2 emissions when compared to 2000 and a 41% reduction in its CO2 emission rates (tons CO2/MWh). These reductions in absolute CO2 emissions were accomplished during a period where Entergy's electric generation grew by 25%. As a result, Entergy has one of the lowest CO2 emission rates when compared to the 100 largest electric generating companies in the U.S. (See Benchmarking Air Emissions Report attached)

Scope 1 and 2 emissions increased in 2012 compared to 2011 by 69,172 metric tons CO2e or 0.2%. However, the total of Entergy's Scope 1, 2 and 3 emissions in 2012 declined 0.8% when compared to 2011. Entergy's energy supply comes from self generation (Scope 1) and purchased power (Scope 3). During 2012 there was a reduction in purchase power that was made up with increased self generation which added to Scope 1 emissions, reduced Scope 3 emissions but in total showed a 0.8% reduction in Entergy's total GHG emissions. (See pg 1 of Entergy's 2012 and 2011 GHG Inventory)

See pg 48 of Entergy's 2012 Form 10-K for a five year comparison of operating revenue and billed electric energy sales. See pg 216 of Entergy's Entergy's Form 10-K for a three year comparison of fuel supply and purchase power for Entergy's Utilities.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/GHG_Inventory_2011_030912_VERIFIED_REDACTED.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/GHG_Inventory_2011_030912_VERIFIED_REDACTED.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/Entergy%20GHG%20Inventory%202012%20FINAL%20VERIFIED%20030813.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/Benchmarking-Air-Emissions-2013-Embargoed Until May 8.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/Benchmarking-Air-Emissions-2013-Embargoed%20Until%20May%208.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/2012_Annual_Report.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/2012_Annual_Report.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/2012_Entergy_Form_10K.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/12.EmissionsPerformance/2012_Entergy_Form_10K.pdf)

Page: 13. Emissions Trading

13.1

Do you participate in any emissions trading schemes?

Yes

13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
Regional Greenhouse Gas Initiative	Sun 01 Jan 2012 - Mon 31 Dec 2012	0	1001563	908603	Facilities we own but do not operate

13.1b**What is your strategy for complying with the schemes in which you participate or anticipate participating?**

Currently, Entergy participates in the RGGI auction to secure carbon allowances necessary to cover the annual carbon emissions of the recently acquired Rhode Island State Energy Center (RISEC) generation plant. This approach will be employed as long as the RGGI program continues and the State of Rhode Island remains engaged in the program. This plant was purchased by Entergy in December of 2011; however, the allowances shown are for the entire year.

Entergy's Wholesale Commodities business is continually monitoring the RGGI auctions and clearing prices. Based on the company's CO2 projections, EWC evaluates a variety of alternatives, including power uprates, acquisition of low-emitting plants (similar to RISEC) and other capital projects for longer term operation of these facilities.

Entergy's overall strategy is to be in full compliance with this cap and trade scheme at the lowest cost. To accomplish this, the company works to generate high quality emissions data and seek third-party verification.

Entergy is further preparing for emissions trading in a carbon-constrained economy by:

1. Developing our internal capabilities and methodology for carbon accounting by developing an annual GHG inventory (since 2000);
2. Having this inventory verified to international standards (ISO 14064) by a third-party;
3. Developing the company's point of view on CO2 regulation and ensuring this view is integrated into business decisions; and,
4. Using a third-party to help inform this point of view and to register our emissions inventory and trades.

13.2**Has your company originated any project-based carbon credits or purchased any within the reporting period?**

Yes

13.2a

Please complete the table

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits retired	Purpose, e.g. compliance
Credit Purchase	Forests	<p>Entergy Corporation announced completion of the registration of a reforestation project in Arkansas and Louisiana that will remove an estimated 460,000 tons of carbon dioxide over the next 40 years. The project, which involved restoring 2,942 acres of marginal agricultural land to native bottomland hardwood forests, is registered with the widely respected American Carbon Registry and is one of only a few U.S.-based reforestation projects registered anywhere. Entergy partnered with The Conservation Fund and Trust for Public Land, which helped acquire the lands; Environmental Synergy, which planted the trees; and Terra Carbon, which provided technical assistance and project documentation. “The reforestation project partnership we’ve used here represents an innovative market-based approach to help slow and reduce the build up of greenhouse gases,” said Steve Tullos, Entergy’s manager, corporate environmental initiatives. “By taking the lead with this project, we hope to encourage companies in our industry and others to use this model to take a more proactive position toward the environment.” Bottomland hardwood forests are forested wetlands that originally covered more than 30 million acres in the Lower Mississippi Valley. The reforested lands were replanted with native species, primarily bald cypress and bottomland oaks in the Tensas, Red River, Overflow, and Pond Creek National Wildlife Refuges, currently managed by the U.S. Fish and Wildlife Service. Most of these forests were destroyed by logging in the early 1900s and further reduced by conversion to agriculture in the 1960s and 1970s. “Restoration not only soaks up greenhouse gases from the atmosphere, it also improves local water quality and increases areas to store floodwater,” Tullos said. “In addition to climate and water benefits, the project increases habitat for waterfowl, migrant songbirds, and other wildlife including the threatened Louisiana Black Bear.”</p>	Other: American Carbon Registry (ACR)	460000	460000	No	Voluntary Offsetting

Further Information

Entergy working with Tierra Resources and American Carbon Registry develop a new protocol to measure and verify carbon sequestered by deltaic wetland restoration projects. This new tool is now available to help restore the Gulf of Mexico's disappearing coastal wetlands -- Louisiana's first line of defense against damaging hurricanes like Katrina, Rita, Gustav and Isaac. Funded by Entergy Corporation, developed by New Orleans-based Tierra Resources and approved for use by the American Carbon Registry (ACR) following stakeholder consultation and scientific peer review, the new tool creates a self-sustaining revenue source for wetlands restoration through the sale of carbon offsets. ACR presented Entergy its "Innovation award" for the pioneering work Entergy and Tierra Resources did developing and piloting of a revolutionary U.S. carbon offset methodology for deltaic wetland restoration. The methodology, developed by Tierra Resources with funding from Entergy's Environmental Initiatives Fund, creates a pathway through the sale of carbon offsets to raise much-needed funds for wetland restoration. Tierra Resources is piloting the first projects under the methodology in the Mississippi Delta and plans to work with ACR to expand the methodology for applicability in California.

Entergy has provided additional funding to Tierra Resources to pilot the first wetland restoration offset project in the nation applying the ACR methodology. The project, the Luling Oxidation Pond Wetlands Assimilation project, 19 miles west of New Orleans, will discharge treated municipal wastewater into an adjacent 950-acre wetland property to help restore the wetland's function and thus increase carbon sequestration.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/13.EmissionsTrading/Bottomland Hardwood Restoration.mht](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/13.EmissionsTrading/Bottomland%20Hardwood%20Restoration.mht)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/13.EmissionsTrading/ACR Award Entergy News Release - Corporate.mht](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/13.EmissionsTrading/ACR%20Award%20Entergy%20News%20Release%20-%20Corporate.mht)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/13.EmissionsTrading/ACR offsets Methodology for Wetland Restoration.mht](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/13.EmissionsTrading/ACR%20offsets%20Methodology%20for%20Wetland%20Restoration.mht)

Page: 14. Scope 3 Emissions

14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Purchased goods and services	Relevant, not yet calculated				High volume materials and services are purchased by Entergy and include length, reel, pole, transformer, case, truckload or other measures with no consistent relationship to weight or volume. This makes estimation of emissions associated with purchased goods and services difficult to estimate.
Capital goods	Not relevant, explanation provided				Entergy generates electric power. The company primarily purchases electric generation facilities that have been built; emissions associated with operation of these facilities are reported as Scope 1 or Scope 2 as appropriate. For example, in 2012 the company incurred capital costs of \$459 million to purchase natural gas CCGT generation facilities in Arkansas and Mississippi.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	14611371	(i) Purchased Power is electrical energy purchased by Entergy from merchant power plants or from transmission systems as sources of energy for Entergy's electric utility customers (ii) Data is provided by billed electric energy sales per power plant or billed electric energy from the transmission grid supplying the energy and using appropriate E-Grid Database emission factors for the source. (iii a) - Controllable Purchased power - Entergy calculates this emission category based on actual power purchase data and unit-specific emission factors from EPA's eGRID database using Climate Leaders: Indirect Emissions from Purchases/Sales of Electricity and Steam and further developed using the	100%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
			methodology in ISO 14064-1. Uses a GWP for CO2 of 1. This category of power purchases include those for which the generating unit is known and involve a buying decision. (iii b) Uncontrollable Purchased Power - Entergy calculates this emission category based on actual power purchase data and grid-level emission factors from EPA's eGRID database using US Climate Leaders: Indirect Emissions from Purchases/Sales of Electricity and Steam and further developed using the methodology in ISO 14064-1. Uses an emission factor of 0.59 lbs CO2 /KWh converted to metric tons and GWP for CO2 of 1. "Uncontrollable" power purchases include those for which the generating unit is either unknown or when Entergy is required to take the energy produced (no buying decision).		
Upstream transportation and distribution	Not relevant, explanation provided				Emissions from any assets leased and operated by Entergy are incorporated into the company's scope 1 or scope 2 reporting.
Waste generated in operations	Not relevant, explanation provided				Entergy's largest single-type non-hazardous waste stream is coal ash, the majority of coal ash has historically been recycled and used for building materials. The company produced 49.2 tons of hazardous waste in 2012. Therefore, the Scope 3 emissions from third-party disposal and treatment of this waste are not material to Entergy.
Business travel	Relevant, calculated	5067	(i) Business travel reported here encompasses ghg emissions from airline travel by Entergy employees. (ii) Source for this data is from Carlson Wagonlit Travel (CWT) annual report (see attached) to Entergy which reports total	100%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
			passenger air miles flown and calculates the resulting ghg emissions. (iii) CWT Emissions calculations are based on the June 2011 guidelines produced by the Department for Environment, Food and Rural Affairs (Defra) and the Department of Energy and Climate Change (DECC) greenhouse gas conversion factors. The total emissions of carbon dioxide equivalent (CO2e) per passenger kilometre (these are the Air Passenger Transport Conversion Factors, provided by DEFRA). Uses an average emission factor of 0.16 kg CO2e/km and a GWP for CO2 of .1		
Employee commuting	Relevant, calculated	66555	(i) Employee commuting is an estimate of ghg emissions from Entergy employees travelling to and from their work locations. (ii) This is an estimate based on assumptions about the radius of their commute, method of transportation, and vehicle mileage. (iii) Calculated based upon 15,000 employees, an assumed average commute of 50 miles per day, average vehicle mileage of 25 miles per gallon and carbon content of gasoline at 19.564 lbs CO2/gallon (converted to metric tons) and a GWP for CO2 of 1. It is assumed employees commute to their work locations 50 weeks per year and 5 days per week.		This emissions estimate assumes all Entergy employees drive themselves to work, that they live 25 miles from their work location, and there is no tele-commuting, car pooling, van pooling or mass transit.
Upstream leased assets	Not relevant, explanation provided				Transportation and distribution of purchased or acquired products would primarily occur in Entergy operated vehicles; emissions of these vehicles are reported in the company's Scope 1 emissions.
Investments	Not relevant,				Entergy invests in electric generation

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
	explanation provided				facilities. The emissions of these facilities are reported in Scope 1 and Scope 2 emissions. Entergy does not provide financial services.
Downstream transportation and distribution	Not relevant, calculated	812825			Entergy delivers electrical energy from the power plant to the customers location through a transmission and distribution system. Entergy calculates transmission and distribution losses and accounts for them as Scope 2 emissions although they're also included in Scope 1 emissions that are measured at the power plant.
Processing of sold products	Relevant, calculated				Entergy has evaluated energy efficiency / demand side management potential for reducing customer energy potential. This information is used in Entergy's Integrated Resource Plans to help determine future resource needs. Entergy invested in 32 energy efficiency programs that we estimate have avoided 42,500 metric tons of Entergy's Scope 1 and Scope 3 emissions.
Use of sold products	Not relevant, explanation provided				Entergy primarily sells electrical energy that is consumed by customers. The company's utility business also includes a small natural gas distribution business in New Orleans. The sale of natural gas from this business results in <2% of corporate revenue and therefore this Scope 3 emissions category is de-minimus, not material to the business..
End of life treatment of sold products	Not relevant, explanation provided				Entergy primarily sells electrical energy that is consumed by customers. There are no end of life treatment issues because the product is fully consumed

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Downstream leased assets	Not relevant, explanation provided				Entergy does not lease downstream assets.
Franchises	Not relevant, explanation provided				Entergy does not operate any franchises.
Other (upstream)	Not relevant, explanation provided				Entergy does not have other upstream Scope 3 emission sources.
Other (downstream)	Not relevant, explanation provided				Entergy does not have other downstream Scope 3 emission sources.

14.2

Please indicate the verification/assurance status that applies to your Scope 3 emissions

Third party verification or assurance complete

14.2a

Please indicate the proportion of your Scope 3 emissions that are verified/assured

More than 90% but less than or equal to 100%

14.2b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
Limited assurance	ISO14064-3	https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/Investor-14.2b-C3-RelevantStatementAttached/Investor-14.2b-VerificationDetails1/ICF Verification Statement and Report - ISO 14064-3 - Entergy - 2012 GHG Inventory - FINAL - 8 March 2013.pdf

14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

14.3a

Please complete the table

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Emissions reduction activities	9.3	Decrease	Scope 1+2+3 voluntary emission stabilization goal. (i) Entergy's 2nd and 3rd voluntary GHG stabilization commitment includes a purchased power component referred to as "controllable purchases". Including this aspect in our GHG commitment has resulted in constant evaluation of the sources of power that the company purchases through long-term agreements and other PPAs. (ii) In 2012 Entergy estimates that controllable purchases avoided 4.5 million metric tons of Scope 3 CO2 emissions for the company. (iii) This is a voluntary activity and (iv) is expected to continue into the near future (5 years). Emissions from purchased power energy in 2012 decreased compared to 2011 due to an increase in supply from more efficient self-generation CCGT units
	Change in output	3.1	Increase	(i) Entergy's uncontrolled purchase power component refers purchases either from the grid where the source generating unit is not known or from qualifying facilities that "put" power to Entergy and there is no buy decision. (ii) In 2012 Entergy estimates that controllable purchases avoided contributed 7,755,115 metric tons of CO2e metric tons of Scope 3 CO2 emissions for the company. (iii) This is a voluntary activity and (iv) is expected to continue into the near future (5 years). Emissions from purchased power energy in 2012 decreased compared to 2011 due to an increase in supply from more efficient self-generation CCGT units

14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

(i) description of methods Entergy uses to engage with the value chain includes:

Our management approach to utility integrated resource planning includes issuing requests for proposals to procure supply-side resources for our utilities to meet region-specific needs. In addition, a future cost of carbon is used in any capital investment and/or material energy purchase decision. Future cost of carbon considered in controllable purchase decisions to help ensure Entergy's voluntary GHG stabilization goals are cost effectively achieved and to help ensure there is no leakage employed to meet these goals.

(ii) strategy for prioritizing engagements and how success is measured:

Fuel/power purchases are the company's most material Scope 3 emission category, therefore the highest priority.

Success is measured in progress against the company's stabilization target; Maintaining Entergy's CO2 Scope1+2+3 emissions levels at 20% below 2000 through 2020.

14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Number of suppliers	% of total spend	Comment

14.4c

If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

How you make use of the data	Please give details

14.4d

Please explain why not and any plans you have to develop an engagement strategy in the future

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/14.Scope3Emissions/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/14.Scope3Emissions/GHG_InventoryMgmtPlan_Reporting_030813FINAL.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/14.Scope3Emissions/ENT CO2 Air Travel Emissions Summary - 2012 vs 2011.xlsx](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/14.Scope3Emissions/ENT_CO2_Air_Travel_Emissions_Summary_-_2012_vs_2011.xlsx)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/14.Scope3Emissions/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/14.Scope3Emissions/Entergy_GHG_Inventory_2012_FINAL_VERIFIED_030813.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/14.Scope3Emissions/ICF Verification Statement and Report - ISO 14064-3 - Entergy - 2012 GHG Inventory - FINAL - 8 March 2013.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/14.Scope3Emissions/ICF_Verification_Statement_and_Report_-_ISO_14064-3_-_Entergy_-_2012_GHG_Inventory_-_FINAL_-_8_March_2013.pdf)

Module: Electric utilities**Page: Investor-EU0ReferenceDates**

EU0.1**Reference dates**

EU0.1: Please enter the dates for the periods for which you will be providing data. The years given as column headings in subsequent tables correspond to the "year ending" dates selected below. It is requested that you report emissions for: (i) the current reporting year; (ii) one other year of historical data (i.e. before the current reporting year); and, (iii) one year of forecasted data (beyond 2016 if possible).

Year ending	Date range
2008	Tue 01 Jan 2008 - Wed 31 Dec 2008
2009	Thu 01 Jan 2009 - Thu 31 Dec 2009
2010	Fri 01 Jan 2010 - Fri 31 Dec 2010
2011	Sat 01 Jan 2011 - Sat 31 Dec 2011

Year ending	Date range
	Dec 2011
2012	Sun 01 Jan 2012 - Mon 31 Dec 2012
2015	Thu 01 Jan 2015 - Thu 31 Dec 2015
2020	Wed 01 Jan 2020 - Thu 31 Dec 2020

Page: Investor-EU1GlobalTotalsByYear

EU1.1

In each column, please give a total figure for all the countries for which you will be providing data for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2008	28429	123372	32349135	0.26
2009	27992	123111	29578573	0.24
2010	27974	127627	33150308	0.26
2011	27996	128946	33966868	0.26
2012	28603	128319	33963614	0.26
2015	27523			
2020	26656			

Further Information

See Entergy's 2012 Statistical Report and Investors Guide for additional detail. These numbers combine Entergy's Utility and Entergy Wholesale Commodity businesses. Nameplate capacity equals owned and leased capability from the Statistical Report pg 7, 36, 53-54.

Projections only provide for nameplate capacity. Projections for other metrics are not available (see notes below)

1. Projected increase in Entergy's Utility capability may be achieved through ownership acquisitions, construction of new units, uprates to existing units and/or capacity added through long-term power purchase agreements.
2. Projections assume Entergy Wholesale Commodity capacity remains flat through 2020. This assumption may change due to a variety of factors, including Entergy's point of view, market conditions and opportunities available.
3. Deactivations are based on a timeline of long-term capacity replacement for planning purposes only and should not be interpreted as a retirement schedule for existing generation units.
4. The projected generation mix reflects current planning assumptions and may change in the future based on a number of factors, including those listed on page 212 of Entergy's 2012 SEC Form 10-K

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared](https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012_EAI_IRP_Filing_103112.pdf)

[Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012_EAI_IRP_Filing_103112.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/Entergy_GHG_Inventory_2012_FINAL_VERIFIED_030813.pdf)

[https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/Entergy_GHG_Inventory_2012_FINAL_VERIFIED_030813.pdf)

[https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared](https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012_Entergy_Form_10K.pdf)

[Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012_Entergy_Form_10K.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012_Entergy_Form_10K.pdf)

[https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012_IRP New Orleans.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012_IRP_New_Orleans.pdf)

[https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012 System IRP Report - Final 02Oct2012.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor_CDP_2013/Shared_Documents/Attachments/InvestorCDP2013/EU1.Globaltotalsbyyear/2012_System_IRP_Report_Final_02Oct2012.pdf)

Page: Investor-EU2IndividualCountryProfiles - United States of America

EU2.1

Please select the energy sources/fuels that you use to generate electricity in this country

Coal - Hard

Oil & gas (excluding CCGT)

CCGT

Nuclear

Hydro
Other renewables

EU2.1a

Coal - Hard

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2008	2440	16817	16342563	0.97
2009	2441	16375	15688576	0.97
2010	2442	16725	16424290	0.98
2011	2442	16101	15783331	0.98
2012	2435	14395	15065749	1.05
2015	2435			
2020	2435			

EU2.1b

Lignite

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1c**Oil & gas (excluding CCGT)**

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO ₂ e)	Emissions intensity (metric tonnes CO ₂ e/MWh)
2008	13420	19970	13640224	0.68
2009	12968	17630	12248565	0.69
2010	13303	21737	14646188	0.67
2011	12228	24042	15759864	0.66
2012	10967	22503	14821530	0.66
2015	9910			
2020	8953			

EU2.1d**CCGT**

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO ₂ e)	Emissions intensity (metric tonnes CO ₂ e/MWh)
2008	2090	5134	2366348	0.46
2009	2096	4384	1641431	0.37
2010	1761	5505	2079830	0.38
2011	2921	6039	2423674	0.40
2012	3991	10983	4076335	0.37
2015	4551			

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2020	4641			

EU2.1e

Nuclear

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2008	10116	79704
2009	10124	82833
2010	10101	81994
2011	10038	81021
2012	10260	78797
2015	10260	
2020	10260	

EU2.1f

Waste

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1g**Hydro**

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2008	70	197
2009	70	233
2010	74	160
2011	74	160
2012	74	108
2015	74	
2020	74	

EU2.1h**Other renewables**

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2008	80	234
2009	80	190
2010	80	185
2011	80	207
2012	80	211

Year ending	Nameplate capacity (MW)	Production (GWh)
2015	80	
2020	80	

EU2.1i

Other

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1j

Solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0
2015	0	0	0	0
2020	0	0	0	0

EU2.1k**Total thermal including solid biomass**

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO ₂ e)	Emissions intensity (metric tonnes CO ₂ e/MWh)
2008	28279	122940	32349135	0.26
2009	27842	122688	29578572	0.24
2010	27820	127304	33150308	0.26
2011	27842	128579	33966868	0.26
2012	27866	128054	33963614	0.27
2015	27369			
2020	26502			

EU2.1l**Total figures for this country**

Please enter total figures for this country for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO ₂ e)	Emissions intensity (metric tonnes CO ₂ e/MWh)
2008	28429	123372	32349135	0.26
2009	27992	123111	29578572	0.24
2010	27974	127627	33150308	0.26

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2011	27996	128946	33966868	0.26
2012	28020	128319	33963614	0.26
2015	27523			
2020	26656			

Further Information

In 2012 Entergy acquired Hot Spring (620 MW) and Hinds (450 MW). Both plants are highly efficient, natural gas fired combine cycle gas turbines (CCGT). Entergy's operating companies and EWC have procured 3,991 MW megawatts of highly efficient natural gas fired CCGT capacity since 2005. The heat rates for Entergy's Utility CCGT fleet were 7,339 Btu/KWh in 2010, 7,403 Btu/Kwh in 2011 and 7,289 Btu/Kwh in 2012. In 2010, 20% of the electric energy produced by natural gas units came from the CCGT units. That percentage increased to 33% in 2012. Increased electric energy production by the CCGT units emit ~40% less CO2 than if that electrical energy was generated by Entergy's older legacy Natural Gas units.

In 2012, Grand Gulf Nuclear Station completed a 178 MW capacity uprate adding nearly emission free energy supply. Over the last decade, Entergy has increased the output of its nuclear fleet by nearly 700 megawatts - the equivalent of adding a new reactor - through power upgrades, turbine replacements and cooling-tower modifications.

Entergy estimates that CO2 emissions avoided from investments it made during 2012 on 1,070 MW of highly efficient, natural gas fired CCGT and the 178 MW nuclear uprate will avoid 3,179,000 metric tons of CO2 per year going forward.

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-UnitedStatesofAmerica/Hot Spring Purchase.mht](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-UnitedStatesofAmerica/Hot%20Spring%20Purchase.mht)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-UnitedStatesofAmerica/Ninemile 6.mht](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-UnitedStatesofAmerica/Ninemile%206.mht)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-UnitedStatesofAmerica/Entergy GHG Inventory 2012 FINAL VERIFIED 030813.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-UnitedStatesofAmerica/Entergy%20GHG%20Inventory%202012%20FINAL%20VERIFIED%20030813.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-UnitedStatesofAmerica/2012_Entergy_Form_10K.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-UnitedStatesofAmerica/2012_Entergy_Form_10K.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/EU2.Individualcountryprofiles-)

Page: Investor-EU3RenewableElectricitySourcing

EU3.1

In certain countries, e.g. Italy, the UK, the USA, electricity suppliers are required by regulation to incorporate a certain amount of renewable electricity in their energy mix. Is your company subject to such regulatory requirements?

Yes

EU3.1a

Please provide the scheme name, the regulatory obligation in terms of the percentage of renewable electricity sourced (both current and future obligations) and give your position in relation to meeting the required percentages

Scheme name	Current % obligation	Future % obligation	Date of future obligation	Position in relation to meeting obligations
USA state scheme – Texas			2015	The State of Texas presents its RPS not as a percentage, but rather as a capacity goal. The 2005 Texas Legislature set the state's total renewable energy mandate to 5,550 MW by 2015, 10,000 MW in 2025. Each provider is required to obtain renewable energy capacity based on their market share of energy sales times the renewable capacity goal. In 2012, Entergy secured and retired 682,574 renewable energy credits to comply with this mandate.

Page: Investor-EU4RenewableElectricityDevelop

EU4.1

Please give the contribution of renewable electricity to your company's EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) in the current reporting year in either monetary terms or as a percentage

Please give:	Monetary figure	%	Comment
Renewable electricity's contribution to EBITDA		0%	Entergy Wholesale Commodities participates in a Joint Venture with Shell WInd Energy named Top Deer Wind Venture. Entergy owns 50% of the JV - equivalent to 80 megawatts of wind generation capacity. Entergy does not report on the wind JV's financial performance separately. Entergy Arkansas owns 74 MW of Hydro Power. In total, Entergy's renewable resources generated 319 GWh of electric energy in 2012 which is <1% of the Company's total generation.

EU4.2

Please give the projected contribution of renewable electricity to your company's EBITDA at a given point in the future in either monetary terms or as a percentage

Please give:	Monetary figure	%	Year ending	Comment
Renewable electricity's contribution to EBITDA		0%	2020	Entergy Wholesale Commodities participates in a Joint Venture with Shell WInd Energy named Top Deer Wind Venture. Entergy owns 50% of the JV - equivalent to 80 megawatts of wind generation capacity. Entergy does not report on the wind JV's financial performance separately. Entergy Arkansas owns 74 MW of Hydro Power. In total, Entergy's renewable resources generated 319 GWh of electric energy in 2012 which is <1% of the Company's total generation.

EU4.3

Please give capital expenditure (capex) planned for the development of renewable electricity capacity in monetary terms and as a percentage of total capex planned for power generation in the current capex plan

Please give:	Monetary figure	%	End year of capex plan	Comment
Capex planned for renewable electricity development		0%	2020	<p>Entergy currently has no capex planned for renewable energy capacity development. Entergy's current activities in renewables include management of our existing wind and hydro assets, purchasing renewable power and credits for the utility portion of our business and compliance with various commission and/or state orders regarding renewable portfolio standards. Additionally, Entergy issued a request for proposal (RFP) for renewable generation sources in 2010. Negotiations with winning bids in the 2010 Renewable RFP seeking up to 233 MW of renewable generation for Entergy Louisiana and Entergy Gulf States continued in 2012. As of April 2013, EGSL has received approval from the Louisiana Public Service Commission for one contract (a 20-Year Contract with Rain CII Carbon LLC for the Purchase of 28 MW capacity and energy from the Sulphur, LA heat recovery project) and recently filed a request for certification for a second contract (20-Year Contract with Agrilectric Power Partners, LP for the Purchase of 9 MW capacity and energy from the Lake Charles, LA rice hull-fired biomass facility). A third and final contract is being negotiated, but is expected to be finalized shortly and subsequently filed at the Commission. Entergy will continue to seek cost effective renewable energy supply in the future.</p>

Attachments

[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/EU4.Renewableelectricitydevelopment/2012 System IRP Report - Final 02Oct2012.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/EU4.Renewableelectricitydevelopment/2012%20System%20IRP%20Report%20-%20Final%2002Oct2012.pdf)
[https://www.cdproject.net/sites/2013/53/5653/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/EU4.Renewableelectricitydevelopment/2012_EAI_IRP_Filing_103112.pdf](https://www.cdproject.net/sites/2013/53/5653/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/EU4.Renewableelectricitydevelopment/2012_EAI_IRP_Filing_103112.pdf)

Module: Sign Off

Page: Sign Off

Please enter the name of the individual that has signed off (approved) the response and their job title

Chuck Barlow
Vice President, Environmental Policy & Strategy

CDP