

## C0. Introduction

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### C0.1

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

Public Service Enterprise Group Incorporated (PSEG) is an energy company with a diversified business mix whose vision and formula for sustainability is to be a leading company of people providing safe, reliable, economic, and green energy. Our operations are located primarily in the Northeastern and Mid Atlantic United States. We are comprised of two principal operating subsidiaries: PSEG Power LLC and Public Service Electric and Gas Company (PSE&G). PSEG Power is a Delaware Limited Liability Company formed in 1999 as a result of the restructuring of the electric power industry in New Jersey. It integrates the operations of its merchant nuclear and fossil generating assets with its wholesale power marketing businesses through competitive energy sales in well-developed energy markets and fuel supply functions. Power earns revenues from the generation and marketing of power and natural gas to hedge business risks, and optimize the value of its portfolio of power plants, other contractual arrangements and oil and gas storage facilities. This is achieved primarily by selling power and transacting in natural gas and other energy-related products, on the spot market or using short-term or long-term contracts for physical and financial products. Power earns revenues from solar generation under long-term sales contracts for power and environmental products. Power's major power producing subsidiaries include PSEG Fossil LLC, which owns and operates fossil-fueled electric generation facilities, and PSEG Nuclear LLC, which owns and operates nuclear power plants. PSE&G is a New Jersey corporation, incorporated in 1924, which is a franchised public utility in New Jersey and earns revenues from its regulated rate tariffs under which it provides electric transmission and electric and gas distribution to residential, commercial and industrial customers in its service territory. It also offers appliance services and repairs to customers throughout its service territory. PSE&G has also implemented regulated energy efficiency programs and invested in electric vehicle infrastructure, solar generation, and battery storage within New Jersey. PSEG's other direct wholly owned subsidiaries are: PSEG Energy Holdings L.L.C. (Energy Holdings), which earns its revenues primarily from its portfolio of lease investments; PSEG Long Island LLC (PSEG LI), which operates the Long Island Power Authority's (LIPA) transmission and distribution (T&D) system under a contractual agreement; and PSEG Services Corporation (Services), which provides PSEG and its operating subsidiaries with certain management, administrative and general services at cost.

Forward-Looking Statements : Certain of the matters discussed in this presentation about our and our subsidiaries' future performance, including, without limitation, future revenues, earnings, strategies, prospects, consequences and all other statements that are not purely historical constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are subject to risks and uncertainties, which could cause actual results to differ materially from those anticipated. Such statements are based on management's beliefs as well as assumptions made by and information currently available to management. When used herein, the words "anticipate," "intend," "estimate," "believe," "expect," "plan," "should," "hypothetical," "potential," "forecast," "project," variations of such words and similar expressions are intended to identify forward-looking statements. Factors that may cause actual results to differ are often presented with the forward-looking statements themselves. Other factors that could cause actual results to differ materially from those contemplated in any forward-looking statements made by us herein are discussed in filings we make with the United States Securities and Exchange Commission (SEC) including our Annual Report on Form 10-K and subsequent reports on Form 10-Q and Form 8-K.

All of the forward-looking statements made in this presentation are qualified by these cautionary statements and we cannot assure you that the results or developments anticipated by management will be realized or even if realized, will have the expected consequences to, or effects on, us or our business, prospects, financial condition, results of operations or cash flows. Readers are cautioned not to place undue reliance on these forward-looking statements in making any investment decision. Forward-looking statements made in this presentation apply only as of the date of this presentation. While we may elect to update forward-looking statements from time to time, we specifically disclaim any obligation to do so, even in light of new information or future events, unless otherwise required by applicable securities laws.

## C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

## C0.3

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

United States of America

## C0.4

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

USD

## C0.5

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**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.**

Equity share

## C-EU0.7

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**(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.**

### Row 1

#### Electric utilities value chain

Electricity generation  
Transmission  
Distribution

#### Other divisions

Gas storage, transmission and distribution  
Smart grids / demand response  
Battery storage  
Micro grids

## C-OG0.7

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**(C-OG0.7) Which part of the oil and gas value chain and other areas does your organization operate in?**

### Row 1

#### Oil and gas value chain

Please select

#### Other divisions

Please select

## C1. Governance

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### C1.1

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

Yes

### C1.1a

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**(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
Board/Executive board	PSEG's Board is committed to sustainability efforts as part of operations. Discussions of sustainability occur at the Board level at the Audit and Corporate Governance Committees depending on specific Environmental, Social or Governance (ESG) concerns. The Board understands that its continued oversight of our Company's commitment to principles of sustainability is of increasing importance to stockholders, as well as other constituencies. For more than 100 years we have been operating our business with a focus on sustainability. This reflects a deep recognition that our continued ability to prosper as a business depends on helping others prosper too. Thus, we emphasize the importance of defining success not only by the bottom line but also by the environmental and social dimensions of performance. We strive to be both systematic and comprehensive in our approach to sustainability issues. Doing so helps us remain true to our most important commitments and to further improve performance.
Chief Executive Officer (CEO)	Due to the carbon intensive nature of our business, PSEG's Chairman, President and CEO, Ralph Izzo, is directly responsible for managing PSEG's response to climate change risk. As Chair of the Board of Directors, he has direct oversight over corporate strategy, structure and management.
Chief Financial Officer (CFO)	Our Chief Risk Officer and Chief Financial Officer report on risk management to the Corporate Governance Committee, directly as well as through the reports of the Corporate Governance Committee Chair, to the Board. As a part of the annual enterprise risk management process, top risks and emerging risks are reported to the Board, Audit and Corporate Governance Committees. Environmental, Social and Governance (ESG) concerns are identified along with emerging issues associated with climate change
Other, please specify (General Counsel)	Tamara Linde, PSEG's Executive Vice President and General Counsel, has responsibility for governance and oversight of PSEG's Climate Change Policy, which focuses on GHG mitigation within our own operations, contributing to reducing overall emissions from the energy sector, and coordinating climate change adaptation and resiliency efforts and coordinate the advocacy effort with a diverse range of stakeholders.

### C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding risk management policies Reviewing and guiding business plans	<ul style="list-style-type: none"> <li>As a part of the annual enterprise risk management process, top risks and emerging risks are reported to the Board, Audit and Corporate Governance Committees. Environmental, Social and Governance (ESG) concerns are identified along with emerging issues associated with climate change. These top risks are reviewed on a bi-annual schedule to develop on each risk topic further in-depth reviews.</li> <li>ESG concerns are covered yearly. Specific reference to this in the 2018 Proxy is as follows:                             <ul style="list-style-type: none"> <li>“Risk Mapping: Under the oversight and direction of the Corporate Governance Committee and the Audit Committee, in 2016 we conducted a comprehensive review of the risk management oversight responsibilities of the Board and the committees. As a result, we mapped the key enterprise risks identified by management to the Board and committees based on the committees’ respective areas of oversight. This mapping of risks serves to clarify the oversight responsibilities of each committee and ensure proper oversight of each identified risk. Changes were made to committee charters as necessary to reflect the specific oversight responsibilities of each committee. In addition, the Board and each committee determined specific processes and schedules for performing their duties in connection with the mapped risks. The mapping of risks and the annual schedule were further reviewed and adjusted in 2017, including an increase in the frequency of updates on cybersecurity.” (PSEG 2018 Proxy p.11)</li> </ul> </li> </ul>

**C1.2**

**(C1.2) Below board-level, provide the highest-level management position(s) or committee(s) with responsibility for climate-related issues.**

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Chief Financial Officer (CFO)	Managing climate-related risks and opportunities	More frequently than quarterly
Chief Risks Officer (CRO)	Assessing climate-related risks and opportunities	Quarterly
Other C-Suite Officer, please specify (Corporate Counsel)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Sustainability committee	Managing climate-related risks and opportunities	Quarterly
Environmental, Health, and Safety manager	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Environment/ Sustainability manager	Assessing climate-related risks and opportunities	More frequently than quarterly

**C1.2a**

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.**

The PSEG Sustainability Council assists PSEG in the formulation, prioritization and implementation of strategies and initiatives to achieve corporate sustainability and improve ESG and Sustainability performance. It also serves as a vehicle to ponder sustainability as an organizing principle across all operations in order to realize opportunities and manage risks deriving from environmental and social developments. This committee is chaired by Tamara Linde PSEG’s Executive Vice President and General Counsel who has responsibility for governance and oversight of PSEG’s Climate Change Policy and ESG issues in general. A diverse range of internal stakeholders representing the different business functions and lines of business are members of this council, provide information, review communications and support the data management process. The environmental policy group is responsible for data collection, for monitoring climate issues from an internal and external perspective, and the coordination of engagement with stakeholders.

## C1.3

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

Yes

## C1.3a

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### (C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

#### Who is entitled to benefit from these incentives?

Corporate executive team

#### Types of incentives

Monetary reward

#### Activity incentivized

Emissions reduction target

#### Comment

Executives in the Legal department, PSE&G, PSEG Power, Corporate Finance, and Procurement, have specific performance goals related to climate change management and disclosure written into their annual scorecard goals and/or performance plans. Attainment of these goals, impacts annual compensation. As part PSEG's performance based compensation structure, employees whose positions are related to managing environmental and climate change impacts such as developing low-carbon infrastructure, managing energy efficiency programs, and implementing and developing programs such as electric vehicles, among others, are incentivized to achieve annual goals and targets related to these areas.

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#### Who is entitled to benefit from these incentives?

Management group

#### Types of incentives

Monetary reward

#### Activity incentivized

Emissions reduction project

#### Comment

PSEG's compensation program is based on the fundamental premise of pay for performance. This compensation can come in several forms including, base pay and incentive pay. PSEG's business goals include achieving financial goals as well as longer-term strategic goals. Achieving annual financial goals are predicated upon successful execution of our business strategy, which includes deployment of emission abatement measures such as energy efficiency, new generation and renewable energy. Additionally, PSEG's vision includes commitments to culture and business transformation as well as its voluntary emission reduction commitments.

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#### Who is entitled to benefit from these incentives?

Other C-Suite Officer

#### Types of incentives

Monetary reward

#### Activity incentivized

Emissions reduction target

#### Comment

Executives in the Legal department, PSE&G, PSEG Power, Corporate Finance, and Procurement, have specific performance goals related to climate change management and disclosure written into their annual scorecard goals and/or performance plans. Attainment of these goals, impacts annual compensation. As part PSEG's performance based compensation structure, employees whose positions are related to managing environmental and climate change impacts such as developing low-carbon infrastructure, managing energy efficiency programs, and implementing and developing programs such as electric vehicles, among others, are incentivized to achieve annual goals and targets related to these areas.

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#### Who is entitled to benefit from these incentives?

Chief Executive Officer (CEO)

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### Types of incentives

Monetary reward

### Activity incentivized

Emissions reduction target

### Comment

PSEG's compensation program is based on the fundamental premise of pay for performance. This compensation can come in several forms including, base pay and incentive pay. PSEG's business goals include achieving financial goals as well as longer-term strategic goals. Achieving annual financial goals are predicated upon successful execution of our business strategy, which includes deployment of emission abatement measures such as energy efficiency, new generation and renewable energy. Additionally, PSEG's vision includes commitments to culture and business transformation as well as its voluntary emission reduction commitments.

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### Who is entitled to benefit from these incentives?

Environment/Sustainability manager

### Types of incentives

Recognition (non-monetary)

### Activity incentivized

Emissions reduction target

### Comment

PSEG's compensation program is based on the fundamental premise of pay for performance. This compensation can come in several forms including, base pay and incentive pay. PSEG's business goals include achieving financial goals as well as longer-term strategic goals. Achieving annual financial goals are predicated upon successful execution of our business strategy, which includes deployment of emission abatement measures such as energy efficiency, new generation and renewable energy. Additionally, PSEG's vision includes commitments to culture and business transformation as well as its voluntary emission reduction commitments.

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## C2. Risks and opportunities

### C2.1

**(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.**

	From (years)	To (years)	Comment
Short-term	0	1	Short term is within one year of assessment
Medium-term	1	5	This is the time period of the Business Plan
Long-term	5	40	This is beyond the Business Planning horizon

### C2.2

**(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.**

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

### C2.2a

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**(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.**

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Annually	>6 years	We have two assessments as part of the Enterprise Risk Management life cycle, we look at events that may impact the company from 1-5 years and we also look at Emerging risks 5+ years.

**C2.2b**

**(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.**

Under the oversight and direction of the Corporate Governance Committee and the Audit Committee, in 2016 we conducted a comprehensive review of the risk management oversight responsibilities of the Board and the committees. As a result, we mapped the key enterprise risks identified by management to the Board and committees based on the committees' respective areas of oversight. This mapping of risks serves to clarify the oversight responsibilities of each committee and ensure proper oversight of each identified risk. Changes were made to committee charters as necessary to reflect the specific oversight responsibilities of each committee. In addition, the Board and each committee determined specific processes and schedules for performing their duties in connection with the mapped risks. The mapping of risks and the annual schedule were further reviewed and adjusted in 2017. There are two streams of work the Company conducts for identifying and assessing climate related risks, they are: 1) The Enterprise Risk Management (ERM) program conducts an annual review of identification, assessment, mitigation and response for risks that may impact the organization. Depending on the life cycle of the ERM program a bottom up, 'middle up' and top down process is conducted to establish top residual risks facing the Company. Additionally, per the Corporate Governance Committee of the Board, these risks are mapped to either the full Board or a Committee of the Board for review. Some risks are reviewed annually, and some risks with a slower velocity are reviewed bi-annually 2) Industry Outlook – Each year PSEG produces a long-term industry outlook for executive management and the PSEG Board of Directors, which addresses each of the main industry drivers (e.g. electricity supply/demand and price trends, natural gas supply/demand and price trends, climate change and environmental policies, power market design and regulatory trends, and technology trends). The industry outlook also covers emerging industry drivers (e.g. potential for Electric Vehicles and energy storage). The industry outlook has a long-term time horizon (i.e. up to 25 years (most recently 2018 - 2040), and is intended to provide a longer-term view of relevant industry information. PSEG utilizes paid research from highly reputable industry consultants (e.g. IHS Markit, PIRA, Wood Mackenzie, Bloomberg New Energy Finance, and DNV GL) as support for its industry outlook. A number of these consultants provide scenarios of alternative industry outcomes – which PSEG uses to further inform its strategic direction, and to identify any potential strategic blind spots.

**C2.2c**

**(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?**

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	PSEG is highly regulated by both State and Federal laws. In its 2017 Form 10K there is mention of uncertainty around changes to current regulation (State and Federal) as a result of climate risk. A specific example of this is in the 10K regarding the Clean Power Plan (CPP): "The EPA is considering rulemaking to replace the CPP. PSEG cannot assess the impact of any such rulemaking on our business and future results of operations at this time." (PSEG 2017 10K p. 23)
Emerging regulation	Relevant, always included	PSEG's business is highly regulated by both State and Federal laws. In its 2017 Form 10K there is mention of uncertainty around potential emerging regulation (State and Federal) as a result of climate risk. A specific example of this is reported in the 10K regarding NJ's reentry into RGGI.. "In January 2018, New Jersey Governor Murphy signed an Executive Order requiring the NJ Department of Environmental Protection (NJDEP) to initiate the rulemaking process for New Jersey to reenter RGGI. We cannot estimate the impact of this action on our business or results of operations at this time" (PSEG 2017 10K p. 23)
Technology	Relevant, always included	PSEG is reliant on various technologies at both Power and PSE&G to conduct business. Technologies related to Climate change are viewed as both a risk and opportunity. A specific example pertains to Federal and State incentives and how technologies are advanced. An example of this is reported in our 10K: "Federal and state incentives for the development and production of renewable sources of power have allowed for the penetration of competing technologies, such as wind, solar, and commercial-sized power storage. Additionally, the development of Demand Side Management (DSM) tools and practices can impact peak demand requirements for some of our markets at certain times during the year. The continued development of subsidized, competing power generation technologies and significant development of DSM tools and practices could alter the market and price structure for power generation and could result in a reduction in load requirements, negatively impacting our financial condition, results of operations and cash flows. Additionally, technological advances driven by federal laws mandating new levels of energy efficiency in end-use electric devices or other improvements in, or applications of, technology could lead to declines in per capita energy consumption." (PSEG 2017 10K p. 29)

	Relevance & inclusion	Please explain
Legal	Relevant, always included	Legal implications of climate change are relevant and include the effects of climate regulation. A specific example included in the 2017 10K: "We are subject to extensive federal, state and local environmental laws and regulations regarding air quality, water quality, site remediation, land use, waste disposal, the impact on global climate, natural resources damages and other matters. Changes in these laws, or violations of laws, could result in significant increases in our compliance costs, capital expenditures to bring our facilities into compliance, operating costs for remediation and clean-up actions, civil penalties or damages from actions brought by third parties for alleged health or property damages." (PSEG 2017 10K p. 29)
Market	Relevant, always included	A transition to a resilient low-carbon economy has significant market risk implications at both the Federal and State level for PSEG. A specific example is included in the 2018 Annual Report. We will continue to seek to influence public policy in an effort to mitigate flaws in the design of wholesale power markets that do not recognize the environmental and fuel diversity benefits of our Salem and Hope Creek nuclear facilities. Our goal is to preserve nuclear energy as a critically important resource, benefiting the state's environment, economy and energy reliability." (PSEG 2017 Annual Report p.9)
Reputation	Relevant, always included	Stakeholder perception and engagement is at the forefront of PSEG's environmental stewardship as part of its sustainability efforts. A specific example of this is stated in the 2018 Proxy Statement: "Environmental stewardship and sustainability require strong commitments and excellent management. Our Environmental Health and Safety Policy establishes our commitment to conduct our business in a safe and responsible manner. Our strong relationships with the public sector, renewable energy developers and policymakers help us identify and implement innovative environmental solutions" "We are combatting climate change emission reductions through energy efficiency and renewable energy projects. We recently have established a new climate goal to reduce our carbon footprint by lowering our CO2 equivalent emissions." (PSEG 2018 Proxy p. 7)
Acute physical	Relevant, always included	Acute physical risks are inherent in the Power and Utilities business. We consider catastrophic weather events in our business continuity plans and have storm plans for events that may occur in the service territory. Specific examples of this in the 2017 10K and 2018 Annual Report: "In addition, the physical risks of severe weather events, such as experienced from Hurricane Irene and Superstorm Sandy, and of climate change, changes in sea level, temperature and precipitation patterns and other related phenomena have further exacerbated these risks." (PSEG 2017 10K p. 37) "We also continued progress in our three-year, \$905 million Gas System Modernization Program, replacing an aging system of cast-iron and unprotected steel gas mains to improve reliability and safety, and to curb emissions of climate-damaging methane. We continue to move ahead with our post-Superstorm Sandy Energy Strong program to harden and improve the resiliency of our electric and gas systems against extreme weather." (PSEG 2017 Annual Report p.9) . In June 2018, we filed for Energy Strong Program II (ESP II), a proposed five-year \$2.5 billion program to harden, modernize and make our electric and gas distribution systems more resilient (PSEG 2018 2Q Form 10-Q p90) Also, as a result of events at the Fukushima Daiichi nuclear facility in Japan following the earthquake and tsunami in 2011, the NRC began performing additional operational and safety reviews of nuclear facilities in the United States. These reviews and the lessons learned from the events in Japan have resulted in additional regulation and implementation guidance for the nuclear industry and could impact future operations and capital requirements for our facilities. We believe that our nuclear plants currently meet the stringent applicable design and safety specifications of the NRC. We have implemented the diverse and flexible mitigating strategies and spent fuel pool level indication modifications in accordance with the regulatory requirements at the Salem, Hope Creek and Peach Bottom nuclear units. For our Hope Creek and Peach Bottom units, implementation of the required venting system modifications is expected to be completed by 2018.
Chronic physical	Relevant, always included	Chronic physical risks are present in the Power and PSE&G businesses. We may have to reconfigure plants which may lead to asset impairment (premature impairment or devaluation) and may have to harden the system and facilities to adapt to changing conditions such as precipitation patterns and rising sea levels. Specific examples of this in the 10K and Annual Report "In addition...changes in sea level, temperature and precipitation patterns and other related phenomena have further exacerbated these risks." (PSEG 2017 10K p. 37) We also continued progress in our three-year, \$905 million Gas System Modernization Program, replacing an aging system of cast-iron and unprotected steel gas mains to improve reliability and safety, and to curb emissions of climate-damaging methane. (PSEG 2017 Annual Report p.9) We have received approval for the GSMP II, an expanded, five-year program totaling \$1.9 billion that will start in 2019
Upstream	Relevant, always included	Power generation has been adapting to climate change regulation on an ongoing basis for several years and continues to implement measures as new plants are built (Keys, Sewaren). Specific examples of upstream impacts due to climate change include the EPA's New Source Performance Standards (NSPS) and the Clean Power Plan (CPP). A specific example of this is reported in the 10K: "CO2 Regulation under the CAA—In October 2015, the EPA published the New Source Performance Standards (NSPS) for new power plants. The NSPS establishes two emission standards for CO2 for the following categories: (i) fossil fuel-fired utility boilers and integrated gasification combined cycle units, and (ii) natural gas combustion turbines. Simple cycle combustion turbines are exempt from the rule." (PSEG 2017 10K p. 22)
Downstream	Relevant, always included	Climate related impacts to our customers are a high priority as customers have been subjected to severe weather events in the past and continue to experience this currently. A specific example of this is stated in the 10K: "We may be adversely affected by equipment failures, accidents, severe weather events or other incidents that impact our ability to provide safe and reliable service to our customers and remain competitive and could result in substantial financial losses. ..the physical risks of severe weather events, such as experienced from Hurricane Irene and Superstorm Sandy, and of climate change, changes in sea level, temperature and precipitation patterns and other related phenomena have further exacerbated these risks." (PSEG 2017 10K p. 37)

## C2.2d

## **(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.**

Risk management is a key part of our strategic planning and business operations. The Board has approved a Risk Management Policy and it reviews and adopts the Company's Financial Risk Management Practice. In accordance with the Risk Management Policy, we maintain and execute a Risk Management Program for identifying, quantifying, monitoring, managing and reporting on our risks, including evolving issues such as cybersecurity. The Financial Risk Management Practice serves to define the major roles, responsibilities and procedures, including controls and reporting, necessary to actively manage our financial risk exposure consistent with our business plans. It is reviewed and approved periodically by the Audit Committee, the Corporate Governance Committee and the Finance Committee and recommended to the Board for its approval. The Board has oversight of the Risk Management Program which consists of policies, process and controls, including the Risk Management Policy and Financial Risk Management Practice, as well as other policies and practices developed by management relating to risks, including but not limited to: market; credit; liquidity; operations; project development; political; regulatory; legal; compliance; strategic; reputation; business interruption; physical and cybersecurity; environmental; and staffing. Risk Management Oversight: The Board is responsible for the oversight of risk at PSEG, both as a whole and through delegation to Board committees, which meet regularly and report back to the full Board. All committees play significant roles in carrying out the risk oversight function. In particular:

- The Corporate Governance Committee provides oversight of the policies and processes by which the Company assesses and manages enterprise risk. The Corporate Governance Committee reviews the mapping of identified enterprise risks to the Board and its committees and makes recommendations to the Board with respect to such mapping. Our Chief Risk Officer and Chief Financial Officer report on risk management to the Corporate Governance Committee, directly as well as through the reports of the Corporate Governance Committee Chair, to the Board. The Corporate Governance Committee also evaluates Board and committee performance, monitors composition of the Board and the qualifications of the Board members and nominees, assists the Board in administering corporate governance practices and oversees our political participation activities and expenditures. In doing so, the Corporate Governance Committee seeks to ensure our governance and leadership structure is appropriately designed to mitigate reputational risk. The Fossil Generation Operations Oversight Committee and the Nuclear Generation Operations Oversight Committee monitor and evaluate risks associated with our electric station operations, including risks associated with environmental, safety and other compliance and personnel and performance matters. Our Risk Management Program forms an integral part of our corporate culture and values. Risk Mapping Under the oversight and direction of the Corporate Governance Committee and the Audit Committee, in 2016 we conducted a comprehensive review of the risk management oversight responsibilities of the Board and the committees. As a result, we mapped the key enterprise risks identified by management to the Board and committees based on the committees' respective areas of oversight. This mapping of risks serves to clarify the oversight responsibilities of each committee and ensure proper oversight of each identified risk. Changes were made to committee charters as necessary to reflect the specific oversight responsibilities of each committee. In addition, the Board and each committee determined specific processes and schedules for performing their duties in connection with the mapped risks. The mapping of risks and the annual schedule were further reviewed and adjusted in 2017, including an increase in the frequency of updates on cybersecurity.

## **C2.3**

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

Yes

## **C2.3a**

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

#### **Identifier**

Risk 1

#### **Where in the value chain does the risk driver occur?**

Direct operations

#### **Risk type**

Physical risk

#### **Primary climate-related risk driver**

Chronic: Rising sea levels

#### **Type of financial impact driver**

Increased capital costs (e.g., damage to facilities)

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**Company- specific description**

Higher sea levels will increase the baseline for flooding from coastal storms and therefore the impacts of coastal storms. In addition, climate change may change the characteristics of storm systems. PSEG is a member of the New Jersey Climate Adaptation Alliance (NJCAA). NJCAA is a network of policymakers, public and private sector practitioners, academics, nongovernmental organizations, and business leaders designed to build climate change preparedness capacity in NJ.

**Time horizon**

Long-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium

**Potential financial impact**

3900000000

**Explanation of financial impact**

Energy Strong is designed to "harden" and improve the resiliency of PSE&G's electric and gas distribution systems. Hardening improves the durability and stability of energy infrastructure, making it better able to withstand the impacts of hurricanes and weather events without sustaining major damage. Resiliency measures do not prevent damage; but rather they enable energy systems to continue operating despite damage and/or promote a rapid return to normal operations when damages/outages do occur. In June 2018, thru the Energy Strong II filing PSEG proposed before the New Jersey Board of Public Utilities (BPU) to invest an additional \$2.5 billion during the next five years to further strengthen the utility's electric and gas systems to withstand storms, improve reliability and significantly enhance resiliency

**Management method**

In May 2014, PSE&G received approval of \$1.22 billion Energy Strong Program to protect and strengthen the utility's electric and gas systems against recent severe weather events.

**Cost of management****Comment**

Under Energy Strong, PSE&G is making the following investments: \$620 million to protect, raise or relocate 29 switching and substations, \$350 million to replace and modernize approximately 250 miles of cast-iron mains in or near flood areas, \$100 million to create redundancy in the system, \$100 million to deploy smart grid technologies, and \$50 million to protect five natural gas metering stations and three gas storage facilities affected by Sandy or located in flood zones. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt. In June 2018, PSE&G filed its energy Strong Program II (ESP II) proposal with the BPU to invest an additional \$2.5 billion over the next five years as an extension and expansion of its ESP I. The size and duration of ESP II, as well as PSE&G's return on equity and certain other elements of the program, are subject to BPU approval

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**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

Acute: Increased severity of extreme weather events such as cyclones and floods

**Type of financial impact driver**

Increased capital costs (e.g., damage to facilities)

**Company- specific description**

Higher sea levels will increase the baseline for flooding from coastal storms and therefore the impacts of coastal storms. In addition, climate change may change the characteristics of storm systems. PSEG is a member of the New Jersey Climate Adaptation Alliance (NJCAA). NJCAA is a network of policymakers, public and private sector practitioners, academics, nongovernmental organizations, and business leaders designed to build climate change preparedness capacity in NJ.

**Time horizon**

Current

**Likelihood**

Virtually certain

#### **Magnitude of impact**

Medium

#### **Potential financial impact**

3900000000

#### **Explanation of financial impact**

Energy Strong is designed to "harden" and improve the resiliency of PSE&G's electric and gas distribution systems. Hardening improves the durability and stability of energy infrastructure, making it better able to withstand the impacts of hurricanes and weather events without sustaining major damage. Resiliency measures do not prevent damage; but rather they enable energy systems to continue operating despite damage and/or promote a rapid return to normal operations when damages/outages do occur.

#### **Management method**

In May 2014, PSE&G received approval of \$1.22 billion Energy Strong Program to protect and strengthen the utility's electric and gas systems against recent severe weather events. In June 2018, PSE&G filed its energy Strong Program II ( ESP II) proposal with the BPU to invest an additional \$2.5 billion over the next five years as an extension and expansion of its ESP I

#### **Cost of management**

#### **Comment**

Under Energy Strong, PSE&G is making the following investments: \$620 million to protect, raise or relocate 29 switching and substations, \$350 million to replace and modernize approximately 250 miles of cast-iron mains in or near flood areas, \$100 million to create redundancy in the system, \$100 million to deploy smart grid technologies, and \$50 million to protect five natural gas metering stations and three gas storage facilities affected by Sandy or located in flood zones. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt. In June 2018, PSE&G filed its energy Strong Program II ( ESP II) proposal with the BPU to invest an additional \$2.5 billion over the next five years as an extension and expansion of its ESP I.

#### **Identifier**

Risk 3

#### **Where in the value chain does the risk driver occur?**

Direct operations

#### **Risk type**

Transition risk

#### **Primary climate-related risk driver**

Policy and legal: Increased pricing of GHG emissions

#### **Type of financial impact driver**

Policy and legal: Write-offs, asset impairment, and early retirement of existing assets due to policy changes

#### **Company- specific description**

PSEG believes that climate change is the preeminent challenge of our time and with it comes significant business opportunities and responsibilities. As a leader in low-carbon energy, PSEG has long advocated for federal legislation to limit and reduce GHG emissions. Absent a comprehensive legislative solution, we have supported the steps taken by states to reduce GHGs. PSEG has been factoring climate change into its business decisions and investments since the early 1990s. In early 2018, PSEG announced its new goal of eliminating 13 million metric tons of CO<sub>2</sub>-equivalent (MMTCO<sub>2</sub>e) by 2030 from 2005 levels.

#### **Time horizon**

Medium-term

#### **Likelihood**

More likely than not

#### **Magnitude of impact**

Medium

#### **Potential financial impact**

#### **Explanation of financial impact**

Implementation of a regional or a national carbon price would increase operational costs at our efficient natural gas combined cycle facilities.

#### **Management method**

As a leader in low-carbon energy, PSEG has long advocated for federal legislation to limit and reduce GHG emissions. Absent a comprehensive legislative solution, we have supported the steps taken by states to reduce GHGs. PSEG has been factoring climate change into its business decisions and investments since the early 1990s. In 2004, through EPA's Climate Leaders Program, PSEG voluntarily pledged to reduce its GHG emissions intensity by 18% from 2000 levels by 2008. PSEG surpassed this goal by achieving a 31% reduction. PSEG's low intensity rate is due primarily to the fact that more than half of our power comes from nuclear generation. In addition, PSEG retired its NJ coal-fired units in 2017 and continues to invest in solar energy.

### **Cost of management**

#### **Comment**

Since 2005 PSE&G has invested over \$1 billion in solar energy and has installed 124 MWs of solar capacity with an additional 33 MW under construction. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt. Since 2005 PSEG Power has invested over \$800 million in solar energy and has installed 414 MWs of solar capacity. PSE&G has invested nearly \$400 million in a range of targeted energy efficiency programs. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt. Consistent with New Jersey's recently enacted energy efficiency legislation, PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program.

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#### **Identifier**

Risk 4

#### **Where in the value chain does the risk driver occur?**

Direct operations

#### **Risk type**

Physical risk

#### **Primary climate-related risk driver**

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

#### **Type of financial impact driver**

Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

#### **Company- specific description**

The electric generating plants operated by PSEG Power are located in New Jersey, New York, and Connecticut. None of these plants is sited in a "water-stressed area". As a long-term corporate and industrial resident of the state, PSEG has a long history and deep culture as a steward of the water resources in the areas where we operate. We have consistently defined "water stress" using parameters that are more appropriate to the needs of our region: resource preservation and the protection of water quality.

#### **Time horizon**

Unknown

#### **Likelihood**

Exceptionally unlikely

#### **Magnitude of impact**

Low

#### **Potential financial impact**

#### **Explanation of financial impact**

Geographic and demographic models project that the areas in which our plants are site are not expected to be water stressed by definition for years into the future. Nevertheless, PSEG will continue to evaluate evolving impacts of our operations, continue to reduce the dependence of our production on water, and continue to work with local authorities to address water resource issues in future operation and development plans.

#### **Management method**

To reduce cooling water use from natural water bodies, we have minimized the use of once-through cooling water systems by using such conservation technologies as closed-cycle cooling, alternate sources such as recycled "gray water," zero liquid discharge, and treatment and recovery processes that return effluent water at the same or higher quality than our intake. Several of our plants use closed-cycle cooling systems that repeatedly recycle water instead of releasing it immediately into local waterways. In 2012, we repowered water-cooled units at our Kearny plant and New Haven plant with simple cycle combustion turbine units that are air cooled and do not use cooling water. Retiring units that once required water for cooling have further reduced demands on the local aquifer. New generation currently under construction employs combined cycle combustion technology with air cooled condensers. We also have contingency plans for periods of drought when water availability may be limited. PSEG Power and its four Delaware River generating plants are members of a power industry coalition that created Merrill Creek, a reservoir, nature preserve, and watershed project whose purpose is to provide stored water that can be released to the Delaware River to make up for evaporative water loss by generating plants during times of declared drought conditions and mitigate migration of the salt line

that impacts water intakes for communities in the region.

**Cost of management**

159000000

**Comment**

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**Identifier**

Risk 5

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Transition risk

**Primary climate-related risk driver**

Reputation: Increased stakeholder concern or negative stakeholder feedback

**Type of financial impact driver**

Reputation: Reduction in capital availability

**Company- specific description**

PSEG believes that climate change is the preeminent challenge of our time and with it comes significant business opportunities and responsibilities. As a leader in low-carbon energy, PSEG has long advocated for federal legislation to limit and reduce GHG emissions. Absent a comprehensive legislative solution, we have supported the steps taken by states to reduce GHGs. PSEG has been factoring climate change into its business decisions and investments since the early 1990s. In early 2018, PSEG announced its new goal of eliminating 13 million metric tons of CO<sub>2</sub>-equivalent (MMTCO<sub>2</sub>e) by 2030 from 2005 levels.

**Time horizon**

Unknown

**Likelihood**

Very unlikely

**Magnitude of impact**

Medium

**Potential financial impact**

**Explanation of financial impact**

**Management method**

As a leader in low-carbon energy, PSEG has long advocated for federal legislation to limit and reduce GHG emissions. Absent a comprehensive legislative solution, we have supported the steps taken by states to reduce GHGs. PSEG has been factoring climate change into its business decisions and investments since the early 1990s. In 2004, through EPA's Climate Leaders Program, PSEG voluntarily pledged to reduce its GHG emissions intensity by 18% from 2000 levels by 2008. PSEG surpassed this goal by achieving a 31% reduction. PSEG's low intensity rate is due primarily to the fact that more than half of our power comes from nuclear generation. In addition, PSEG retired its NJ coal-fired units in 2017 and continues to invest in solar energy.

**Cost of management**

**Comment**

Since 2005 PSE&G has invested over \$1 billion in solar energy and has installed 124 MWs of solar capacity with an additional 33 MW under construction. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt. Since 2005 PSEG Power has invested over \$800 million in solar energy and has installed 414 MWs of solar capacity. PSE&G has invested nearly \$400 million in a range of targeted energy efficiency programs. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt. Consistent with New Jersey's recently enacted energy efficiency legislation, PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program.

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C2.4

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

Yes

C2.4a

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

**Identifier**

Opp1

**Where in the value chain does the opportunity occur?**

Customer

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Other

**Type of financial impact driver**

Reduced operating costs (e.g., through efficiency gains and cost reductions)

**Company- specific description**

The regulatory base rate review petition filed by PSE&G on January 12, 2018 includes a proposal for a "Green Enabling Mechanism" (GEM). If approved, GEM will ensure that PSE&G's business and regulatory framework aligns well with policies that encourage investment in wide-scale energy efficiency programs and other clean energy solutions.

**Time horizon**

Current

**Likelihood**

Very likely

**Magnitude of impact**

Please select

**Potential financial impact**

**Explanation of financial impact**

The Green Enabling Mechanism represents a new approach for PSE&G, which removes the traditional link between sales and distribution revenues. With GEM, the BPU would still determine how much revenue PSE&G should recover and there would still be per-kilowatt-hour and per-therm charges. However, under GEM, a distribution revenue target would be agreed to by the State, and rates are adjusted annually to "true up" to that target. As a result, the company would receive its agreed upon revenue independent of sales volume and has no upside or downside impact from sales variations due to factors like weather or energy efficiency improvements

**Strategy to realize opportunity**

The rate filing seeks BPU approval of a rate design change, called the Green Enabling Mechanism (GEM), a proposal to decouple revenues from sales volumes and thereby encourage energy efficiency. If approved, the GEM will remove the incentive to sell more energy and will instead encourage utility investments in energy efficiency, renewables and other clean energy technologies that will ultimately benefit all customers by bringing down bills and reducing emissions.

**Cost to realize opportunity**

**Comment**

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**Identifier**

Opp2

**Where in the value chain does the opportunity occur?**

Customer

**Opportunity type**

Resource efficiency

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**Primary climate-related opportunity driver**

Other

**Type of financial impact driver**

Reduced operating costs (e.g., through efficiency gains and cost reductions)

**Company- specific description**

PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program. The program, which PSE&G expects to file with the BPU later this year, includes: \$2.5 billion for energy efficiency to reduce customer bills and lower energy use, which will decrease air pollution, including emissions that accelerate climate change.

**Time horizon**

Current

**Likelihood**

Very likely

**Magnitude of impact**

Medium-high

**Potential financial impact**

2500000000

**Explanation of financial impact**

PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program. The program, which PSE&G expects to file with the BPU later this year, includes: \$2.5 billion for energy efficiency to reduce customer bills and lower energy use, which will decrease air pollution, including emissions that accelerate climate change.

**Strategy to realize opportunity**

In May 2018, the New Jersey governor signed legislation that requires the state's electric and gas utilities to implement energy efficiency programs that are expected to achieve energy savings targets for electric and gas usage within five years of the utility's implementation of its BPU-approved energy efficiency programs. To meet these savings targets, energy usage reductions and peak demand reductions that result from utility and non-utility based programs and investments (including building code changes) will be counted. The specific energy savings target for each public electric and gas utility will be determined from an energy efficiency study to be completed within a year from enactment of the legislation. To be consistent PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program. The program, which PSE&G expects to file with the BPU later this year, includes: \$2.5 billion for energy efficiency to reduce customer bills and lower energy use, which will decrease air pollution, including emissions that accelerate climate change.

**Cost to realize opportunity**

2500000000

**Comment**

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**Identifier**

Opp3

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Energy source

**Primary climate-related opportunity driver**

Use of lower-emission sources of energy

**Type of financial impact driver**

Returns on investment in low-emission technology

**Company- specific description**

Recently enacted legislation that will increase New Jersey's Renewable Portfolio Standard (RPS) to 50% by 2030, putting New Jersey new in a three-way tie for the third-most ambitious renewable energy mandate with California and New York. It also requires generators to source an increasing amount of their electricity from behind-the-meter solar, to reach 5.1% by 2021. This is the most ambitious target for distributed solar in the United States, exceeding even New Mexico's 4% distributed solar mandate.

**Time horizon**

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Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Potential financial impact**

**Explanation of financial impact**

Annual solar requirement increases to 4.8% in 2025 before declining to 4.5% in 2026 and 1.1% in 2033 as net metering cap increased to 5.8% from 2.9% BPU must develop rules and regulations establishing a “Community Solar Energy Pilot Program”

**Strategy to realize opportunity**

In order to support New Jersey’s Energy Master Plan and the state’s renewable energy goals, we have undertaken two major solar initiatives at PSE&G, the Solar Loan Program and the Solar 4 All and Solar 4 All Extension Programs. Our Solar Loan Program provides solar system financing to our residential and commercial customers. The loans are repaid with cash or solar renewable energy certificates (SRECs). We sell the SRECs received through periodic auctions and use the proceeds to offset program costs. Our Solar 4 All Programs invest in utility-owned solar photovoltaic (PV) centralized solar systems installed on PSE&G property and third-party sites, including landfill facilities, and solar panels installed on distribution system poles in our electric service territory. We sell the energy and capacity from the systems in the PJM wholesale electricity market. In addition, we sell SRECs generated by the projects through the same periodic auction used in the loan program, the proceeds of which are used to offset program costs.

**Cost to realize opportunity**

**Comment**

**Identifier**

Opp4

**Where in the value chain does the opportunity occur?**

Customer

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Shift in consumer preferences

**Type of financial impact driver**

Increased revenue through demand for lower emissions products and services

**Company- specific description**

**Time horizon**

Current

**Likelihood**

Likely

**Magnitude of impact**

Medium-low

**Potential financial impact**

300000000

**Explanation of financial impact**

PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program. The program, which PSE&G expects to file with the BPU later this year, includes: \$2.5 billion for energy efficiency to reduce customer bills and lower energy use, which will decrease air pollution, including emissions that accelerate climate change; \$300 million for building a “smart” electric vehicle infrastructure; and \$100 million for utility-scale energy storage systems that will enable greater development of renewable resources and enhance resiliency.

**Strategy to realize opportunity**

**Cost to realize opportunity**

**Comment**

PSEG has been taking steps to reduce GHG emissions from mobile sources. In 2013, PSEG launched its Employee Workplace Charging Program, where employees who commute in an electric car may receive no-cost charging and parking for three years at three company locations (Newark, Edison and Salem). In July, PSEG opened the largest electric car charging facility in New Jersey as part of this program. To date, PSEG has installed more than 4 chargers at our facilities. Participation in this program has resulted in an estimated 50 - 60 ton reduction in carbon emissions annually. PSE&G is a pledged supporter of the Northeast Electric Vehicle Network, which was established to accelerate the deployment of electric vehicles.

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**Identifier**

Opp5

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Energy source

**Primary climate-related opportunity driver**

Use of lower-emission sources of energy

**Type of financial impact driver**

Returns on investment in low-emission technology

**Company- specific description**

PSEG owns a 50% equity stake in an offshore wind development company "Garden State Offshore Energy". This company controls an offshore wind lease area off the Delaware coast, and is developing a bid for New Jersey's planned procurement of 3,500 MW of offshore wind generation by 2030 (i.e. equal to about 20% of New Jersey's total electricity consumption). PSE&G Transmission is also exploring investment opportunities in offshore wind transmission assets, to help the state reach its 2030 offshore wind energy goal.

**Time horizon**

Medium-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Please select

**Potential financial impact****Explanation of financial impact**

In May 2018, the New Jersey governor signed an executive order directing the BPU and other state agencies to begin a process to achieve 3,500 MWs of offshore wind energy generation by the year 2030. In response, the BPU issued an order directing staff to establish a rulemaking for an offshore wind renewable energy certificate (OREC) funding mechanism and rules for the solicitation of 1,100 MWs of offshore wind capacity. We are analyzing the implications to our business.

**Strategy to realize opportunity**

BPU to establish Offshore Renewable Energy Certificate (OREC) to support 3,500 MW by 2030 •Allows OSW projects to receive tax credits from the Energy Development Agency (EDA) •NJ Dept. of Labor directed to develop job training programs to support OSW development

**Cost to realize opportunity****Comment**

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**Identifier**

Opp6

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Use of more efficient production and distribution processes

**Type of financial impact driver**

Reduced operating costs (e.g., through efficiency gains and cost reductions)

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### Company- specific description

PSE&G is a long-time participant in EPA's Natural Gas STAR program, a voluntary initiative that encourages natural gas companies to adopt cost-effective technologies and practices that reduce methane emissions. Since 2014, PSE&G has reduced methane emissions 2.9% annually or a total of 65,000 million tons of CO2 equivalent (calculated using EPA Greenhouse Gas Reporting Program: Subpart W – Petroleum and Natural Gas Systems methodology (EPA Subpart W)). In 2016, PSE&G became a founding partner of EPA's Natural Gas STAR Methane Challenge by committing to replace 1.5% of PSEG's cast iron gas mains and associated service lines by 2021. Primarily, PSE&G has been reducing methane emissions through the replacement of old cast iron pipelines and services.

### Time horizon

Current

### Likelihood

Very likely

### Magnitude of impact

Medium

### Potential financial impact

#### Explanation of financial impact

Requested amount for GSMP II - \$2.86 billion. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt.

#### Strategy to realize opportunity

Cast-iron pipeline replacement filings with NJBPU. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt. Long-term gas pipeline replacement filings with NJBPU. This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt.

### Cost to realize opportunity

#### Comment

This is an investment opportunity where PSE&G makes a return on equity (ROE) and recovers the debt. NJBPU Approved amounts: Energy Strong - \$350 million GSMP - \$905 million GSMP II - \$1.875 billion

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### Identifier

Opp7

### Where in the value chain does the opportunity occur?

Direct operations

### Opportunity type

Energy source

### Primary climate-related opportunity driver

Use of new technologies

### Type of financial impact driver

Increased capital availability (e.g., as more investors favor lower-emissions producers)

### Company- specific description

All four of our solar storage projects serve a number of functions. Not only do they provide critical resiliency to important infrastructure around the state, but they also deliver clean solar energy to our electric customers while helping demonstrate just how useful solar storage technology can be in New Jersey. In each project, solar panels provide electricity directly to the grid for all customers to use, which helps ensure reliability of the entire system. And in the event of a long-term outage, such as those that follow extreme weather like Hurricane Irene or Superstorm Sandy, the systems provide additional resiliency for critical public facilities: a hospital, a wastewater treatment plant and a warming station. Projects like these demonstrate the flexibility of solar power when coupled with battery storage technology. They provide valuable learnings and insights as to how best to pair solar with storage, which will only grow more popular as the technologies become more efficient and affordable. As battery storage technology improves, and the price of both solar panels and storage systems continue to fall, solar storage could become an increasingly popular option for utilities, large and small commercial customers, public facilities, and even homeowners.

### Time horizon

Short-term

### Likelihood

Likely

### Magnitude of impact

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Medium

**Potential financial impact**

100000000

**Explanation of financial impact**

Consistent with New Jersey's recently enacted energy efficiency legislation, PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program. The program, which PSE&G expects to file with the BPU later this year, includes: \$2.5 billion for energy efficiency to reduce customer bills and lower energy use, which will decrease air pollution, including emissions that accelerate climate change; \$300 million for building a "smart" electric vehicle infrastructure; and \$100 million for utility-scale energy storage systems that will enable greater development of renewable resources and enhance resiliency

**Strategy to realize opportunity**

**Cost to realize opportunity**

**Comment**

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C2.5

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**(C2.5) Describe where and how the identified risks and opportunities have impacted your business.**

	Impact	Description
Products and services	Impacted	To support New Jersey's Energy Master Plan and the state's renewable energy goals, we have undertaken two major solar initiatives at PSE&G, the Solar Loan Program and the Solar 4 All and Solar 4 All Extension Programs. Our Solar Loan Program provides solar system financing to our residential and commercial customers. The loans are repaid with cash or solar renewable energy certificates (SRECs). We sell the SRECs received through periodic auctions and use the proceeds to offset program costs. Our Solar 4 All Programs invest in utility-owned solar photovoltaic (PV) centralized solar systems installed on PSE&G property and third-party sites, including landfill facilities, and solar panels installed on distribution system poles in our electric service territory. We sell the energy and capacity from the systems in the PJM wholesale electricity market. In addition, we sell SRECs generated by the projects through the same periodic auction used in the loan program, the proceeds of which are used to offset program costs. We have improved our utility operations by increasing our investments in transmission and distribution infrastructure projects designed to enhance system reliability and resiliency, meet our customers' expectations and support public policy objectives; Additionally, we have maintained and expanded a reliable, efficient and environmentally responsible generation fleet with the flexibility to utilize a diverse mix of fuels, allowing us to respond to market volatility and capitalize on opportunities
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	We have strong partnerships with many local and national environmental organizations, reflecting our commitment to the responsible management of natural resources across the full spectrum of our activities. Our efforts to protect the environment can be found throughout our organization and include longstanding initiatives such as our Estuary Enhancement Program, which has restored thousands of acres of marshlands in southern New Jersey and neighboring areas along Delaware Bay.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	PSE&G, as part of its BPU-approved Energy Strong Program, completed the replacement and modernization of 240 miles of low-pressure cast iron gas mains in or near flood areas. PSE&G continues to execute the Energy Strong Program to upgrade all of its electric substations that were damaged by water in recent storms; make investments that will create redundancy in the electric distribution system, reducing outages when damage occurs; and deploy technologies to better monitor system operations, enabling PSE&G to restore customers more quickly in the event of an electric outage. In June 2018, PSE&G filed its energy Strong Program II ( ESP II) proposal with the BPU to invest an additional \$2.5 billion over the next five years as an extension and expansion of its ESP I. The extension seeks to continue efforts to harden the electric system against storms and make it more resilient, to implement a more proactive life cycle replacement program to modernize the electric system and to make the gas system more reliable by mitigating the impacts of potential supply curtailments. The size and duration of ESP II, as well as PSE&G's return on equity and certain other elements of the program, are subject to BPU approval. Additionally, with respect to PSE&G's gas system, upgrade five natural gas metering stations and a liquefied natural gas station recently affected by severe weather or located in flood zones. PSE&G continues modernizing its gas distribution system as part of our Gas System Modernization Program (GSMP) which was approved by the BPU in late 2015. The GSMP, through which we expect to invest \$905 million over three years, will replace approximately 510 miles of cast iron and unprotected steel gas mains and about 38,000 unprotected steel service lines to homes and businesses, including the uprating of the mains to higher pressure. The mains and service lines will be replaced with stronger, more durable plastic piping, reducing the potential for leaks and release of methane gas. The new elevated pressure systems also enable the installation of excess flow valves that automatically shut off gas flow if a service line is damaged, and better support the use of high-efficiency appliances. In May 2018, the BPU approved a settlement regarding PSE&G's GSMP II program, which is the next phase of our GSMP I.
Investment in R&D	Impacted for some suppliers, facilities, or product lines	PSEG is working hard to develop new, innovative approaches to environmental challenges. We are partnering with Google on the use of technology that helps us prioritize repairs as we modernize our gas distribution system – and thus substantially reduce methane leaks while improving service. As part of our innovative solar initiatives, we have a new solar battery storage project that will provide clean energy for a sewage treatment plant in West Caldwell, New Jersey, as well as backup power in the event of outages. We have been working with Nissan, among others, on efforts that encourage the adoption of electric vehicles. In addition, PSE&G is a member of ChargEVC, a not-for-profit coalition of automotive retailers, utilities, technology companies, local governments, environmental, community and labor advocates formed to identify programs and policies to accelerate electric vehicle growth in New Jersey
Operations	Impacted	The evolution of electric technology also affords opportunities to reduce PSEG's emissions profile. We are transforming our generation fleet to be cleaner and more efficient while emphasizing the continued importance of fuel diversity to ensure reliable and affordable energy. In 2017, we closed our two remaining New Jersey coal stations. Meanwhile, we are constructing three new power plants that will use highly efficient, natural gas-fired combined-cycle technology. <sup>1</sup> As we continue this transformation, emissions levels of NOx and SO2 as well as CO2 and other pollutants will be reduced from our 2005 baseline, along with residuals from the coal-burning process and the need to employ chemicals to treat them.
Other, please specify	Impacted for some suppliers, facilities, or product lines	Change is a constant in our industry and our world. Our customers' demands are changing. They want energy that is more reliable, resilient and cleaner, along with better access to smart technology that can help them manage their energy use – all while keeping bills affordable. These demands not only present a huge, multi-dimensional challenge, but also create an unparalleled opportunity to build a model energy company of the future. A multi-dimensional challenge calls for a multi-level, strategic response. That is why we are moving ahead with major infrastructure modernization investments, enhancing the reliability and resiliency of our systems and building new, clean and efficient power plants. It is also why we have invested \$1.5 billion to develop or finance solar power and put more than \$400 million to work in helping hospitals, apartment buildings, government facilities and other customers make energy efficiency improvements that reduce their bills.

**C2.6**

**(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.**

	Relevance	Description
Revenues	Impacted	Our business plan is designed to achieve growth while managing the risks associated with fluctuating commodity prices and changes in customer demand. We continue our focus on operational excellence, financial strength and disciplined investment. These guiding principles have provided the base from which we have been able to execute our strategic initiatives, including: • improving utility operations through growth in investment in T&D and other infrastructure projects designed to enhance system reliability and resiliency and to meet customer expectations and public policy objectives, and • maintaining and expanding a reliable generation fleet with the flexibility to utilize a diverse mix of fuels which allows us to respond to market volatility and capitalize on opportunities as they arise
Operating costs	Impacted	We are subject to extensive federal, state and local environmental laws and regulations regarding air quality, water quality, site remediation, land use, waste disposal, the impact on global climate, natural resources damages and other matters. These laws and regulations affect the manner in which we conduct our operations and make capital expenditures. Changes in these laws, or violations of laws, could result in significant increases in our compliance costs, capital expenditures to bring our facilities into compliance, operating costs for remediation and clean-up actions, civil penalties or damages from actions brought by third parties for alleged health or property damages. Any such increase in our costs could have a material impact on our financial condition, results of operations and cash flows and could require further economic review to determine whether to continue operations or decommission an affected facility. We may also be unable to successfully recover certain of these cost increases through our existing regulatory rate structures, in the case of PSE&G, or our contracts with our customers, in the case of Power.
Capital expenditures / capital allocation	Impacted	We utilize rigorous investment criteria when deploying capital and seek to invest in areas that complement our existing business and provide reasonable risk-adjusted returns. These areas include upgrading our energy infrastructure, responding to trends in environmental protection and providing new energy supplies in domestic markets with growing demand. In 2017, we • made additional investments in transmission infrastructure projects, • continued to execute our GSMP, Energy Strong, Energy Efficiency, solar and other existing BPU-approved utility programs, • continued construction of our Keys and Sewaren 7 generation projects for targeted commercial operation in 2018 and commenced construction of our BH5 generation project for targeted commercial operation in mid-2019, and • acquired six solar energy projects in various states totaling 88 MW-direct current (dc), for a total of 414 MW (dc) of installed capacity in 14 states throughout the U.S.
Acquisitions and divestments	Impacted for some suppliers, facilities, or product lines	Our primary investment opportunities are in two areas: our regulated utility business and our merchant power business. We continually assess a broad range of strategic options to maximize long-term stockholder value. In assessing our options, we consider a wide variety of factors, including the performance and prospects of our businesses; the views of investors, regulators and rating agencies; our existing indebtedness and restrictions it imposes; and tax considerations, among other things. Strategic options available to us include: • the acquisition, construction or disposition of T&D facilities and/or generation units, • the disposition or reorganization of our merchant generation business or other existing businesses or the acquisition or development of new businesses, • the expansion of our geographic footprint, • continued or expanded participation in solar, demand response and energy efficiency programs, and • investments in capital improvements and additions, including the installation of environmental upgrades and retrofits, improvements to system resiliency, modernizing existing infrastructure and participation in transmission projects through FERC's "open window" solicitation process. Power is developing a retail energy business to sell energy, which we believe complements our existing wholesale marketing business. Power began these marketing activities in 2017 and has been granted retail energy supplier licenses in New Jersey, Pennsylvania and Maryland
Access to capital	Impacted	
Assets	Impacted	Our investments in Keys Energy Center (Keys), Sewaren 7 and Bridgeport Harbor Station 5 (BH5) reflect our recognition of the value of opportunistic growth in the Power business.
Liabilities	Impacted	On June 1, 2017, Power completed its previously announced retirement of the generation operations of the existing coal/gas units at the Hudson and Mercer generating stations. The decision to retire the Hudson and Mercer units had a material effect on PSEG's and Power's results of operations in 2016 and continued to adversely impact their results of operations in 2017. In addition, PSEG and Power continue to monitor their other coal assets, including the Keystone and Conemaugh generating stations, to assess their economic viability through the end of their designated useful lives and their continued classification as held for use. The precise timing of a change in useful lives may be dependent upon events out of PSEG's and Power's control and may impact their ability to operate or maintain certain assets in the future. These generating stations may be impacted by factors such as environmental legislation, co-owner capital requirements and continued depressed wholesale power prices or capacity factors, among other things. Any early retirement or change in the classification as held for use of our remaining coal units may have a material adverse impact on PSEG's and Power's future financial results.
Other	Please select	

**C3. Business Strategy**

**C3.1**

**(C3.1) Are climate-related issues integrated into your business strategy?**

Yes

### C3.1a

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

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)

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**(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)**

**Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.**

Yes

### C3.1c

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### (C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

PSEG has recognized for several decades that climate change is a real phenomenon that impacts our earth. Inclusion of climate change in our business plans has been a part of the PSEG culture since 1990. PSEG recognizes that there is no simple or short-term solution to address both mitigation and adaptation of global climate change. As new challenges arise, we have adapted our business plans to develop cost-effective solutions meet these challenges. New Jersey has been in the forefront on energy evolution. The state published its first Energy Master Plan (EMP) in 1991. The development of the EMP included input from a diverse group of stakeholders, including PSEG. The plan included policy positions and implementation strategies to meet the state's energy requirements through the year 2000. One of the initial state energy policy goals was "to protect our environment through wise and efficient energy use." In particular, the EMP encouraged the development of cost-effective solar energy and demand-side energy efficiency. PSEG embraced the goals of the EMP and actively sought actions to support these goals. In parallel, the United States embraced a leadership role in developing strategies to address climate change when it signed onto the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. The objective of the UNFCCC treaty was to stabilize greenhouse gas emissions to 1990 levels by the year 2000. PSEG accepted the challenge and was the first electric utility in the United States to volunteer to participate in President Clinton's Climate Challenge Program in 1993. Our participation in the Climate Challenge Program was one mechanism to support New Jersey's goals under the EMP. We successfully met this goal and stabilized our carbon dioxide (CO<sub>2</sub>) emissions from our New Jersey plants to 1990 levels by 2000. PSEG sought additional opportunities to reduce our carbon footprint. PSE&G signed on to EPA's voluntary Natural Gas STAR Program in 1993. The Natural Gas STAR Program is designed to promote the implementation of cost-effective technologies and practices to reduce CH<sub>4</sub> emissions. Also, PSEG joined EPA's WasteWise Program in 1995. Under this program, partners demonstrate how they reduce waste and incorporate sustainable materials management into their waste-handling processes. The program provides a tool to calculate GHG emission reductions associated with recycling and waste minimization activities. PSEG's recycling rates have consistently exceeded 90 percent. Since the UNFCCC entered into force, the member countries continue to meet annually to assess the progress in addressing climate change. In December 1997, the member countries reached agreement on the Kyoto Protocol on Climate Change. The Clinton Administration committed to a requirement to reduce total emissions on average of 7% below 1990 levels; however Congress never ratified the treaty. Nevertheless, PSEG continued to acknowledge the electric utility industry's need to play a leadership role in developing national strategies to address climate change. Building on the success of the Global Climate Challenge Program, PSEG joined EPA's Climate Leaders program in 2002 to reduce the six greenhouse gases (GHGs) covered under the Kyoto Protocol – CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). Under this program, PSEG committed to reduce its CO<sub>2</sub> equivalent GHG emissions on a pound per megawatt-hour basis by 18% from 2000 levels by December 31, 2008. PSEG surpassed this goal by achieving a 31% reduction, due primarily to the fact that more than half our power comes from nuclear generation. New Jersey continued to be a leader in addressing climate change. Governor Corzine executed Executive Order No. 54 which established goals to reduce GHG emissions by 80% below 2006 levels by 2050. The passage of the Global Warming Response Act of 2007 (GWRA) supports the implementation of key elements of the Executive Order. As a leader in the energy industry and responsible corporate citizen, PSEG established a new goal of reducing economy-wide GHG emissions by 25% from 2005 levels by 2025. PSEG met this goal 14 years ahead of schedule. We achieved this goal through implementation of energy efficiency programs, deployment of renewable energy, increasing nuclear output and building clean, efficient natural gas plants. This transformation of the energy business in a cost-effective manner requires heightened collaboration with the state. Utilities can deploy capital over the long term to ensure conservation and renewable energy gains are sustained. Funding mechanisms are necessary to ensure utilities realize a fair return on investments. During this time, PSEG implemented the following:

- Received approval from NJBPU for PSE&G's Solar4All program to develop 158 megawatts of grid-connected solar capacity.
- Received approval from NJBPU for PSE&G's Solar Loan program which aids businesses and homeowners in financing solar panel installations
- Investment in grid-connected solar capacity outside of PSE&G's territory
- Received approval from NJBPU for several targeted energy efficiency programs:
- Received approval from NPBP to replace portions of PSE&G's old cast iron and unprotected steel gas mains (Gas System Modernization Program (GSMP))
- Replacement our auto fleet with hybrids and introduced the nation's first hybrid bucket trucks
- Implemented Employee Workplace Charging Programs for PSEG employees and other employers in the PSE&G territory
- Lowered our carbon footprint by making several of our facilities more energy efficient through utilization of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system. In 2012, New Jersey was hit by Superstorm Sandy. The storm's ferocity revealed the vulnerability of our infrastructure to damage from severe storms. This event prompted PSEG to consider climate change adaptation into our business plans in addition to mitigation.
- PSE&G received approval from NJBPU to invest in resilient electricity and natural gas infrastructure in the wake of Superstorm Sandy (Energy Strong Program).

Experience has shown us that developing and implementing integrated energy and environmental policies to achieve the necessary deep reductions in GHG emissions to properly address climate change requires leadership and a long-term commitment. As stated above, we have adapted our business plans to meet the short-term goals to implement cost-effective measures to mitigate and adapt to climate change. PSEG has been and continues to be ready to partner with State, Regional and Federal representatives to tackle the greatest environmental challenge of our time.

C3.1d

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

Climate-related scenarios	Details
Other, please specify	<p>PSEG does not review its business strategy in the context of any of the aforementioned climate-related scenarios but does review / stress test its business strategy related to alternative industry outcomes. PSEG has already adjusted its business strategy in reaction to increasingly aggressive federal and state public policies related to climate change. While PSEG has developed qualitative and quantitative scenarios to test how robust its business strategy would be under alternative industry outcomes, these have not been directly tied to any of the aforementioned climate-related scenarios. PSEG does subscribe to leading industry consultants (e.g. IHS Markit and WoodMackenzie) who develop their own industry scenarios which in part are driven by public policy and macro trends related to climate change. PSEG has used these consultant reports and market forecasts to develop more quantitative "what ifs" and stress testing around topics such as low gas prices and carbon pricing (i.e. carbon penalties for coal generation plants). A specific example included in PSEG's 2017 10K: "Long-lived assets represent approximately 74%, 81% and 69% of the total assets of PSEG, PSE&amp;G and Power, respectively, as of December 31, 2017. Management evaluates long-lived assets for impairment whenever events or changes in circumstances, such as significant adverse changes in regulation business climate or market conditions, including prolonged periods of adverse commodity and capacity prices, could potentially indicate an asset's or group of assets' carrying amount may not be recoverable." A specific example included in PSEG 2017 10K: "PSEG and Power continue to monitor their other coal assets, including the Keystone and Conemaugh generating stations, to assess their economic viability through the end of their designated useful lives and their continued classification as held for use. The precise timing of a change in useful lives may be dependent upon events out of PSEG's and Power's control and may impact their ability to operate or maintain certain assets in the future. These generating stations may be impacted by factors such as environmental legislation, co-owner capital requirements and continued depressed wholesale power prices or capacity factors, among other things. Any early retirement or change in the classification as held for use of our remaining coal units may have a material adverse impact on PSEG's and Power's future financial results."</p>

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

**(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e)**  
**Disclose details of your organization's low-carbon transition plan.**

PSEG believes that climate change is the preeminent challenge of our time and with it comes significant business opportunities and responsibilities. As a leader in low-carbon energy, PSEG has long advocated for federal legislation to limit and reduce GHG emissions. Absent a comprehensive legislative solution, we have supported the steps taken by states to reduce GHGs. PSEG has been factoring climate change into its business decisions and investments since the early 1990s. In 2004, through EPA's Climate Leaders Program, PSEG voluntarily pledged to reduce its GHG emissions intensity by 18% from 2000 levels by 2008. PSEG surpassed this goal by achieving a 31% reduction. PSEG's low intensity rate is due primarily to the fact that more than half of our power comes from nuclear generation.

Subsequently, PSEG established a goal of reducing GHG emissions by 25% from 2005 levels by 2025. In 2011, PSEG met that goal 14 years ahead of schedule. PSEG achieved these goals through implementation of energy efficiency programs, deployment of renewable energy, increasing nuclear output and building clean, efficient natural gas plants. PSEG continues to build on this success to further reduce emissions and provide more low-carbon energy .

In 2012, New Jersey was hit by Superstorm Sandy. The storm's ferocity revealed the vulnerability of our infrastructure to damage from severe storms. This event prompted PSEG to consider climate change adaptation into our business plans in addition to mitigation. PSE&G received approval from NJBPU to invest in resilient electricity and natural gas infrastructure in the wake of Superstorm Sandy (Energy Strong Program).

In 2016, PSE&G became a founding partner of EPA's Natural Gas STAR Methane Challenge by committing to replace 1.5% of PSEG's cast iron gas mains and associated service lines by 2021.

PSEG believes that there are tremendous opportunities to further reduce GHG emissions through energy efficiency programs, but it will require a new regulatory compact. Energy utility companies are uniquely positioned to lead in the effort to deploy more energy efficiency programs. With the right economic incentives, energy efficiency can be a much larger contributor to our low-carbon future.

On January 12, 2018 PSE&G filed a regulatory rate review with the NJBPU. As a part of this filing, PSE&G is seeking NJBPU-approval of a rate design change, called the Green Enabling Mechanism (GEM). GEM is a proposal to decouple revenues from sales volumes and thereby encourage energy efficiency. If approved, the GEM will remove the incentive to sell more energy and will instead encourage utility investments in energy efficiency, renewables and other clean energy technologies that will ultimately benefit all customers by bringing down bills and reducing emissions.

In early 2018, PSEG announced its new goal of eliminating 13 million metric tons of CO<sub>2</sub>-equivalent (MMTCO<sub>2</sub>e) by 2030 from 2005 levels. Our new goal expands upon our previous reduction goals and includes activities that avoid GHG emissions. Our new goal includes the following actions:

- Accounting for avoided emissions from the post-2005 uprates at our nuclear facilities;
- Retirement of our New Jersey and Connecticut coal plants;
- Efficiency upgrades of our existing natural gas combined cycle fleet;
- PSE&G's Gas System Modernization Program, which by replacing old cast-iron pipes with new plastic helps prevent methane leaks;
- Continued replacement of traditional fleet vehicles with hybrid vehicles and the installation of idle mitigation technology on fleet vehicles
- Solar and energy efficiency investments and programs
- Electric vehicle charging programs for our employees and our commercial/industrial customers;
- Recycling of industrial waste under EPA's Waste Wise program; and
- Emission reductions in fulfilling PSEG Power's REC commitments.

## C4. Targets and performance

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### C4.1

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

Absolute target

C4.1a

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**(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.**

**Target reference number**

Abs 1

**Scope**

Scope 1+2 (location-based)

**% emissions in Scope**

100

**% reduction from base year**

25

**Base year**

2005

**Start year**

2009

**Base year emissions covered by target (metric tons CO2e)**

26566330

**Target year**

2025

**Is this a science-based target?**

No, and we do not anticipate setting one in the next 2 years

**% achieved (emissions)**

25

**Target status**

Expired

**Please explain**

In 2009, PSEG established a goal of reducing GHG emissions by 25% from 2005 levels by 2025. In 2011, PSEG met that goal 14 years ahead of schedule.

---

**Target reference number**

Abs 2

**Scope**

Scope 1+2 (location-based)

**% emissions in Scope**

100

**% reduction from base year**

25

**Base year**

2005

**Start year**

2017

**Base year emissions covered by target (metric tons CO2e)**

26566330

**Target year**

2030

**Is this a science-based target?**

---

No, and we do not anticipate setting one in the next 2 years

**% achieved (emissions)**

**Target status**

Underway

**Please explain**

Eliminated Emissions goal of 13million metric tons of CO2e from 2005 levels by 2030. The new goal expands on the previous goal by including avoided emissions through various programs. The Eliminated Emissions goal includes, but is not limited to the following activities: • Permanent retirement of our coal units at Bridgeport, Hudson and Mercer • Efficiency upgrades at our existing natural gas combined cycle fleet • Replacement of aging cast iron natural gas distribution pipelines with new plastic pipe • Continued replacement of traditional fleet vehicles with hybrid vehicles • Implementation of idle mitigation technology on fleet vehicles • Accounting distribution system • Accounting for avoided emissions from our electric vehicle charging programs for our employees and our commercial/industrial customers • Accounting for avoided emissions from our recycling of industrial waste under EPA's Wastewise program • Accounting for avoided emissions from PSEG Power's REC commitments avoided emissions for post-2005 uprates at our nuclear facilities • Accounting for avoided emissions from our solar programs, both in the utility and the merchant power business units • Accounting for avoided emissions from energy efficiency programs implemented through both our electric and gas

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C4.2

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**(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.**

**Target**

Renewable energy consumption

**KPI – Metric numerator**

**KPI – Metric denominator (intensity targets only)**

**Base year**

2005

**Start year**

2010

**Target year**

2030

**KPI in baseline year**

**KPI in target year**

**% achieved in reporting year**

**Target Status**

Underway

**Please explain**

The Eliminated Emissions goal includes, Replacement of aging cast iron natural gas distribution pipelines with new plastic pipe • Continued replacement of traditional fleet vehicles with hybrid vehicles • Implementation of idle mitigation technology on fleet vehicles • Accounting distribution system • Accounting for avoided emissions from our electric vehicle charging programs for our employees and our commercial/industrial customers • Accounting for avoided emissions from our recycling of industrial waste under EPA's WasteWise program • Accounting for avoided emissions from PSEG Power's REC commitments Accounting for avoided emissions from our solar programs, both in the utility and the merchant power business units • Accounting for avoided emissions from energy efficiency programs implemented through both our electric and gas

**Part of emissions target**

**Is this target part of an overarching initiative?**

Please select

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**Target**

Renewable energy consumption

---

**KPI – Metric numerator**

**KPI – Metric denominator (intensity targets only)**

**Base year**

2005

**Start year**

2017

**Target year**

2030

**KPI in baseline year**

**KPI in target year**

**% achieved in reporting year**

**Target Status**

Please select

**Please explain**

The Eliminated Emissions goal includes, Replacement of aging cast iron natural gas distribution pipelines with new plastic pipe • Continued replacement of traditional fleet vehicles with hybrid vehicles • Implementation of idle mitigation technology on fleet vehicles • Accounting distribution system • Accounting for avoided emissions from our electric vehicle charging programs for our employees and our commercial/industrial customers • Accounting for avoided emissions from our recycling of industrial waste under EPA's WasteWise program • Accounting for avoided emissions from PSEG Power's REC commitments Accounting for avoided emissions from our solar programs, both in the utility and the merchant power business units • Accounting for avoided emissions from energy efficiency programs implemented through both our electric and gas

**Part of emissions target**

**Is this target part of an overarching initiative?**

Please select

**Target**

Zero/low-carbon vehicle

**KPI – Metric numerator**

**KPI – Metric denominator (intensity targets only)**

**Base year**

2005

**Start year**

2017

**Target year**

2030

**KPI in baseline year**

**KPI in target year**

**% achieved in reporting year**

**Target Status**

Underway

**Please explain**

The Eliminated Emissions goal includes, Replacement of aging cast iron natural gas distribution pipelines with new plastic pipe • Continued replacement of traditional fleet vehicles with hybrid vehicles • Implementation of idle mitigation technology on fleet vehicles • Accounting distribution system • Accounting for avoided emissions from our electric vehicle charging programs for our employees and our commercial/industrial customers • Accounting for avoided emissions from our recycling of industrial waste under EPA's WasteWise program • Accounting for avoided emissions from PSEG Power's REC commitments Accounting for avoided emissions from our solar programs, both in the utility and the merchant power business units • Accounting for avoided emissions from energy efficiency programs implemented through both our electric and gas

**Part of emissions target**

Is this target part of an overarching initiative?

Please select

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#### C-OG4.2a

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(C-OG4.2a) Explain, for your oil and gas production activities, why you do not have a methane-specific emissions reduction target or do not incorporate methane into your targets reported in C4.2; and forecast how your methane emissions will change over the next five years.

#### C4.3

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

Yes

#### C4.3a

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

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	3	24000000
To be implemented*	1	139900
Implementation commenced*	1	
Implemented*	6	419589
Not to be implemented		

#### C4.3b

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

**Activity type**

Energy efficiency: Building services

**Description of activity**

Building controls

**Estimated annual CO2e savings (metric tonnes CO2e)**

**Scope**

Scope 1

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

**Investment required (unit currency – as specified in CC0.4)**

**Payback period**

Please select

**Estimated lifetime of the initiative**

---

21-30 years

**Comment**

PSEG's energy efficiency programs have targeted a range of stakeholders over the past several years, from hospitals and government entities to homeowners and small-business operators. These initiatives have included: • Hospital Efficiency Program • Residential Whole House Efficiency Program • Direct Install Program for Small Businesses, Government Facilities and Non-Profits • Residential Multifamily Housing Program Through these programs, we pay the up-front costs for the energy efficiency work and participants repay a portion of the cost over time, interest-free, on their utility bill. We have already invested nearly \$400 million in these efforts, and in August 2017 received approval from the New Jersey Board of Public Utilities to invest an additional \$69 million to extend the Hospital Efficiency Program, the Residential Multifamily Housing Program and the Direct Install for Small Businesses, Government Facilities and Non-Profits Pro-gram. The recent BPU approval will also allow PSE&G to initiate a new Smart Thermostat As of year-end 2017, PSE&G had 249 gigawatt hours (electric) and 8.3 MTherms (gas) of energy efficiency solutions installed throughout our service area.

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**Activity type**

Low-carbon energy installation

**Description of activity**

Solar PV

**Estimated annual CO2e savings (metric tonnes CO2e)**

100367.7

**Scope**

Scope 1

**Voluntary/Mandatory**

Mandatory

**Annual monetary savings (unit currency – as specified in CC0.4)**

**Investment required (unit currency – as specified in CC0.4)**

**Payback period**

Please select

**Estimated lifetime of the initiative**

Please select

**Comment**

Solar 4 All® is a 158-megawatt-dc (MW-dc) program that utilizes rooftops, solar farms, utility poles and landfills/brownfields for large-scale, grid-connected solar projects. As of December 2017, more than 124 MW-dc of the 158 MW-dc total are in service.

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**Activity type**

Low-carbon energy installation

**Description of activity**

Solar PV

**Estimated annual CO2e savings (metric tonnes CO2e)**

102426.13

**Scope**

Scope 1

**Voluntary/Mandatory**

Mandatory

**Annual monetary savings (unit currency – as specified in CC0.4)**

**Investment required (unit currency – as specified in CC0.4)**

**Payback period**

Please select

**Estimated lifetime of the initiative**

Please select

**Comment**

The 177.5 MW-dc Solar Loan Program is the second piece of PSE&G's solar development strategy. This program encourages business and residential customers in our electric service territory to install solar energy systems on their homes and businesses. PSE&G solar loans can help make solar ownership affordable by financing a major portion of the solar system and providing a unique repayment option that locks in a guaranteed value of the Solar Renewable Energy Certificates the system is expected to generate. PSE&G's program has made approximately \$271 million of financing available through year-end 2017 to help homeowners and businesses develop more than 1,400 solar installations (98 MW of solar capacity). The loans generally finance up to 70% of the total cost of the solar installation and are can be repaid using solar renewable energy credits (SRECs), which are generated by the solar installation.

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**Activity type**

Low-carbon energy installation

**Description of activity**

Solar PV

**Estimated annual CO2e savings (metric tonnes CO2e)**

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

**Investment required (unit currency – as specified in CC0.4)**

**Payback period**

Please select

**Estimated lifetime of the initiative**

Please select

**Comment**

PSEG Solar Source, a subsidiary of PSEG Power Ventures, develops, owns and operates utility-scale solar facilities outside our New Jersey service area. PSEG Solar Source has been able to expand its portfolio to 22 utility-scale solar projects in 14 states. The company has 24 facilities with a total capacity of 414 MWdc in operation

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**Activity type**

Other, please specify (EVs)

**Description of activity**

<Not Applicable>

**Estimated annual CO2e savings (metric tonnes CO2e)**

**Scope**

Scope 2 (location-based)

Scope 3

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

**Investment required (unit currency – as specified in CC0.4)**

**Payback period**

Please select

**Estimated lifetime of the initiative**

Please select

**Comment**

PSE&G continues to take action to lower the emissions from our own fleet of vehicles. We have improved the fuel efficiency of our fleet by 15 percent over the past five years. Almost 50 percent of our light-duty vehicles are now hybrids, and 66 percent of our aerial lift trucks now have electric drives, allowing the operation of the lift without running the engine. We have also increased the purchases of aerial lift trucks with a "cab comfort option" which reduces engine idling time by running the cab temperature control equipment off of the electric drive battery.

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C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	Since our electric rates are regulated, we are only allowed to pass along costs to customers for activities that are deemed to be economically prudent or mandated by law. These regulations governing emissions from existing electric generators could drive significant investment in the future.
Dedicated budget for energy efficiency	Energy Efficiency 2017 Program (EE 2017)—In August 2017, the BPU approved PSE&G's petition for EE 2017 to extend three existing energy efficiency subprograms (multi-family, direct install and hospital efficiency) and establish two new residential energy efficiency offerings. The two new offerings include deployment of smart thermostats and a pilot program to provide residential customers with energy usage information enabling them to reduce consumption. EE 2017, as approved, allows PSE&G to extend the subprogram offerings and establish the residential energy efficiency sub-programs under its existing energy efficiency clause recovery process. The EE 2017 allows for \$69 million of additional investment and \$16 million of additional administrative and information technology costs. The EE 2017 was added as the eleventh component of the Green Program Recovery Charges (GPRC) rate effective September 1, 2017
Dedicated budget for low-carbon product R&D	Examples are "Smart" electric vehicle infrastructure: residential, workplace, multi-family, travel corridors •Battery Storage: Utility-scale systems to defer traditional distribution investment, enable additional solar, and enhance critical infrastructure resiliency
Dedicated budget for other emissions reduction activities	Funds are allocated specifically for emissions reduction initiatives, including building energy efficiency, fugitive emissions reductions, pipeline upgrades, and the purchase of alternative-fuel fleet vehicles.
Employee engagement	Different programs available such as Workplace charging, share rides, employee giving and volunteer opportunities with our environmental partners.
Financial optimization calculations	All investments are optimized using a carbon price and other assumptions related to regulatory risk, including those presented by carbon.
Internal price on carbon	PSEG uses an internal price of carbon in all generation planning decisions, which influences and encourages investment in low-carbon generation and divestment of high-carbon generation

C4.5

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

Yes

C4.5a

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

**Level of aggregation**

Group of products

**Description of product/Group of products**

Utility Customer, Energy Efficiency Programs

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

Avoided emissions

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

Other, please specify (MWh avoided times regional emissions )

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

**Comment**

Assisting customer in reducing their electric use and overall peak demand on the system through coordinated educational programs and energy efficiency products and services.

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**Level of aggregation**

Group of products

**Description of product/Group of products**

Renewable and Low Emissions Electric Generation

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

Low-carbon product and avoided emissions

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

Other, please specify (MWh generation times national average )

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

**Comment**

Solar Interconnection Process: PSE&G has very supportive interconnection policies for distributed energy resources (DERs) including solar energy projects. To date, PSE&G has more than 1,000 MW of solar installed in its territory, and the interconnection process takes no more than 15 to 20 business days. While most utilities restrict solar energy penetration to 15% of the rate capacity on a circuit, PSE&G has adopted far more aggressive policies by allowing 50% of a circuit's capacity to be saturated with solar, and all residential solar projects are permitted to interconnect to the grid regardless of the amount of solar saturation on a specific circuit. Other policies have also been implemented to support solar adoption in PSE&G territory including, changes to the power factor guidelines to support solar energy on heavily saturated circuits, that shows the ability of the local distribution to accept solar energy, a concierge service for customers to work directly with PSE&G's interconnection experts to better understand the interconnection feasibility of the proposed project, and the development of an on-line portal where customers will be able to apply for interconnection and check the status of their project (available in 2018). These policies combine to make PSE&G one of the most progressive utilities in the country for supporting solar energy projects.

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**Level of aggregation**

Group of products

**Description of product/Group of products**

Development of Renewable Distributed Generation Systems

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

Low-carbon product and avoided emissions

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

Other, please specify

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

**Comment**

Siting and construction of distributed generation for customers including creative financing options and coordination with meeting their electricity needs.

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## C-EU4.6

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### **(C-EU4.6) Describe your organization's efforts to reduce methane emissions from your electricity generation activities.**

PSE&G is in the process of replacing up to 510 miles of gas mains and 38,000 service lines that began in 2016 and will run through 2019 under its Gas System Modernization Program (GSMP). Aging cast iron pipes will be replaced with strong, durable plastic piping, which is much less likely to have leaks and release methane gas. Replacement of the pipelines will be prioritized through joint methane emissions study with the Environmental Defense Fund (EDF). In May 2018, the BPU approved a settlement regarding PSE&G's GSMP II program, which is the next phase of our GSMP I. Under GSMP II, PSE&G expects to invest \$1.9 billion over five years beginning in 2019 to replace approximately 875 miles of cast iron and unprotected steel mains in addition to other improvements to the gas system

PSE&G is a long-time participant in EPA's Natural Gas STAR program, a voluntary initiative that encourages natural gas companies to adopt cost-effective technologies and practices that reduce methane emissions. As of 2013, we have had cumulative reductions of methane emissions of 574,285 thousand cubic feet (Mcf) since joining the program in 1993. Since 2011, PSE&G has reduced methane emissions 2% for a total of 32,000 million tons of CO2 equivalent. Additional reductions are expected under PSE&G's GSMP. In 2016, PSE&G became a founding partner of EPA's Natural Gas STAR Methane Challenge by committing to replace 1.5% of PSEG's cast iron gas mains and associated service lines by 2021.

## C-OG4.6

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### **(C-OG4.6) Describe your organization's efforts to reduce methane emissions from oil and gas production activities.**

No Oil and Gas Business

## COG4.7

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### **(C-OG4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?**

No, this is not relevant to our operations

## C-OG4.7b

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### **(C-OG4.7b) Explain why you do not conduct LDAR or use other methods to find and fix fugitive methane emissions, and whether you have a plan to do so from your oil and gas production activities.**

No Oil and Gas Business

## C-OG4.8

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### **(C-OG4.8) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.**

No Oil and Gas Business

## C5. Emissions methodology

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## C5.1

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

### Scope 1

**Base year start**

January 1 2005

**Base year end**

December 31 2005

**Base year emissions (metric tons CO2e)**

24898116

**Comment**

### Scope 2 (location-based)

**Base year start**

January 1 2005

**Base year end**

December 31 2005

**Base year emissions (metric tons CO2e)**

1668214

**Comment**

### Scope 2 (market-based)

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

## C5.2

---

**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.**

The Climate Registry: Electric Power Sector (EPS) Protocol  
US EPA Mandatory Greenhouse Gas Reporting Rule

## C6. Emissions data

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### C6.1

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

**Row 1**

**Gross global Scope 1 emissions (metric tons CO2e)**

12080838.48

**End-year of reporting period**

<Not Applicable>

**Comment**

Total absolute Scope 1 GHG emissions, reported as tonnes CO2e, covering: o Direct fuel emissions from stationary sources o Fugitive emissions from natural gas pipeline o Coal pile emissions o Fugitive emissions from leakage of refrigerants and SF6 o Vehicle fleet

**C6.2**

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

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

**Comment**

**C6.3**

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

**Row 1**

**Scope 2, location-based**

962345.76

**Scope 2, market-based (if applicable)**

<Not Applicable>

**End-year of reporting period**

<Not Applicable>

**Comment**

Total absolute Scope 2 emissions, reported as tonnes CO2e, using location-based method o Facilities electric use o Transmission and distribution line losses from electricity not generated in PSEG's power operations

**C6.4**

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

Yes

**C6.4a**

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

**Source**

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Please select

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

Please select

**Explain why the source is excluded**

Optional sources have not been included in this inventory. PSEG may reevaluate this in the future. Due to the quantity of emissions from direct sources, optional emissions would not be expected to have a material impact on this inventory. During ERM's recent assurance activities they identified a number of minor sources which are not yet included in the inventory. The recommendation is therefore to further analyze these sources and document their materiality for the consolidated corporate data

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**C6.5**

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

**Purchased goods and services**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

1438338

**Emissions calculation methodology**

WRI Economic Input Output. We categorize our spend data into capital goods (c), materials (m), and services (s). The PSEG Managed Categories were further sorted into type of spend based on the economic input-output (EIO) model categorization. All spend that represented 0.01% and above was considered material.

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

0

**Explanation**

PSEGs spend on purchased goods and services includes spend for purchased goods and materials not including fuels for the year 2017.

**Capital goods**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

2594290

**Emissions calculation methodology**

WRI Economic Input Output. We categorize our spend data into capital goods (c), materials (m), and services (s). The PSEG Managed Categories were further sorted into type of spend based on the economic input-output (EIO) model categorization. All spend that represented 0.01% and above was considered material.

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

0

**Explanation**

PSEG spend on capital goods was primarily related to equipment required for the business for the year 2017.

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

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

3045815

### Emissions calculation methodology

the fuel-and-energy related activities data is collected and calculated for coal, nuclear, and natural gas. Where the data comes from and the specific methodology for each of these sources are as follows: 1.) Coal - PSEG tracks the monthly shipments of coal arriving at the facility. The calculation of GHG includes: i.) For the Conemaugh and Keystone sites, GHG emissions associated with mining and rail transportation from Pennsylvania coal mines; ii.) For the Bridgeport site, GHG emissions associated with mining, trucking, barge and shipping from Indonesia coal mines to Bridgeport. 2.) Nuclear - PSEG track the electricity generated from nuclear. This was converted to GHG emissions using emissions factors for mining and milling, conversion, enrichment, fuel fabrication of uranium (also known as front end process). 3.) PSEG collects and tracks the natural gas delivered by suppliers on a monthly basis. This was used to estimate the well to wheel (well to site) emissions associated with natural gas production. Across all of the fuel types, assumptions were made for the transportation of fuels to PSEG. In alignment with the Scope 3 Guidance, where possible, ERM made conservative estimates.

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

10

### Explanation

PSEG's fuel and energy related activities, not captured as part of Scope 1 and 2 GHG emissions, include upstream emissions associated with the purchase of coal and natural gas fuels. Fuel and energy related activities are a significant source of Scope 3 emissions since it incorporates transportation and disposal of some of our fuels. Nuclear fuels are excluded from these calculations because there is limited information available on upstream GHG emissions.

## Upstream transportation and distribution

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

PSEG's supply chain primarily consists of upstream purchased electricity and natural gas. Energy use and losses in transporting electricity and natural gas is accounted for in our Scope 1 and Scope 2 emissions. The other material transportation and distribution emissions upstream are captured in Scope 3: Fuel-and-energy-related activities (not included in Scope 1 or 2) (Category 3). Therefore, the emissions associated with upstream transportation and distribution are zero (0).

## Waste generated in operations

### Evaluation status

Not relevant, calculated

### Metric tonnes CO2e

9714

### Emissions calculation methodology

PSEG collects data on the volume of waste generated by our utilities and other business. This information is converted to GHG emissions using the EPA Warm v14 tool. In this tool, the total waste by disposal method is converted to GHG emissions using average waste treatment specific emissions factors. GHG emissions from waste was only calculated for wastes that are material (i.e. greater than 0% of total waste volumes by disposal method type). This estimation only includes emissions from waste that is landfilled or incinerated. The emissions resulting from recycled material or wastewater are not included in accordance with the Scope 3 Guidance. The EPA Warm Tool uses life cycle emissions to estimate emissions from recycled material. This emission factor is therefore "negative." However, Scope 3 guidance recommends that the emissions from recycled material are accounted by the company that buys recycled material. Emissions from recycled material are not included. The Scope 3 guidance provides that recycled material should only be included for material recovery only if these are not included in the emission factor for the material purchased by a company using these specific materials. Therefore, to avoid double counting, emissions from the recycling process should be included in the recycled material emission factor and reported by the company using recycled material. Emissions from wastewater are also not included as utilities are not included according to the Scope 3 Guidance. Although the WARM Tool provides what the avoided emissions from recycling would be, the Scope 3 Guidance recommends that companies should only report avoided emissions if they are able to provide data to support that the emissions were avoided (i.e. that their materials were collected, recycled, and used to create new products).

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

#### Explanation

GHG emissions associated with waste are not material and only represent 0% of our Scope 3 inventory. PSEG has set the threshold for Scope 3 materiality at 1% of Scope 3 emissions.

## Business travel

### Evaluation status

Not relevant, calculated

### Metric tonnes CO2e

3293

### Emissions calculation methodology

PSEG collects data on expenditures from airfare, bus, fuel, mileage, taxi, and trains. GHG emissions from business travel. This expenditure in dollars was used as an input to the economic input output model to estimate GHG emissions.

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

#### Explanation

GHG emissions associated with employee commuting are not material and only represent 0% of our Scope 3 inventory. PSEG has set the threshold for Scope 3 materiality at 1% of Scope 3 emissions.

## Employee commuting

### Evaluation status

Not relevant, calculated

### Metric tonnes CO2e

66

### Emissions calculation methodology

PSEG publicly reports data on employees by state for the primary locations. In 2017, PSEG had approximately 12,945 full time employees, with around 74% based in our Newark, NJ offices; 18% based in our Uniondale, NY offices; and the rest based in our offices elsewhere. Average mode-type and mileage were extrapolated from this using the 2016 US Census Data and National Household Travel Survey to make assumptions about commuting types and distance associated with single-person, carpooling and public commuting. This information was converted into GHG emissions using emission factors from the US EPA Climate Leadership 2016 Direct Emissions from Mobile Combustion Sources and the GHG Protocol's Mobile Combustion v2.6 Average Light Rail, Tram and Subway.

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

### Explanation

GHG emissions associated with employee commuting are not material and only represent 0% of our Scope 3 inventory. PSEG has set the threshold for Scope 3 materiality at 1% of Scope 3 emissions.

## Upstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

PSEG assets are directly managed by PSEG and are included in Scope 1 and 2 GHG emissions. PSEG does not have any upstream leased assets, therefore GHG emissions from this source are zero (0).

## Downstream transportation and distribution

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

PSEG is an energy company delivering energy through the grid and pipelines. We capture losses associated with the downstream transportation and distribution of energy through the grid and pipelines in our Scopes 1, 2 and 3: Category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2), therefore, GHG emissions from this source are zero (0).

## Processing of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

PSEG is an energy company focused on providing safe, reliable, economic and green energy, our activities are focused on the delivery of energy through the grid and pipelines. We do not sell have any processing of intermediate products, therefore GHG emissions from this source are zero (0).

## Use of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

6459945

### Emissions calculation methodology

PSEG is required to report GHG emissions that would result from the complete combustion or oxidation of the natural gas we purchase and sell to our customers under the EPA Greenhouse Gas Reporting Program (GHGRP) Subpart NN. The emissions from end users excluding companies in our corporate umbrella are estimated in the Subpart NN. We have subtracted out the emissions from companies in our corporate umbrella from the emissions that are reported in Subpart NN to ensure that we do not double count. The amount of gas that we receive in our system is higher than the amount of natural gas sold or disbursed to end users.

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

### Explanation

This is our most significant source of Scope 3 emissions as we provide natural gas to end users. This estimate does not include the emissions from electricity that is transmitted using PSEG lines but not generated by PSEG.

## End of life treatment of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

### Emissions calculation methodology

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

### Explanation

PSEG provides energy directly to customers and they are accounted for in Scope 3: Use of sold products (Category 11). We promote energy efficiency products and the GHG emissions associated with those products are captured as part of Scope 3: Purchased goods and services (Category 1). Therefore, the GHG emissions from this source are zero (0).

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

### Emissions calculation methodology

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

### Explanation

PSEG assets are directly managed by PSEG and are included in Scope 1 and 2 GHG emissions. PSEG does not have any downstream leased assets; therefore, GHG emissions from this source are zero (0).

## Franchises

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

### Emissions calculation methodology

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

### Explanation

PSEG does not have any franchise agreements; therefore Scope 3 GHG emissions associated with PSEG franchise related activities are zero (0).

## Investments

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

PSEG uses the equity approach for assets that PSEG exercises operational and/or financial control. Where PSEG has co-owns a facility, the emissions are apportioned to the Scope 1 and 2 inventory by percentage ownership. Any emissions associated with our investments are captured in our Scope 1 and 2 GHG emissions. Therefore, Scope 3 GHG emissions associated with PSEG investment related activities are zero (0).

## Other (upstream)

### Evaluation status

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

PSEG does not have any other upstream activities that could result in Scope 3 GHG emissions. Therefore, we estimate emissions from this source are zero (0).

## Other (downstream)

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

### Emissions calculation methodology

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

### Explanation

PSEG decommissioned two coal and gas plants (Hudson and Mercer) in 2017, however, end of life emissions associated have been captured under Purchased goods and services, Capital goods and Waste (Categories 1, 2 and 5). This approach follows the GHG Protocol's guidance for Scope 3 reporting and therefore, the emissions associated from this source are zero (0).

## C6.7

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### (C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

## C6.10

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

**Intensity figure**

409

**Metric numerator (Gross global combined Scope 1 and 2 emissions)**

13043184

**Metric denominator**

megawatt hour generated (MWh)

**Metric denominator: Unit total**

54959088

**Scope 2 figure used**

Location-based

**% change from previous year**

**Direction of change**

<Not Applicable>

**Reason for change**

According to the M.J Bradley & Associates Benchmarking report on Air Emissions of the 100 Largest Electric Power Producers in the United States published in June 2018 PSEG ranked third among the investor owned utilities in the US on Carbon Intensity (Lbs Co2e/MWh). The trend in 2017 was determined by Rretirement of two coal units Hudson and Mercer and open of new solar developments.

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**C-OG6.12**

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**(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO2e) per unit of hydrocarbon category.**

**C-OG6.13**

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**(C-OG6.13) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.**

**C7. Emissions breakdowns**

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**C7.1**

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**(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?**

Yes

**C7.1a**

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	11261215.9	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	30754.67	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	775607.9	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	1972.71	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	2522.96	Please select

**C-EU7.1b**

**(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.**

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives		673013.8	1973		
Combustion (Electric utilities)	10805893.14				
Combustion (Gas utilities)		669006.4			
Combustion (Other)		503856.59			
Emissions not elsewhere classified					

**C-OG7.1b**

**(C-OG7.1b) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.**

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives (Oil: Total)				No Oil and Gas Business
Fugitives (Oil: Venting)				No Oil and Gas Business
Fugitives (Oil: Flaring)				No Oil and Gas Business
Fugitives (Oil: E&P, excluding venting and flaring)				No Oil and Gas Business
Fugitives (Oil: All Other)				No Oil and Gas Business
Fugitives (Gas: Total)				No Oil and Gas Business
Fugitives (Gas: Venting)				No Oil and Gas Business
Fugitives (Gas: Flaring)				No Oil and Gas Business
Fugitives (Gas: E&P, excluding venting and flaring)				No Oil and Gas Business
Fugitives (Gas: Midstream)				No Oil and Gas Business
Fugitives (Gas: All other)				No Oil and Gas Business
Combustion (Oil: Upstream, excluding flaring)				No Oil and Gas Business
Combustion (Gas: Upstream, excluding flaring)				No Oil and Gas Business
Combustion (Refining)				No Oil and Gas Business
Combustion (Chemicals production)				No Oil and Gas Business
Combustion (Electricity generation)				No Oil and Gas Business
Combustion (Other)				No Oil and Gas Business
Process emissions				No Oil and Gas Business
Emission not elsewhere classified				No Oil and Gas Business

**C7.2**

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

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	12080838.48

**C7.3**

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

By business division

### C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
PSEG Power	11355875.7
PSE&G	716198.51

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

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	12080838	<Not Applicable>	
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)		<Not Applicable>	No Oil and Gas Business
Oil and gas production activities (downstream)		<Not Applicable>	No Oil and Gas Business
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

### C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	962345.75			

### C7.6

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

By business division

### C7.6a

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

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
PSE&G	962345.75	

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

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)			No Oil and Gas Business
Oil and gas production activities (downstream)			No Oil and Gas Business
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

**C7.9**

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

Decreased

**C7.9a**

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		
Other emissions reduction activities		<Not Applicable>		
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		No change
Mergers		<Not Applicable>		No change
Change in output		<Not Applicable>		Our Hudson and Mercer coal plants were closed in June 2017.
Change in methodology		<Not Applicable>		NO CHANGE
Change in boundary		<Not Applicable>		NO CHANGE
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

## C7.9b

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

Location-based

## C8. Energy

### C8.1

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

More than 35% but less than or equal to 40%

### C8.2

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

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

## C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)		99205224	
Consumption of purchased or acquired electricity	<Not Applicable>		54764.8	
Consumption of purchased or acquired heat	<Not Applicable>		55990.54	
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>			
Consumption of self-generated non-fuel renewable energy	<Not Applicable>		<Not Applicable>	
Total energy consumption	<Not Applicable>			

## C8.2b

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

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

## C8.2c

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

**Fuels (excluding feedstocks)**

Coal

**Heating value**

Please select

**Total fuel MWh consumed by the organization**

70691754

**MWh fuel consumed for the self-generation of electricity**

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

**MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

Please select

**Total fuel MWh consumed by the organization**

28513470.5

**MWh fuel consumed for the self-generation of electricity**

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

**MWh fuel consumed for self- cogeneration or self-trigeneration**

<Not Applicable>

---

**C8.2d**

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**(C8.2d) List the average emission factors of the fuels reported in C8.2c.**

**Coal**

**Emission factor**

93.28

**Unit**

metric tons CO2e per million Btu

**Emission factor source**

**Comment**

**Natural Gas**

**Emission factor**

53.06

**Unit**

kg CO2e per million Btu

**Emission factor source**

Table C-1, Subpart C of Part 98

**Comment**

**C8.2e**

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity				
Heat				
Steam				
Cooling				

**C-EU8.2e**

---

**(C-EU8.2e) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.**

**Coal – hard**

**Nameplate capacity (MW)**

1159

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

5419418

**Absolute scope 1 emissions (metric tons CO2e)**

5219622.4

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

## Lignite

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)

Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)

Comment

## Oil

Nameplate capacity (MW)

121

Gross electricity generation (GWh)

Net electricity generation (GWh)

682119

Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)

444530

Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)

Comment

## Gas

Nameplate capacity (MW)

1235

Gross electricity generation (GWh)

Net electricity generation (GWh)

13681270

Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)

5585138

Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)

Comment

## Biomass

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)

Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)

Comment

## Waste (non-biomass)

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)

Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)

Comment

**Nuclear**

**Nameplate capacity (MW)**

3715

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

31808157

**Absolute scope 1 emissions (metric tons CO2e)**

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

**Geothermal**

**Nameplate capacity (MW)**

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

**Absolute scope 1 emissions (metric tons CO2e)**

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

**Hydroelectric**

**Nameplate capacity (MW)**

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

**Absolute scope 1 emissions (metric tons CO2e)**

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

**Wind**

**Nameplate capacity (MW)**

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

**Absolute scope 1 emissions (metric tons CO2e)**

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

**Solar**

**Nameplate capacity (MW)**

414

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

66668

**Absolute scope 1 emissions (metric tons CO2e)**

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

**Other renewable**

**Nameplate capacity (MW)**

210

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

270140

**Absolute scope 1 emissions (metric tons CO2e)**

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

**Other non-renewable**

**Nameplate capacity (MW)**

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

**Absolute scope 1 emissions (metric tons CO2e)**

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

**Total**

**Nameplate capacity (MW)**

**Gross electricity generation (GWh)**

**Net electricity generation (GWh)**

**Absolute scope 1 emissions (metric tons CO2e)**

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

**Comment**

C8.2f

---

**(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.**

C-EU8.4

---

**(C-EU8.4) Does your electric utility organization have a global transmission and distribution business?**

Yes

C-EU8.4a

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**(C-EU8.4a) Disclose the following information about your global transmission and distribution business.**

**Country/Region**

United States of America

**Voltage level**

Transmission (high voltage)

**Annual load (GWh)**

40740

**Scope 2 emissions (basis)**

Location-based

**Scope 2 emissions (metric tons CO2e)**

962345.7

**Annual energy losses (% of annual load)**

13

**Length of network (km)**

36063

**Number of connections**

2200000

**Area covered (km2)**

17440.7

**Comment**

Connections 2.2 million electric and 1.8 million gas

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**C9. Additional metrics**

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**C9.1**

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

**Description**

Waste

**Metric value**

16675.84

**Metric numerator**

Waste Disposed

**Metric denominator (intensity metric only)**

**% change from previous year**

330

**Direction of change**

Decreased

**Please explain**

PSEG reduced its overall GHG footprint through waste reduction and recycling programs. Since 1995, PSEG's recycling rates have consistently exceeded 90 percent. Hence, EPA inducted PSEG into its Hall of Fame for its Wastewise voluntary waste reduction program.

---

**Description**

Energy use

**Metric value**

54764808

**Metric numerator**

Kwh

**Metric denominator (intensity metric only)**

**% change from previous year**

**Direction of change**

<Not Applicable>

**Please explain**

Centralized Facilities Management has started an initiative and is leading a cross functional team including IT, Renewables and Energy Services , along with Procurement, to improve the energy efficiency at many of our locations within the PSEG portfolio. This initiative is focused on standardizing Building Management Systems and Lighting Controls as well as incorporating asset upgrades that were previously identified as Energy Conservation Measures in our Level II Energy Audits. Our goal is to standardized controls and fixtures upgrades that will reduce consumption and optimize our maintenance efficiency of these assets.

---

**Description**

Energy use

**Metric value**

1910933

**Metric numerator**

therms

**Metric denominator (intensity metric only)**

**% change from previous year**

**Direction of change**

<Not Applicable>

**Please explain**

C-EU9.5a

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**(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.**

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Please select			2020	We are executing the following growth projects which are included in the 2018-2020 planned capital spend of \$520 million for Fossil Growth Opportunities: Keys Energy Center gas-fired combined cycle generating station (755 MW) in Maryland (2018), Sewaren 7 dual-fueled combined cycle generating station (540 MW) in New Jersey (2018), Bridgeport Harbor 5 gas-fired combined cycle generating station (485 MW) Connecticut (2019) , Bethlehem Energy Center (BEC) combined cycle uprate (56 MW) New York (2019) and Bergen dual-fueled combined cycle uprate (32 MW) New Jersey 2020

**C-EU9.5b**

**(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).**

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
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**C-CO9.6/C-EU9.6/C-OG9.6**

**(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.**

**Investment start date**

**Investment end date**

**Investment area**

Equipment

**Technology area**

Infrastructure

**Investment maturity**

Large scale commercial deployment

**Investment figure**

2670000000

**Low-carbon investment percentage**

**Please explain**

PSE&G's projections for future capital expenditures include material additions and replacements to its transmission and distribution systems to meet expected growth and to manage reliability. As project scope and cost estimates develop, PSE&G will modify its current projections to include these required investments. PSE&G's projected expenditures for the various items reported above are primarily comprised of the following: • Transmission—investments focused on reliability improvements and replacement of aging infrastructure. • Distribution—investments for new business, reliability improvements, and replacement of equipment that has reached the end of its useful life. • Energy Strong—Electric and Gas Distribution reliability investment program focused on system hardening and resiliency. • Gas System Modernization Program—Gas Distribution investment program to replace aging infrastructure. • Solar/Energy Efficiency—investments associated with grid-connected solar, solar loan programs, and customer energy efficiency programs. In November 2017, the BPU issued an order approving PSE&G's net investment of \$100 million to rebuild New Jersey Transit's Mason electric distribution substation and related facilities in Kearny, New Jersey. This project is expected to be completed in December 2021. In 2017, PSE&G made \$2,919 million of capital expenditures, primarily for transmission and distribution system reliability. This does not include expenditures for cost of removal, net of salvage, of \$107 million, which are included in operating cash flows.

## C-OG9.7

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**(C-OG9.7) Disclose the breakeven price (US\$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid/ share buybacks.**

## C10. Verification

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### C10.1

---

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

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

### C10.1a

---

**(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.**

**Scope**

Scope 1

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

PSEG 2017 GHG Verification Statement FINAL 30May2018 (3).pdf

**Page/ section reference**

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

PSEG 2017 GHG Verification Statement FINAL 30May2018 (3).pdf

**Page/ section reference**

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

## C10.2

---

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

No, but we are actively considering verifying within the next two years

## C11. Carbon pricing

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### C11.1

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

Yes

### C11.1a

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**(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.**

RGGI

### C11.1b

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**(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.**

**RGGI**

**% of Scope 1 emissions covered by the ETS**

18.6

**Period start date**

January 1 2017

**Period end date**

December 31 2017

**Allowances allocated**

0

**Allowances purchased**

2245509

**Verified emissions in metric tons CO<sub>2</sub>e**

2245509

**Details of ownership**

Facilities we own and operate

**Comment**

### C11.1d

---

**(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?**

Our strategy is first to cost-effectively minimize emissions through investments in operational efficiency and clean energy and then to procure and surrender emissions allowances as required under the programs.

### C11.2

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

No

### C11.3

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

Yes

## C11.3a

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### (C11.3a) Provide details of how your organization uses an internal price on carbon.

#### Objective for implementing an internal carbon price

Navigate GHG regulations  
Drive low-carbon investment  
Stress test investments  
Identify and seize low-carbon opportunities

#### GHG Scope

Scope 1  
Scope 2

#### Application

#### Actual price(s) used (Currency /metric ton)

#### Variance of price(s) used

#### Type of internal carbon price

Please select

#### Impact & implication

PSEG uses a cost on carbon in its market fundamentals analysis to guide our investments in new and existing electric generation projects and help to guide the implementation of our strategic plan. PSEG typically models several wholesale power price scenarios based on a combination of factors including fossil fuel prices, economic growth, and the effects of state and federal policies. To inform management of the long-term potential impacts and opportunities of carbon policy, PSEG continually conducts near- and long-term modeling to best determine and inform our daily market positions, near-term portfolio management, and investment and development decisions. We identify and regularly review key market drivers, including potential regulatory or policy influences such as a price on carbon, and use them in our ongoing analysis to capture a range of plausible future outcomes and develop our overall strategy. Regulation of carbon is one of many considerations in our planning models, and results are weighed with other issues that may impact market conditions.

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## C12. Engagement

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### C12.1

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

Yes, our customers  
Yes, other partners in the value chain

### C12.1b

---

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

**Type of engagement**

Education/information sharing

**Details of engagement**

Run an engagement campaign to education customers about your climate change performance and strategy

**Size of engagement**

100

**% Scope 3 emissions as reported in C6.5**

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

**Impact of engagement, including measures of success**

---

**Type of engagement**

Please select

**Details of engagement**

<Not Applicable>

**Size of engagement**

**% Scope 3 emissions as reported in C6.5**

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

**Impact of engagement, including measures of success**

---

**Type of engagement**

Education/information sharing

**Details of engagement**

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

**Size of engagement**

100

**% Scope 3 emissions as reported in C6.5**

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

**Impact of engagement, including measures of success**

---

**Type of engagement**

Education/information sharing

**Details of engagement**

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

**Size of engagement**

**% Scope 3 emissions as reported in C6.5**

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

**Impact of engagement, including measures of success**

---

**C12.1c**

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**(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.**

PSEG engages with this community via the Sustainability Report, and through stakeholder outreach discussions on an individual basis and with groups of stakeholders. During 2017 PSEG met with stakeholder groups to outline its infrastructure investment plans including plans to invest in Clean Energy via Energy Efficiency, Renewables, Electric Vehicle charging systems, reliability upgrades for gas distribution that will reduce methane and electric system reliability upgrades that will increase delivery efficiency including transmission systems. Throughout the year PSEG conducted an education campaign to promote the benefits of maintaining the use of nuclear power generation as the backbone of New Jersey's current Clean Energy profile and its role as the foundation for deployment of the Clean Energy systems discussed above. PSEG partners with various stakeholder organizations including the New Jersey Climate Adaptation Alliance, NRDC, EDF, the NJ League of Conservation Voters, ReThink Energy NJ and others; to identify policies that will promote responsible climate adaptation/mitigation actions.

**C12.3**

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

- Direct engagement with policy makers
- Trade associations
- Funding research organizations
- Other

**C12.3a**

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**(C12.3a) On what issues have you been engaging directly with policy makers?**

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Cap and trade	Support with minor exceptions	PSEG' engagement occurs through various forms of communication with regulators, Policy makers and stakeholders. These discussions generally occur at the federal level given the global scope of the underlying issue. Also, PSEG has worked collaboratively with other power utilities and environmental groups to support the RGGI program	PSEG has long been supporting of Federal price on Carbon whether thru Cap and trade system or carbon tax.
Carbon tax	Neutral	PSEG' engagement occurs through various forms of communication with regulators, Policy makers and stakeholders. These discussions generally occur at the federal level given the global scope of the underlying issue. Also, PSEG has worked collaboratively with other power utilities and environmental groups to support the RGGI program	PSEG has long been supporting of Federal price on Carbon whether thru Cap and trade system or carbon tax.
Energy efficiency	Support	PSEG supports federal and state policy initiatives to improve the energy efficiency of the U.S. economy. PSEG supports reasonable and justified policies that do not adversely impact any individual customers or businesses, including PSEG. Engagement occurs through various forms of communication with regulators, policymakers and stakeholders. This engagement occurs both at the federal level as well as the state level on energy efficiency legislation and potential regulations. Engagement is focused especially on those state officials and regulators involved in setting the required amounts of energy efficiency to be achieved by our customers. PSEG supports policies that promote sustainable communities through its investment in organizations such as Sustainable Jersey and the PSEG Institute of Sustainability Studies at Montclair State University.	Consistent with New Jersey's recently enacted energy efficiency legislation, PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program. The program, which PSE&G expects to file with the BPU later this year, includes: \$2.5 billion for energy efficiency to reduce customer bills and lower energy use, which will decrease air pollution, including emissions that accelerate climate change; \$300 million for building a "smart" electric vehicle infrastructure; and \$100 million for utility-scale energy storage systems that will enable greater development of renewable resources and enhance resiliency.
Clean energy generation	Support	PSEG supports the use of clean energy generation including nuclear, high efficiency natural gas combined cycle, and renewables including energy storage. In 2017 PSEG retired its two remaining New Jersey coal generation plants and has announced the retirement of its Bridgeport, CT plant in 2021. PSEG ranked as the fourth lowest emitter of CO2 among the 20 largest electric generators in the United States in 2016.	Over the last few years, low natural gas prices have impacted fuel diversity options for central station power generators forcing tough choices for operators of existing nuclear facilities. During 2017 and into 2018 PSEG engaged in a broad stakeholder outreach process. The process was designed to promote the positive attributes of nuclear energy and the importance of maintaining this generation source to ensure achievement of the State's future clean energy goals. Our efforts led to the enactment of legislation that will provide economic support for the continued operation of Salem and Hope Creek nuclear as part of New Jersey's energy mix. This combined with separate clean energy legislation will serve as the foundation for New Jersey's energy strategy moving into the next several decades."
Adaptation or resilience	Support	PSEG is a founding member of the New Jersey Climate Adaptation Alliance and through this organization has promoted the research, reporting and development of policies that promote adaptation across various business interests, geographic regions and community demographics (in particular low income and Environmental Justice communities).	Consistent with New Jersey's recently enacted energy efficiency legislation, which is more fully described under Part II, Item 5. Other Information, PSE&G has outlined a clean energy proposal to invest \$2.9 billion over six years in energy efficiency and other programs that will reduce energy bills and combat climate change, which we refer to as our Clean Energy Future program. The program, which PSE&G expects to file with the BPU later this year, includes: \$2.5 billion for energy efficiency to reduce customer bills and lower energy use, which will decrease air pollution, including emissions that accelerate climate change; \$300 million for building a "smart" electric vehicle infrastructure; and \$100 million for utility-scale energy storage systems that will enable greater development of renewable resources and enhance resiliency.
Climate finance	Support	PSEG supports policies that will decouple rates from energy usage and improve the ability for utilities to invest in EE, Renewables and EV infrastructure. It also supports the use of funds generated via market mechanisms such as the RGGI to spur investment in these areas and incentivize expansion of clean energy infrastructure deployment, research to develop new technologies.	The regulatory base rate review petition filed by PSE&G on January 12, 2018 includes a proposal for a "Green Enabling Mechanism" (GEM). If approved, GEM will ensure that PSE&G's business and regulatory framework aligns well with policies that encourage investment in wide-scale energy efficiency programs and other clean energy solutions
Regulation of methane emissions	Support	PSEG has worked to cost-effectively prevent methane emissions through a combination of proactive system improvements thru our Gas System Modernization program and other efforts and our voluntary participation in EPA's Natural Gas STAR program. Additionally, we participate in several methane reduction stakeholder groups, including EPA's Natural Gas STAR Methane Challenge Program and we work on an ongoing basis with some environmental organizations to understand methane emissions from the natural gas delivery system and ways to reduce methane leak rates.	

C12.3b

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

Yes

C12.3c

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**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

**Trade association**

Electric Edison Institute (EEI)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

As Congress works to address this issue, it is essential to include effective consumer protection measures that help to reduce price increases for consumers and avoid harm to U.S. industry and the economy.

**How have you, or are you attempting to, influence the position?**

PSEG actively participates as member of several committees and leadership positions within EEI

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**Trade association**

US Chamber of Commerce

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

From their website: A deeper understanding of the issues and developing science associated with the environment and climate change will influence national and global energy, economic, and environmental policy choices. Balancing these priorities requires greater consideration of the complex processes driving climate change and increased attention to adaptation measures. We must increase our investment in climate science, which will enable us to adjust policies as scientific understanding advances. At the federal level, we need better coordination and collaboration across agencies for policy coherence and balance.

**How have you, or are you attempting to, influence the position?**

PSEG is a member of the U.S. Chamber of Commerce, as are many of our customers. we actively engage on a range of issues including environmental matters.

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**Trade association**

American Gas Association (AGA)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

From website: AGA works with members and leading experts to evaluate how new federal environmental regulatory proposals could impact natural gas local distribution systems and customers. We advocate for government rules and policies that protect the environment while allowing our natural gas utility members to continue to deliver clean, affordable natural gas to customers, safely and reliably

**How have you, or are you attempting to, influence the position?**

PSEG actively participates as member of several committees and leadership positions within AGA

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**Trade association**

Nuclear Energy Institute (NEI)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

From website: "Reducing carbon dioxide emissions, while fostering sustainable development is a major global challenge of the 21st century. Nuclear energy is a vital source of electricity that can meet the nation's growing energy needs with a secure, domestic energy" supply that also protects our air quality.

**How have you, or are you attempting to, influence the position?**

PSEG actively participates as member of several committees and leadership positions within NEI

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**C12.3d**

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**(C12.3d) Do you publicly disclose a list of all research organizations that you fund?**

No

**C12.3e**

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**(C12.3e) Provide details of the other engagement activities that you undertake.**

PSEG is a founding member of the New Jersey Climate Adaptation Alliance, which was formed in 2011 by a diverse group of stakeholders. The Alliance will focus on climate change preparedness in key impacted sectors (public health; watersheds, rivers and coastal communities; built infrastructure; agriculture; and natural resources) through: Conducting outreach and education of the general public and targeted sectoral leaders, developing recommendations for state and local actions through collaboration with policymakers at the state, federal and local levels, Undertaking demonstration and pilot projects in partnership with the private sector, local governments, non-governmental organizations, and others, identifying science, research and data needs; and developing capacity for implementation of preparedness measures and documentation of best practices.

PSEG has been part of Sustainable Jersey's development and success since its formation in 2011 and has provided funding for the small grants municipal and schools program. Sustainable Jersey's mission aligns with ours in its commitment to sustainability, especially by fostering a new generation of informed citizens and promoting a healthier environment in communities across New Jersey including the implementation of clean energy systems. Sustainable Jersey has established a supportive framework for communities and schools working toward sustainability. PSEG's underwriting of the Small Grants Program has enhanced Sustainable Jersey's ability to support core program functions, manage the certification program and provide technical assistance to communities. The Small Grants Program helps participants implement sustainability initiatives that improve the quality of life for their residents and communities.

The PSEG Institute of Sustainability Studies at Montclair State University provides program support for sustainable communities and businesses. PSEG funding is matched with other funding sources to provide internship opportunities to students from MSU and other New Jersey universities to serve on the Green Teams and complete sustainability focused projects. As a transdisciplinary field comprising STEM disciplines (e.g., mathematics, geology, geography, engineering, statistics, chemistry, biochemistry, biology, and computer science) and integrated across business and behavioral and social sciences, sustainability engages students to benefit corporations and communities alike.

As a compliment to the Sustainable Jersey for Schools funding, PSEG supports a diverse range of funding for environmentally based education programs. These programs provide further support to attain Sustainable Jersey certification, expanded subject matter including energy and endangered species topics and leadership opportunities for students. The National Wildlife Federation's Eco-Schools program managed by its New Jersey affiliate, New Jersey Audubon provides project pathways along with teacher training and staff support for schools that are partners in developing sustainable projects. Through Eco-Schools, PSEG also provides support for the New Jersey School Boards Association's Steam Tank program where teams of student design projects and compete for funding at the annual NJSBA conference.

Spurred by the state's experience with Superstorm Sandy and New Jersey's strong association with the Shore, PSEG provided a grant to Stevens University where students designed and built a prototype for a new kind of sustainable, resilient home meant to withstand the threats of rising sea levels and survive increasingly damaging storms. It was appropriately called a "SURE House" – short for SUsustainable and REsilient but which, phonetically, sounds like "Shore House." The efforts of the Stevens team earned national recognition, winning the Department of Energy's competition against students from a dozen other highly regarded universities.

The house is impressive and reflects a New Jersey beach feel. It has solar panels that can be pulled down to protect wall-to-ceiling windows during a storm, uses 90 percent less energy than a typical New Jersey home and uses innovative building materials to maximize efficient cooling and heating.

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PSEG not only underwrote a portion of the research and construction of Stevens' championship SURE House, but also paid to transport it to the competition in Irvine, California, and then paid to bring it back to its current home at Liberty Science Center in Jersey City, where it can now be toured and serve as an inspiration for others.

Princeton E-affiliates Partnership: PSEG is a general member of the Princeton E-affiliates Partnership which is housed in Princeton's Andlinger Center for Energy and the Environment. The Andlinger Center is a "multidisciplinary research and education center, whose singular mission is to develop technologies and solutions to better our energy and the environmental future".

## C12.3f

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

As a company whose operations can be significantly impacted by public policies, it is essential that PSEG takes an active role in the political process and the debate that ultimately shapes public policy. PSEG regularly communicates with government officials on issues affecting our business, participates in trade associations that focus on policies which may influence our company and makes political contributions that align with the long-term interests of PSEG and our stockholders, our employees and the communities we serve.

Memberships in all directly funded or supported organizations are regularly reviewed by the Corporate Contributions and Public Affairs groups within PSEG to ensure consistency. Additionally, executives and/or subject matter experts hold either board level or advisory positions within many of these organizations to further ensure consistency with PSEG's overall strategy.

"PSEG's climate strategy is built around three primary structural areas; promoting energy efficiency, maintaining diverse clean central station power generation and deployment of renewable energy sources. Success of the overall strategy depends on the ongoing vitality of all three areas. In addition, as a responsible corporate citizen, we have sought cost-effective solutions to meet New Jersey's climate mitigation goals. In 2007, New Jersey established an aggressive goal to reduce greenhouse gas emissions by 80% below 2006 levels by 2050 under the Global Warming Response Act.

Over the last few years, low natural gas prices have impacted fuel diversity options for central station power generators forcing tough choices for operators of existing nuclear facilities. During 2017 and into 2018 PSEG engaged in a broad stakeholder outreach process. The process was designed to promote the positive attributes of nuclear energy and the importance of maintaining this generation source to ensure achievement of the State's future clean energy goals. Our efforts led to the enactment of legislation that will provide economic support for the continued operation of Salem and Hope Creek nuclear as part of New Jersey's energy mix. This combined with separate clean energy legislation will serve as the foundation for New Jersey's energy strategy moving into the next several decades."

## C12.4

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

**Publication**

In voluntary sustainability report

**Status**

Underway – previous year attached

**Attach the document**

sustainability\_report2017.pdf

**Content elements**

Governance

Strategy

Emissions figures

Emission targets

Other metrics

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## C14. Signoff

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### C-FI

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

### C14.1

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**(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

	Job title	Corresponding job category
Row 1	Energy and Sustainability Policy Manager	Environment/Sustainability manager

## SC. Supply chain module

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### SC0.0

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

### SC0.1

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

	Annual Revenue
Row 1	

SC0.2

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

Please select

SC1.1

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

SC1.2

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

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges
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SC1.4

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

Please select

SC2.1

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

SC2.2

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

Please select

### SC3.1

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**(SC3.1) Do you want to enroll in the 2018-2019 CDP Action Exchange initiative?**

Please select

### SC3.2

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**(SC3.2) Is your company a participating supplier in CDP's 2017-2018 Action Exchange initiative?**

Please select

### SC4.1

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**(SC4.1) Are you providing product level data for your organization's goods or services, if so, what functionality will you be using?**

Please select

### SC4.2d

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**(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?**

Please select

### Submit your response

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**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors Customers	Yes, submit Supply Chain Questions now

**Please confirm below**

I have read and accept the applicable Terms