EDISON INTERNATIONAL®
Energy for What's Ahead®

2018 SUSTAINABILITY REPORT

Edison International partnered with nonprofit CALSTART to bring zero-emissions buses to local schools

EDISON INTERNATIONAL®

Energy for What's Ahead®

INTRODUCTION

LEADING THE TRANSFORMATION

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APPENDIX

May 2019

INTRODUCTION

Hunter Rice, Metroeast Region Engineer, at SCE's Large Apparatus Repair (LARS) facility in Westminster, California

CEO LETTER

At Edison International, our diverse and talented team of over 12,500 women and men is passionate about leading the transformation of the electric power industry. We're creating a future where carbon-free resources power the economy. At the core of our vision is our **commitment to sustainability**, in particular to doing our part to respond to the societal challenge of our time — climate change and its impacts, including wildfires. As a company with more than 130 years of history, we know that doing well by making a positive impact and delivering value to all of our stakeholders is the foundation of our success. It's also the right thing to do.

Our principal subsidiary, Southern California Edison (SCE), is a national leader in **clean energy**. In 2018, 46% of the power we delivered to customers came from **carbon-free resources**, and we're charting a path toward 80% by 2030. SCE celebrated the installation of the 1,000th electric car charge port as part of its **award-winning Charge Ready Pilot** and launched the **largest truck and transit charging program in the nation**. These programs are not just helping California meet the most aggressive greenhouse gas (GHG) reduction goals in the nation, they're improving local air quality for the underserved communities most impacted by vehicle pollution.

Our competitive business, **Edison Energy**,* is helping market-leading companies and other organizations, including 12 of the Fortune 50, manage energy and meet their own sustainability goals through advanced analytics. In 2018, customers publicly announced more than 450 MW of renewable energy purchasing agreements structured by Edison Energy, while Edison Energy helped customers manage their energy usage more efficiently and with reduced emissions.

Executing on our vision over the long term cannot happen without adapting our business, and helping our communities adapt, to the **impacts of climate change**. Last year in California, almost 2 million acres burned and close to 100 lives were tragically lost due to catastrophic wildfires exacerbated by climate change. Our thoughts are with all of those who have been impacted, and we're doubling down on our efforts to **prevent and respond to wildfires**. Our actions at SCE are going well beyond standard industry practices and compliance requirements and include hundreds of millions of dollars of investment to harden our grid, enhance situational awareness of fire risk conditions, and expand our operational practices to mitigate the risk of our equipment igniting a wildfire. We're complementing these operational activities with philanthropic support, training, and community partnerships to do our part to build a resilient region.

As we look to the future, we're embracing digital technologies in all we do and accelerating the transformation of our industry. Using data analytics, SCE's **Reliability Operations Center** prevented more than 500,000 minutes of power interruption by early prediction and detection of equipment failures last year. We not only leveraged digital capabilities to **automate back-end processes** and **help customers save on energy**, but also to identify downed wires and de-energize circuits, resolving hazards within just minutes.

Meeting the challenges and opportunities ahead is a big job, and powering our team is our commitment to lead from the front on diversity and inclusion. As signatories to **Paradigm for Parity** and **CEO Action for Diversity & Inclusion**, we're working toward gender parity and broader diversity and representation in our corporate leadership. Last year, our leadership team had a candid discussion with employees through our Women's Roundtable Business Resource Group about **pay equity** and the gender gap in corporate leadership, along with the work we're doing to support underrepresented talent at our company and across society. At year-end 2018, women represented 27% of Edison International's Board of Directors and 33% of executives.

This report is part of the ongoing dialogue we strive to maintain with our stakeholders. Please share your thoughts with us at **sustainability@edisonintl.com**.

Pedro J. Pizarro
President and Chief Executive Officer
Edison International

* Edison Energy is not the same company as Southern California Edison, the utility, and Edison Energy is not regulated by the California Public Utilities Commission.

COMPANY OVERVIEW

At Edison International (NYSE:EIX), our vision is to lead the transformation of the electric power industry toward a clean energy future. Through our subsidiaries, we distribute and generate electric power, as well as provide energy services and technologies, including renewable energy. Headquartered in Rosemead, California, Edison International is the parent company of Southern California Edison (SCE), one of the nation's largest electric utilities. Edison International is also the parent company of Edison Energy, an independent advisory and services company with advanced analytic capabilities to design the optimal energy portfolio solution for large commercial and industrial customers. Edison Energy is independent from Southern California Edison.*

ABOUT THIS REPORT

This report reflects our sustainability strategy and 2018 sustainability performance and related metrics. It is organized around the areas that are most important to the long-term success of our business — leading the transformation of the electric power industry and operating our business with excellence by focusing on customers, communities, and employees, with safety as our top value.

This report, which is an annual snapshot in time, references specific disclosures from the Global Reporting Initiative's (GRI) Standards, as well as disclosures from the GRI Electric Utility Sector Supplement. See the complete GRI index and visit our website for the latest sustainability news.

We strive to be responsive to all of our stakeholders, including customers, communities, employees, investors, suppliers, regulators, and legislators, and to be transparent and straightforward when we discuss our sustainability performance. Your feedback informs our reporting. To share your thoughts and suggestions, please contact us at sustainability@edisonintl.com.

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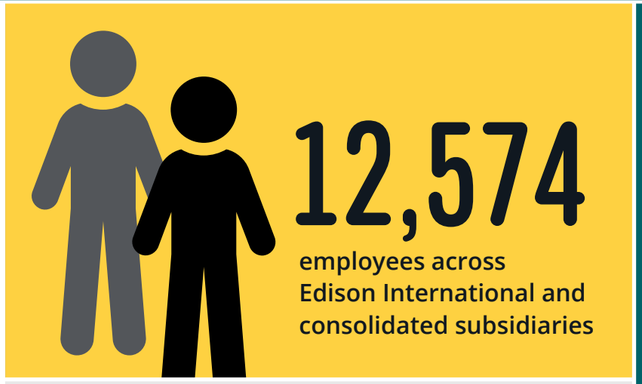

50,000 square miles
of SCE service area across coastal, central, and southern California

118,000
miles of SCE distribution and transmission lines

More than **80%** of SCE-delivered power from third-party sources

Edison Energy serves **12** Fortune 50 companies.

SCE service area covers **15M** residents.

46% of SCE-delivered power from carbon-free resources

No coal in owned generation or contracts for specified resources

$12.7B
Edison International and consolidated subsidiary operating revenue

OUR VALUES

Our values of **Safety**, **Integrity**, **Excellence**, **Respect**, **Continuous Improvement**, and **Teamwork** guide our business and are the foundation of a safe and inclusive work environment. Throughout our 130+ year history, the character of our people has shaped our success and defined these values. Learn more about our commitment to upholding our values in our Employee Code of Conduct and our Supplier Code of Conduct.

We live
SAFETY

We conduct our business with
INTEGRITY

We pursue
EXCELLENCE

We treat everyone with
RESPECT

We strive for
CONTINUOUS IMPROVEMENT

We recognize the strength of
TEAMWORK

DRIVING SUSTAINABILITY

Sustainability is integral to our vision to lead the transformation of the electric power industry toward a clean energy future. From how we manage our operations, to how we engage with our stakeholders, to how we deliver on our promise to provide safe, reliable, affordable, and clean power — we are committed to doing our work with a long-term view in mind. As a company with roots dating back to 1886, we know that our success is tied to the strength and health of the communities that make up where we live and serve. We believe that we have a responsibility to make a positive impact on society and are committed to doing our part to respond to broader societal challenges.

ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) MATERIALITY

In order to identify the ESG topics that are fundamental to our long-term success, we completed an ESG materiality assessment in line with best practice in March 2018. The assessment, which included internal and external stakeholder perspectives and was reviewed by the Edison International Managing Committee,[1] identified 19 ESG topics as priorities. Many of the topics relate to our strategy and core operations, and the results are an input into our ongoing strategic planning efforts. We recognize that the assessment reflects a single point in time and look forward to continuing engagement with our stakeholders on these issues.

OUR MATERIAL ESG ISSUES

A "material" ESG issue is one that has the potential to impact long-term sustainability, based on the perspectives of internal and external stakeholders. This is different from, but related to, financial materiality, which is a threshold for influencing the economic decisions of investors. Read the definitions of our material ESG issues.

Transition to a Clean Energy Future

- Climate Change & Greenhouse Gas (GHG) Emissions
- Grid Modernization & Innovation
- Local Air Quality
- Renewable Energy & Distributed Energy Resources
- Service & Product Innovation
- Transportation Electrification
- Business Model

Operations & Governance

- Cyber & Physical Security
- Environmental Footprint
- Governance, Transparency & Compliance
- Infrastructure Reliability & Resilience
- Public Policy Engagement
- Water Use & Management

Customers, Communities & Employees

- Safety & Health
- Affordability & Access
- Community Development
- Customer Relations
- Diversity & Inclusion
- Employee Engagement & Workforce Development

[1] The Edison International Managing Committee is the top management committee in the company and consists of Edison International and SCE executive officers. Edison International members include the President & CEO, Executive Vice President (EVP) and Chief Financial Officer, EVP and General Counsel, and the Senior Vice President (SVP) of Strategy and Corporate Development. SCE members include the CEO and President. Joint Edison International and SCE members include the SVP of Corporate Affairs and SVP of Human Resources.

ESG OVERSIGHT

Our Board of Directors oversees safety, climate change, and other ESG risks and opportunities as an integral part of its oversight of the company's strategy. The Board's oversight includes annual in-depth strategy meetings and regular updates from management on corporate sustainability issues such as energy and environmental legislation and regulation, risks arising from climate-related activities, stakeholder engagement on safety, climate change and other ESG concerns, and corporate goals. Oversight of specific ESG-related issues is allocated among the Board's four standing committees.

Edison International's SVP of Strategy and Corporate Development leads the development of our ESG strategy and periodically briefs the Edison International Managing Committee on ESG risks and opportunities.

REPORTING & DISCLOSURE

We voluntarily disclose ESG information through a program developed by the Edison Electric Institute (EEI), the investor-owned electric utility industry's trade association, in collaboration with investors and member companies. Through the program, we and peer utilities provide investors and other stakeholders with relevant, consistent, and easily accessible ESG data. Our report using the EEI template is available on our website.[2]

[2] Data included in the EEI template may differ from data included herein in order to conform to the reporting requirements of the EEI template, which is industry-standardized.
[*] Edison Energy is not the same company as Southern California Edison, the utility, and Edison Energy is not regulated by the California Public Utilities Commission.

2018 INCENTIVES FOR PERFORMANCE

Our annual incentives for performance are based on financial, strategic, and operational goals tied to key elements of our clean energy vision and core operations, including many related to our material ESG issues. The 2018 goals are summarized below; for more information, see Edison International's and SCE's 2019 Joint Proxy Statement (pp. 37–39).

Building on our work from 2018, our 2019 goals include a new Wildfire Resiliency category with the goal of improving the resiliency of the electric infrastructure and our communities and seeking public policy reform needed to ensure financially healthy utilities to support California's environmental objectives.

Edison International	(%)
Financial Performance Core earnings goal	60
Safety Includes goals related to hazard awareness and injury rate	10
Strategy, Transformation & Growth Includes goals related to business and clean energy strategy including: transportation electrification and grid modernization; affordable customer rates; Edison Energy;* and other initiatives	20
Diversity, People & Culture Includes goals related to diversity, employee engagement, and safety culture	10
Foundational Goals Includes goals related to safety, compliance, and system operations	Deduct only

Southern California Edison	(%)
Financial Performance Core earnings goal	40
Operational & Service Excellence Includes goals related to safety, including: hazard awareness and injury rate; affordable customer rates; system reliability; customer satisfaction; and other initiatives	Safety: 10 Other goals: 15
Policy, Growth & Innovation Includes goals related to business and clean energy strategy including: transportation electrification and grid modernization; customer service; and other initiatives	25
Diversity, People & Culture Includes goals related to diversity, employee engagement, safety culture, and Diverse Business Enterprise spend	10
Foundational Goals Includes goals related to safety, compliance, and system operations	Deduct only

2018 AT A GLANCE

Transition to a Clean Energy Future

46%

of the electricity that SCE delivered came from carbon-free resources.

Close to 80% of this carbon-free electricity, or 36% of SCE's total, came from California eligible renewable resources.

450+MW

of off-site renewable energy procurement

deals announced for Edison Energy* customers

$356M

of SCE investment through 2024 to launch the nation's largest truck and transit charging program

1,000+

electric car charge ports installed through SCE's Charge Ready Pilot.

Total installed since pilot inception through year-end 2018.

Operations & Governance

20 MINUTE

reduction in SCE's System Average Interruption Duration Index (SAIDI)

for lowest repair SAIDI on record**

500+K

customer minutes of interruption (CMI) avoided

due to SCE's new ability to predict early equipment failure using advanced analytics

55%

of Edison International board directors were female and/or from a diverse racial/ethnic background at year-end.

27%

lower energy bills than national average

SCE has the lowest system average rate among California investor-owned utilities.

Customers, Communities & Employees

$20M

in total philanthropy*

including $1.2 million in scholarships to 30 Edison Scholars

TOP QUARTILE J.D. POWER

2018 Business Electric Utility Customer Satisfaction Study

SCE ranked second: up three positions from 2017.

46.73%

procurement spend

with Diverse Business Enterprises at SCE, totaling $2.13 billion

BEST PLACES TO WORK FOR LGBTQ EQUALITY

Human Rights Campaign Corporate Equality Index (100% score) for 11th year in a row

* Edison Energy is not the same company as Southern California Edison, the utility, and Edison Energy is not regulated by the California Public Utilities Commission.
** Cumulative duration (in minutes) of sustained repair outages, lasting longer than five minutes, experienced by the average customer in a year (excluding major event days).
*** In February 2019, the Edison International Board approved a $3 million donation to the Edison International Wildfire Assistance Fund to enhance community resiliency and wildfire prevention and mitigation. This affects the 2019 data year and is not reflected here.

SUSTAINABILITY SCORECARD

COMPANY OVERVIEW	2016	2017	2018
Net Income (millions)	$1,311	$565	($423)
Core Earnings (millions)**	$1,294	$1,466	$1,351
Basic Earnings per Share	$4.02	$1.73	($1.30)
Core Earnings per Share**	$3.97	$4.50	$4.15
Total Operating Revenue (millions)	$11,869	$12,320	$12,657
Total Assets (millions)	$51,319	$52,580	$56,715
Total Annual Capital Expenditures (millions)	$3,734	$3,828	$4,363
Number of Customer Accounts*	5,060,528	5,094,818	5,126,985
Number of Employees	12,390	12,521	12,574
Board of Directors: Total Number of Directors	11	11	11

TRANSITION TO A CLEAN ENERGY FUTURE	2016	2017	2018	2017–2018 Comparison
Renewables Portfolio Standard: Eligible Renewables (% of delivered electricity)*	28.3%	31.6%	36.5%	●
CO_2e Emissions from Owned Electricity Rate (lbs/MWh)*	322	250	186	●
CO_2e Emissions from Delivered Electricity Rate (lbs/MWh)*	529	549	513Δ	●
Scope 1 Emissions (million metric tons CO_2e)*,***	2.4	1.9	1.1	●
Scope 2 Emissions (million metric tons CO_2e)*	1.6	1.3	1.2Δ	●
Scope 3 Emissions (million metric tons CO_2e)*	20.6	16.6	15.8Δ	●
SF_6 Emissions Rate*,***	1.4%	1.5%	1.9%	●
SF_6 Emissions (million metric tons CO_2e)*,***	0.152	0.168	0.213	●
NO_x Emissions Rate of UOG (lbs/MWh)*	0.068	0.080	0.152	●

Comparison between 2017 and 2018

● Better ● No change ● Worse

CO_2e – Carbon dioxide equivalent

MWh – Megawatt-hour

NO_x – Nitrogen oxide

Scope 1 – Emissions under direct control of the company, including utility-owned generation, stationary combustion, fleet, and SF_6 from transmission and distribution equipment

Scope 2 – Indirect emissions required for business processes, including transmission losses and facility energy use

Scope 3 – Indirect emissions released as a consequence of the activities of the company, including specified and unspecified power purchases

SF_6 – Sulfur hexafluoride

SO_2 – Sulfur dioxide

UOG – Utility-Owned Generation

* All metrics reflect data associated with Edison International and its consolidated subsidiaries, with the exception of metrics denoted by (*), which reflect SCE data only, and the "Community Investments" metrics related to contributions to nonprofit organizations by employees and employee and retiree volunteer hours, which reflect Edison International and SCE data only.

** See Non-GAAP Reconciliations and Use of Non-GAAP Financial Measures on pp. 68-69 in the Appendix.

*** The SF_6 emissions reporting program has been under review and data was not included in the originally-published version of this report. The 2016 and 2017 values shown here differ from data published in past reports and have been updated to align with corrections made to compliance filings.

Δ 2018 values for CO_2e Emissions from Delivered Electricity, Scope 2, Emissions and Scope 3 Emissions have been updated from the originally-published version of the report. They were reported as 507 lbs/MWh, 1.1 million metric tons, and 15.6 million metric tons, respectively, in the original version and have been updated to reflect a correction made to the source data.

	2016	2017	2018	2017–2018 Comparison
NO_x Emissions from UOG (metric tons)*,¶¶	157.1	153.5	147.6	●
SO_2 Emissions Rate of UOG (lbs/MWh)*	0.005	0.005	0.005	●
SO_2 Emissions from UOG (metric tons)*,¶¶	10.4	8.9	4.7	●
Mercury Emissions from UOG (lbs/MWh)*	0	0	0	●
Customer Energy Efficiency: GWh % of CPUC Goals*	113%	128%	140%	●
Customer Energy Efficiency: MW % of CPUC Goals*	107%	127%	139%	●
Customer Energy Efficiency: (MW)*	286	292	286	●
Percent of Active Customer Accounts with Smart Meters*	99.11%	99.15%	99.17%	●
OPERATIONS & GOVERNANCE				
System Reliability: SAIFI (occurrences, repair only)*,†	0.99	0.87	0.72	●
System Reliability: SAIDI (minutes, repair only)*,†	109.98	91.72	71.25	●
System Reliability: CAIDI (minutes, repair only)*,†	110.69	105.40	99.58	●
Board of Directors: Females as % of Directors	27%	27%	27%	●
Board of Directors: Diverse Race/Ethnicity as % of Directors	45%	45%	36%	●
Board of Directors: Self-Identified LGBT††	—	—	9%	—
Board of Directors: Combined Diversity as % of Directors†††	64%	64%	55%	●
Environmental-Related Inspections with No NOVs Issued (% of total inspections)*	97%	97%	99%	●
Environmental-Related Settlements, Fines, and Penalties*	$3,003,218	$21,137	$483,575	●
Number of Air Permit Noncompliance Events with Fine*	2	3	0	●
Number of Water Permit Noncompliance Events with Fine*	2	1	1	●
Consumptive Water Use — Fossil Fuel Generation (million gallons)*	703	637	317	●
Amount of Hazardous Waste Disposed (tons)*,‡	17,098	9,089	8,169	●
Habitat Protected, Enhanced, or Restored (acres)*,‡‡	3,206	3,906	3,944	●
CUSTOMERS, COMMUNITIES & EMPLOYEES				
Safety: Employee OSHA Recordable Rate	1.92	2.03	1.95	●

Comparison between 2017 and 2018

● Better ● No change ● Worse

CAIDI – Customer Average Interruption Duration Index

CPUC – California Public Utilities Commission

GWh – Gigawatt-hour

NOV – Notice of Violation

SAIDI – System Average Interruption Duration Index

SAIFI – System Average Interruption Frequency Index

* All metrics reflect data associated with Edison International and its consolidated subsidiaries, with the exception of metrics denoted by (*), which reflect SCE data only, and the "Community Investments" metrics related to contributions to nonprofit organizations by employees and employee and retiree volunteer hours, which reflect Edison International and SCE data only.

† Excludes major event days.

†† Edison International began reporting this metric in 2018.

††† Female and/or diverse race/ethnicity as % of total number of directors.

‡ Includes federal- and state- regulated hazardous waste disposed of via landfill, incineration, wastewater treatment, or chemical treatment. 2016 and 2017 numbers have been updated to conform to these parameters. Previous reports included landfilled hazardous waste only.

‡‡ Indicator is for habitats protected, enhanced, or restored to support natural habitat and biodiversity as required for mitigation.

¶¶ The 2016 values for NO_x, previously reported as 157.7 metric tons, and SO_2, previously reported as 11.8 metric tons, in the 2016 and 2017 sustainability reports, have been corrected.

	2016	2017	2018	2017–2018 Comparison
Safety: Employee Lost Workday Case Rate	0.58	0.76	0.72	●
Safety: Employee DART Rate	0.80	0.97	0.96	●
Safety: Employee Fatalities	2	0	0	—
Safety: Contractor OSHA Recordable Rate	0.89	0.71	0.92	●
Safety: Contractor DART Rate	0.66	0.37	0.55	●
Safety: Contractor Fatalities	2	0	2	●
Customer Satisfaction: J.D. Power & Associates Survey Results — Electric Residential (out of possible score of 1000)*	682	726	725	●
Customer Satisfaction: J.D. Power & Associates Survey Results — Electric Business (out of possible score of 1000)*	763	759	776	●
Diversity: Females as % of Workforce§	30%	30%	31%	●
Diversity: Females as % of Management§§	30%	28%	30%	●
Diversity: Females as % of Executives§§§	27%	27%	33%	●
Diversity: Diverse Race/Ethnicity as % of Workforce§	57%	57%	58%	●
Diversity: Diverse Race/Ethnicity as % of Management§§	40%	43%	46%	●
Diversity: Diverse Race/Ethnicity as % of Executives§§§	26%	30%	33%	●
Diversity: Combined as % of Workforce§,‡‡‡	67%	67%	68%	●
Diversity: Combined as % of Management§§,‡‡‡	54%	58%	59%	●
Diversity: Combined as % of Executives §§§,‡‡‡	43%	45%	55%	●
Supplier Diversity Spend (billions)*	$1.68	$1.72	$2.13	●
Supplier Diversity Spend Rate*	44.74%	43.92%	46.73%	●
Community Investments: Contributions by Shareholders from Pre-Tax Earnings from Operations (millions)	$20.0	$21.8	$20.0¶¶	●
Community Investments: Contributions to Nonprofit Organizations by Employees (millions)	$2.1	$2.3	$1.8	●
Community Investments: Employee & Retiree Volunteer Hours	143,675	134,319	118,733	●

Comparison between 2017 and 2018

● Better ● No change ● Worse

DART – Days Away, Restricted, Transferred

OSHA – Occupational Health and Safety Administration

* All metrics reflect data associated with Edison International and its consolidated subsidiaries, with the exception of metrics denoted by (*), which reflect SCE data only, and the "Community Investments" metrics related to contributions to nonprofit organizations by employees and employee and retiree volunteer hours, which reflect Edison International and SCE data only.

‡‡‡ Combined: female and/or a diverse race/ethnicity as a percent of total active employee population.

§ Workforce: total active employee population

§§ Management: non-executive managers including principal managers, senior managers, and managers. This differs from the management category in past sustainability reports and has been updated to align with short-term incentive goal reporting.

§§§ Executives: officer and non-officer executives including: Edison International President & CEO, SCE CEO, SCE President, executive vice presidents, senior vice presidents, vice presidents, managing directors, and directors. This differs from the 2017 Sustainability Report due to the addition of Edison Energy** into the metric.

¶¶ In February 2019, the Edison International Board approved a $3 million donation to the Edison International Wildfire Assistance Fund to enhance community resiliency and wildfire prevention and mitigation. This affects the 2019 data year is not reflected here.

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LEADING THE TRANSFORMATION

Mark Illana, SCE Digital Product & Portfolio Management Senior Advisor, with his family.

OUR VISION

Our vision is to lead the transformation of the electric power industry, focusing on opportunities in clean energy, efficient electrification, grid of the future, and customer choice.

Vibhu Kaushik, Grid Technology and Modernization Director, at SCE's Norwalk Peaker Plant, which features hybrid technology

OUR STRATEGY

At Edison International, we are advancing our vision by growing our business toward a clean energy future while adapting our infrastructure and operations to a new climate reality, striving for best-in-class operations, and providing superior value to our customers and shareholders. Our principal subsidiary, SCE, is focused on priorities such as addressing wildfire risk, cleaning the power system, helping customers make cleaner energy choices, strengthening and modernizing the grid, and achieving operational and service excellence. Our Edison Energy* subsidiary partners with market leaders to align energy investments with strategic goals — empowering organizational vision, mitigating risk, and exceeding long-term sustainability and cost-saving targets.

LIMITING GLOBAL WARMING TO 1.5°C

At the core of our strategy at SCE is a strong partnership with the state of California and other stakeholders to help California achieve ambitious, science-based climate change goals at the state level, including a 40% reduction in greenhouse gas (GHG) emissions from 1990 levels by 2030 and economy-wide carbon neutrality by 2045. Taken together, these goals are broadly considered to be consistent with limiting future global temperature rise to no more than 1.5°C above pre-industrial levels in accordance with the October 2018 United Nations Intergovernmental Panel on Climate Change (IPCC) ***Special Report on Global Warming of 1.5°C***. The IPCC report builds upon the 2015 Paris Climate Agreement. These goals also have wide public support: Public Policy Institute of California polls have shown that California residents are in favor of these policies.[1]

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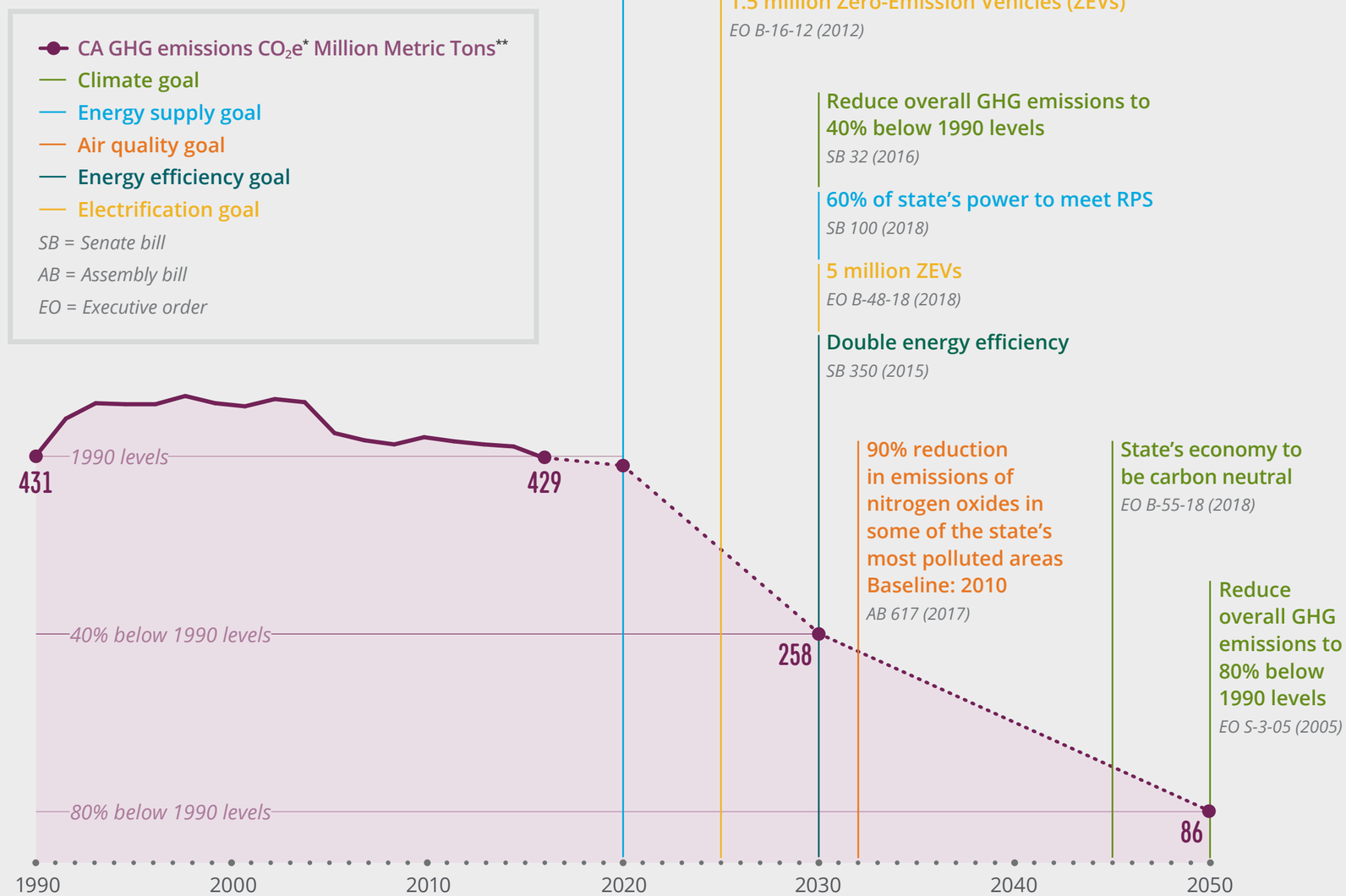
[1] Findings from the Public Policy Institute of California "Statewide Survey: Californians and the Environment" (July 2018) show that 67% of adults are in favor of the state law that requires California to reduce its GHG emissions to 40% below 1990 levels by the year 2030 (p. 19).

SCE PARTNERING WITH CALIFORNIA TO ACHIEVE LANDMARK STATE ENVIRONMENTAL GOALS

California has some of the nation's most ambitious climate change and related environmental goals. In 2018, California became the first large state to set goals for 100% carbon-free electricity and economy-wide carbon neutrality. SCE's Pathway Paper (see next page) charts a cost-effective, electricity-led path to achieve the state's 2030 goals.



* Carbon dioxide equivalent
**Source: California Air Resources Board (CARB)

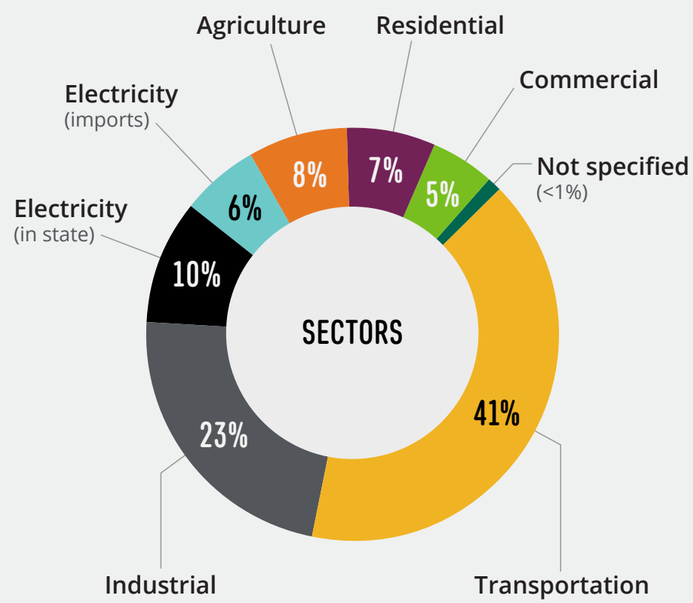
Doing our part

We're committed to doing our part to help California meet its climate change and related environmental goals. In late 2017, SCE published "Clean Power and Electrification Pathway: Realizing California's Environmental Goals" (Pathway Paper), which summarizes an analysis SCE undertook to identify the most cost-effective and feasible set of actions to reach the 2030 goals. The Pathway Paper calls for clean electricity coupled with aggressive, economy-wide electrification and outlines the need for the following actions by 2030:[2]

- Decarbonize the electric sector through an electric grid supplied by 80% carbon-free energy supported by 10 gigawatts (GW) of energy storage;
- Electrify the transportation sector, including having approximately 7 million light-, medium-, and heavy-duty electric vehicles (EVs) on California roads; and
- Electrify buildings, using electricity to power nearly one-third of space and water heaters in increasingly energy-efficient buildings.

The Pathway Paper proposes an integrated, multi-sector approach that builds upon existing California policy and has the support of many parties, including the International Brotherhood of Electrical Workers (IBEW) Local 47 and environmental and social justice advocates. Since the paper's publication, SCE has been working to advance these policies through development and implementation of landmark clean energy and electrification customer programs, pilots, and services and by working with broad coalitions to advocate for needed regulatory and legislative actions. These efforts are discussed throughout the report.

2016 CALIFORNIA GHG EMISSIONS BY SECTOR*



Today, the electric power sector accounts for only 16% of California's GHG emissions, and emissions from the sector are 38% less than they were in 1990. The transportation sector and fossil fuels used in space and water heating now produce more than three times as much GHG emissions as the electric sector** and more than 80% of the air pollution in California.

* Source: CARB, California Greenhouse Gas Emissions Inventory – 2018 Edition

**Approximately 67% of emissions from the residential and commercial sectors are due to space and water heating.

EDISON ENERGY

Edison Energy* is working with large customers to help them reduce their carbon footprints, better manage their energy costs and risks, improve resiliency, and reach their sustainability goals. Partnering with groups such as CDP, American Council on Renewable Energy (ACORE), Renewable Energy Buyers Alliance (REBA), World Resources Institute (WRI), and The Sustainability Consortium (TSC), Edison Energy* is transforming the business of managing energy and enabling customers to procure cleaner energy while mitigating the impact of climate-related business risks.

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ADAPTING TO A NEW CLIMATE REALITY

Climate change is not a distant threat but a current reality. Californians are feeling its effects in the form of higher than average temperatures and more frequent and severe heat waves, wildfires, droughts, and storms. SCE is implementing short-, medium-, and long-term mitigation measures to minimize the impacts of extreme events exacerbated by climate change while also taking steps to improve grid safety and resiliency.

In 2015, SCE, along with other utilities, joined the U.S. Department of Energy's Partnership for Climate Resilience to accelerate the development of, and investment in, a more resilient energy system. Through this partnership, we developed a Climate Impact Tool which used climate change projections, merged with asset information from geospatial analysis, to better understand potential climate impacts on infrastructure.

[2] The Pathway analysis compares three different scenarios — led primarily by expanded use of renewable natural gas, hydrogen, and electricity, respectively — and finds the most cost-effective and feasible path to 2030 is the electricity-led path.

In 2017, we built on that work and started a Climate Adaptation and Severe Weather Program at SCE. Today, this program evaluates the impacts of climate change on our assets and infrastructure, our business processes, our policy development, and our stakeholders.

CLIMATE MODELING

Today, climate change is changing the applicability of historical records and their ability to adequately inform accurate predictions. Through its Climate Adaptation and Severe Weather Program, SCE is now undertaking a detailed assessment of climate science and how it can be used to inform the way SCE generates, procures, stores, distributes, and manages energy.

Addressing the "new abnormal" of wildfires

According to the California Department of Forestry and Fire Protection (CAL FIRE), 10 of the 20 most destructive California wildfires have occurred since 2015.[3] Climate change has created a "new abnormal" — an unrelenting year-round fire season with increasingly larger and more destructive wildfires. While wildfires are a part of California's risks, like earthquakes, weather that is hotter and drier than historical averages creates conditions favorable for the ignition and rapid spread of fires. Statewide, 9.7 million acres of land are susceptible to extreme fires from nearly 147 million dead or dying trees caused by sustained drought and bark beetle infestation.

[3] "Top 20 Most Destructive California Wildfires," March 14, 2019.

As of year-end 2018, approximately a third of SCE's service area was in a high fire-risk area. From an operational standpoint, SCE has taken substantial steps to reduce the risk of wildfires and is going beyond long-standing industry practices to address extreme conditions. Among other things, we are implementing aggressive mitigation measures primarily focused on preventing potential wildfire ignitions in high fire-risk areas, including further grid hardening, enhanced situational awareness, and expanded operational practices.

SCE has also established collaborative partnerships and maintains a close working relationship with local, state, and federal first responder agencies. We work side-by-side with first responders during emergencies to support their ability to safely fight fires. We also provide training on electrical safety, facilitate regular meetings to coordinate on emergency response plans, and share data and best practices. To further our efforts, we play a leadership role and actively participate in several wildland fire associations. The actions we're taking to address wildfires are detailed in our Grid Safety and Resiliency Program, filed in September 2018; the Risk Assessment and Mitigation Phase of our 2021 General Rate Case (GRC), filed in November 2018; and our Wildfire Mitigation Plan, filed in February 2019.

See the Safety section and our Wildfire Mitigation Fact Sheet for more detail.

(Top) SCE Fire Management Officer Scott Brown shows L.A. County Fire Battalion Chief Veronie Steele-Small a section of power line that was frayed by gunfire. *(Middle)* SCE crews install covered conductors in Aguanga, just east of Temecula, California. *(Bottom)* An infrastructure branch planning meeting in January 2018 with representatives from fire authorities and other first responders in Santa Barbara, California.

ENGAGING IN PUBLIC POLICY

Edison partners with local, state, and federal leaders; industry groups; and other organizations to advance policies that support clean energy and electrification, as well as those that address other priority issues like infrastructure reliability and resilience and physical and cybersecurity.

Our highest priority today is working toward policies that will protect and mitigate against wildfire risk and bring more certainty to questions around cost recovery and liability.

We also continue to focus on other issues that impact our customers, including how to best achieve California's environmental goals, reduce the impacts of climate change, improve air quality, and ensure all customers benefit from, and can access, a clean energy future.

In particular, SCE has been engaging with environmental groups, business groups, local communities, labor organizations, and others in support of the policies called for by the Pathway Paper. Examples include incentives and infrastructure programs for EVs and new rate structures to support electrification both in transportation and buildings. Aligning the agendas of Southern California-region business, industry, and trade groups with clean energy and electrification has been a particular focus.

Meanwhile, Edison Energy* has been working across sectors to help develop effective clean energy policies, including providing input into a community solar pilot in New Jersey.[4]

Another emphasis has been engagement with the U.S. Department of Energy (DOE) on the importance of public-private partnerships and research funding to advance grid technologies and grid resiliency, including technologies related to cybersecurity, and to support the integration of higher levels of renewables onto the grid. Edison International President and CEO Pedro Pizarro recently joined the DOE Secretary of Energy Advisory Board as the sole electric utility representative and serves on the Board for Argonne National Laboratory, one of DOE's 17 national labs. Edison International also participates in the Electricity Subsector Coordinating Council.

ENVIRONMENTAL JUSTICE

We're committed to an inclusive clean energy future, one in which all customers can access clean energy technologies and benefits. Nearly half of the state-designated disadvantaged communities[5] in California are located in SCE's service area. We partner closely with underserved communities, including state-designated disadvantaged communities, and affiliated environmental justice organizations to reduce barriers to clean energy adoption.

In 2017, SCE, in partnership with The Greenlining Institute, one of the leading social and environmental justice nonprofits in California, launched the Clean Energy Access Working Group. The working group convenes environmental, community, and faith-based groups to expand clean energy opportunities for all communities and customers. In 2018, among other topics, the working group explored the potential of deploying community-owned solar to customers unable to install solar panels on their roofs, as well as to expand job and training opportunities in the local community.

We also invest in infrastructure and use rate design, innovative program offerings, and partnerships to accelerate clean energy adoption in underserved communities. See Customer Choice and Customers & Communities for more details.

"Bringing solar power to disadvantaged communities ... requires a collaborative effort."

Bambi Tran, Vice President of Regions, GRID Alternatives

Edison volunteers help install solar panels on a new home in the Inland Empire with community partner GRID Alternatives.

* Edison Energy is not the same company as Southern California Edison, the utility, and Edison Energy is not regulated by the California Public Utilities Commission.
[4] The pilot was approved in 2019 and will result in at least 225 MW of new community solar built over the next three years.
[5] "Disadvantaged communities" is a definition that the state of California uses to indicate those communities that are most heavily impacted by pollution from multiple sources and most vulnerable to its effects.

CLEAN ENERGY

A clean energy future starts with clean electricity. At SCE, we're charting a path toward an 80% carbon-free electricity supply by 2030, supported by energy storage. At Edison Energy,* we're helping the largest energy users meet their renewable energy and sustainability goals.

Kylie Bernard, Tehachapi District Administrative Aide, with her daughter, in Tehachapi, California, one of the largest wind resource areas in SCE's service area

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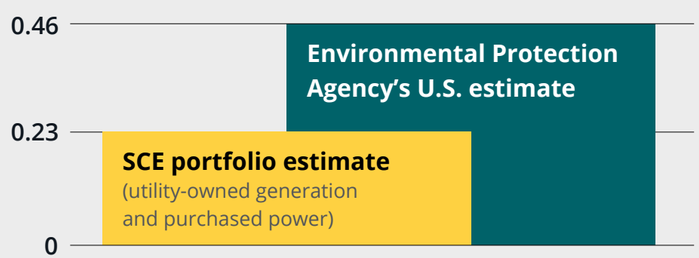
CLEANING THE POWER SYSTEM

SCE is a national leader in clean energy and delivers power with only half of the GHG emissions per unit of electricity compared to the estimated U.S. average. In 2018, 46% of electricity that SCE delivered to customers came from carbon-free resources,[6] more than halfway to the 80% we estimate is needed by 2030 to meet California's climate change goals. Close to 80% of this carbon-free electricity, which makes up 36% of SCE's total, came from eligible renewable resources, which help to meet California's Renewables Portfolio Standard requirements.[7] The Smart Electric Power Alliance has named SCE a national leader in solar since it began publishing solar rankings in 2007. In 2018, SCE customers added around 400 megawatts (MW) of solar to the grid.

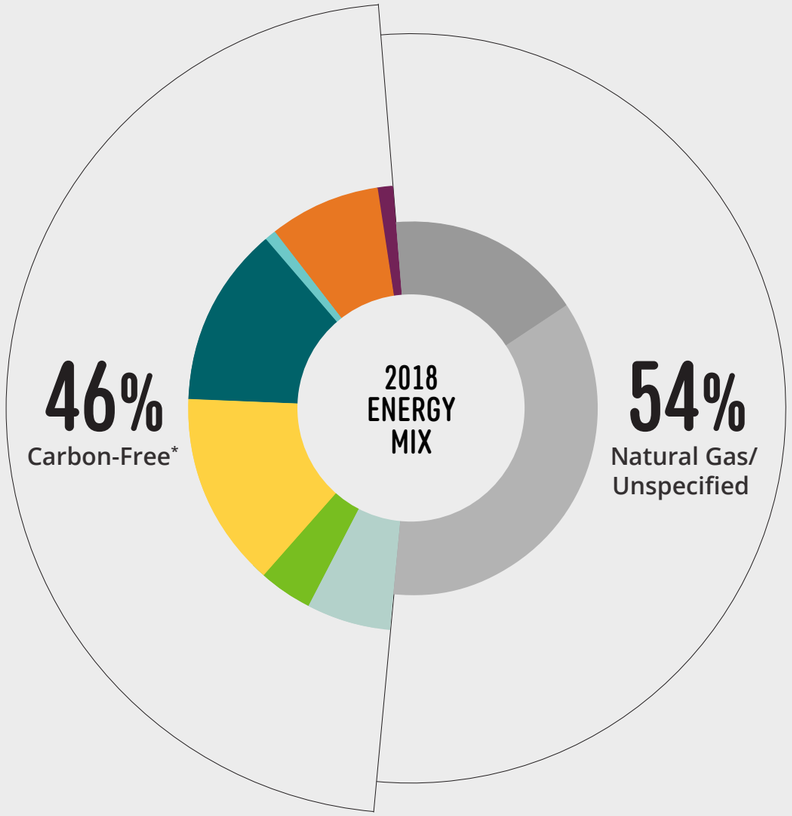
[6] This percentage does not include renewable energy from customer-sited rooftop solar.
[7] Eligible renewable resources are defined by statute and the California Energy Commission. Retail sellers of electricity in California, including investor-owned utilities, electricity service providers, and community choice aggregators, and publicly owned utilities are required to serve 33% of their load with eligible renewables by 2020 and 60% by 2030.

AVERAGE GHG EMISSIONS PER UNIT OF ELECTRICITY DELIVERED IN 2018

Metric tons of carbon dioxide equivalent (CO_2e) per megawatt-hour (MWh)



SCE'S 2018 ENERGY MIX TO CUSTOMERS

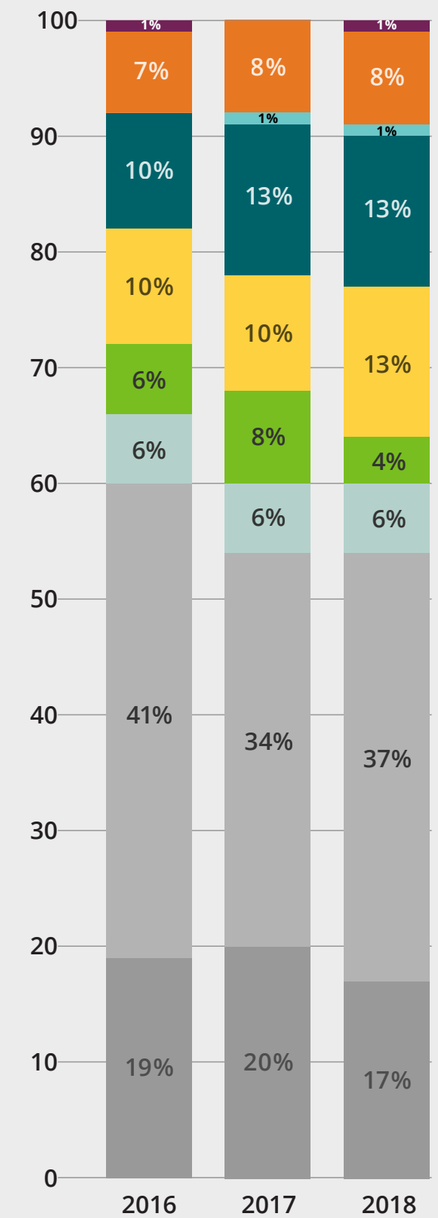


Carbon-Free (Renewables)
- Biomass & Waste
- Geothermal
- Eligible Hydroelectric
- Solar
- Wind

Carbon-Free (Other)
- Large Hydroelectric
- Nuclear

Natural Gas/Unspecified
- Unspecified**
- Natural Gas

Year-to-year trend*



* This graphic has been updated from the originally-published version, which incorrectly provided the 2018 wind proportion as 14% and 2018 unspecified energy proportion as 36%. In addition, the color coding differentiating natural gas and unspecified energy was incorrectly reversed and has been updated.
** Unspecified power refers to electricity that is not traceable to a specific generating facility, such as electricity traded through open market transactions administered by the California Independent System Operator (CAISO). The power is typically a mix of resources, largely dominated by natural gas and renewables. The generating resources in the CAISO market are getting cleaner as more and more renewables are added to the grid in line with California state law.

In 2018, Edison Energy* structured renewable energy purchasing agreements for some of the nation's largest energy users with deals for over 450 MW publicly announced. In corporate renewable energy purchasing alone, Edison Energy has advised customers on more than 3,100 MW of wind and solar transactions in total.

LEADING IN ENERGY STORAGE

Energy storage is essential to meeting climate change goals. As more renewable resources come online, batteries and other technologies can store excess energy from renewables and supply it to the grid later (e.g., when the sun isn't shining or the wind isn't blowing), reducing dependence on gas-fired resources. SCE estimates that California needs up to 10,000 MW of energy storage by 2030 to support the integration of additional renewable energy and even more could be required as gas-fired power plants retire.

SCE is committed to leading the industry and accelerating the adoption of energy storage, both as a utility-scale resource and by our customers. Today, SCE has over 720 MW of energy storage under contract. These projects include our own installations, projects developed in collaboration with other companies, procurements from other battery storage developers, and demonstration projects.

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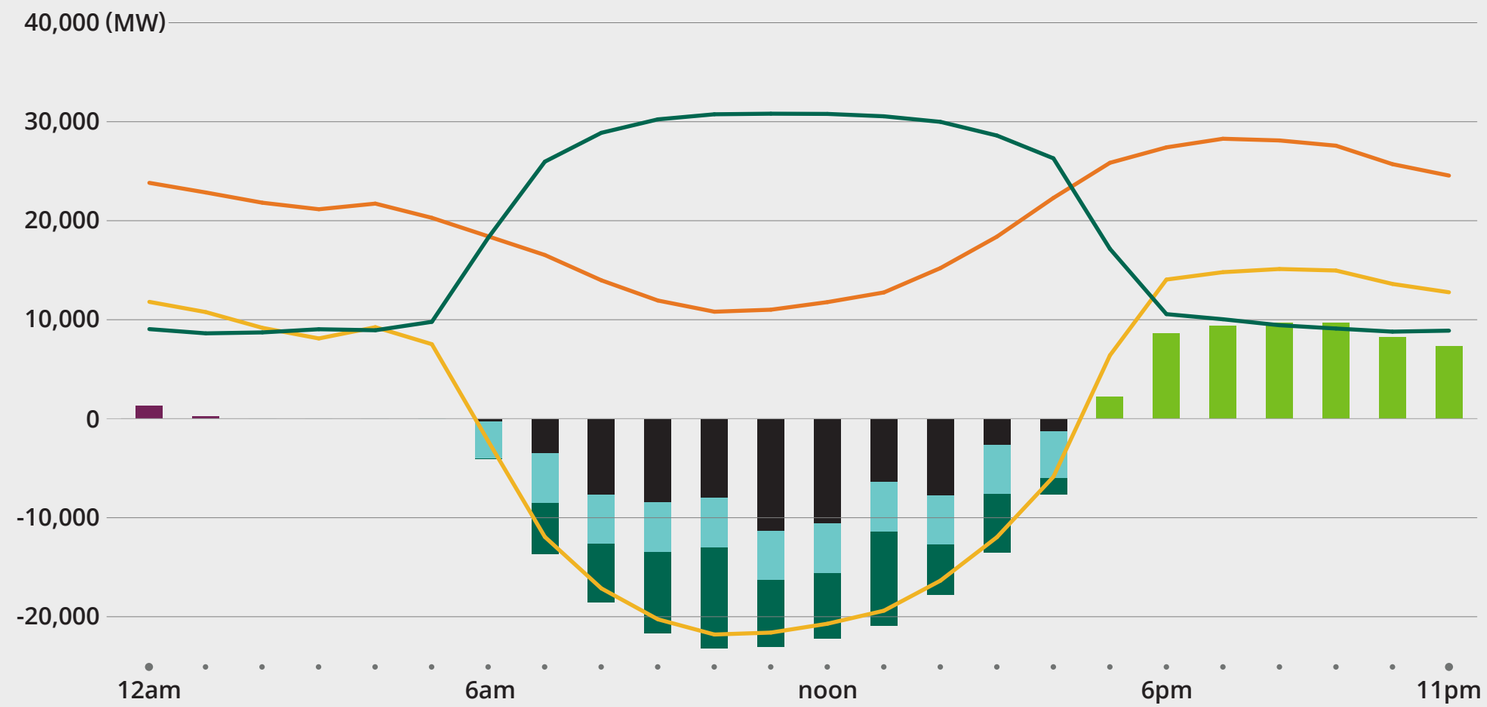
USING ENERGY STORAGE TO MEET PEAK DEMAND IN CALIFORNIA ON AN AVERAGE SPRING DAY IN 2030



SCE estimates that up to 10,000 megawatts (MW) of energy storage will be needed by 2030 to support higher levels of renewable resources to meet California's climate change and related environmental goals. In this graph, which models a typical spring day in 2030, batteries and other technologies store up to 10,000 MW of energy per hour from renewable resources, like solar, in the middle of the day. The stored energy is then used to serve load when the sun sets and solar production stops. Energy storage not only helps manage the forecasted 20,000 MW per hour of excess renewable energy in the afternoon, but also reduces the need for gas-fired generation in the evening hours.

Spring is the season with the highest renewable curtailment (i.e., overgeneration) in the middle of the day, mainly due to lower demand for electricity combined with increased hydro spring run-off coupled with solar generation.

- Battery discharging
- Battery charging
- Energy exports
- Wind and solar curtailment
- Renewable energy generation
- Electricity demand
- Electricity demand minus renewable energy generation

CUTTING EMISSIONS WITH HYBRID TECHNOLOGY

Hybrid cars have long been a popular choice for drivers because they combine two power sources to save fuel and reduce GHG emissions. SCE's power grid now includes two novel kinds of hybrid technologies: hybrid buildings and hybrid gas turbines. Both incorporate energy storage to aid in balancing energy supply and demand, helping to provide power when renewables are not available and to reduce periods of high demand that traditionally were met through the use of natural gas-fired peaker plants.[8]

21 HYBRID BUILDINGS JOIN THE GRID

A unique collaboration between Irvine Company and SCE has resulted in the world's first fleet of Hybrid Electric Buildings®, which feature state-of-the-art Tesla Powerpack battery systems. Located across Southern California, the 21 high-rise office buildings are also equipped with Advanced Microgrid Solutions (AMS) energy management and optimization software that employs advanced analytics to enable each building to control its demand from the electric grid and respond in unison when SCE signals a need to reduce load on the grid.

The Hybrid Electric Building fleet can reduce peak demand by 25% and provide up to 10 MW of instantaneous load reduction for up to four hours to help SCE balance the grid. This is the equivalent to offsetting the power demand of 10 high-rise buildings, or enough power to serve more than 10,000 homes.

Some demand-management approaches require reducing air conditioning or otherwise changing operations, while the Hybrid Electric Building system is imperceptible to the building's occupants.

The first of the 21 buildings was dispatched by SCE in late 2017. In one instance, the fleet was dispatched for 32 straight business days, with zero emissions and zero impact on building operations or occupants. In addition to providing clean, grid-balancing resources to SCE, Irvine Company is reducing energy expenses and operating costs by an estimated 10%.

SCE'S HYBRID ENHANCED GAS TURBINE PROJECT

Hybrid technology is also in use at two existing SCE peaker plants in the Southern California communities of Norwalk and Rancho Cucamonga, combining battery storage and natural gas generation. A 10-MW battery storage system, combined with a gas turbine, allows each peaker plant to more quickly respond to changing energy needs, increasing SCE's ability to integrate renewable power into the grid while also significantly reducing emissions. Based on the success of these plants, SCE is exploring incorporating this hybrid technology in its three other peaker plants.

(Top) Battery system powering Irvine Company's 20 Pacifica hybrid building in Irvine, California *(Bottom)* Norwalk Peaker Plant in Norwalk, California

[8] Peaker plants are smaller power plants — typically 100 MW or less — that are often used to serve the periods of high demand on the grid due to their quick start, fast ramping characteristics. These peakers are being called on more often to balance out the variability caused by the increased use of clean energy resources.

EFFICIENT ELECTRIFICATION

Carbon-free resources powering everything from homes and businesses to cars, trucks, and mass transit is the most cost-effective way to build a clean energy future. We are a national leader in advancing efficient electrification, launching the largest truck and transit charging initiative in the nation while investing in companies that are moving the needle on new electric technologies and services.

Leah Moreno, New Development and Planning Principal Manager, in front of an electric truck and charge port in Long Beach, California.

ADVANCING EFFICIENT ELECTRIFICATION

Nationally, efficient electrification has the potential to create value for customers and society by reducing emissions and water use, increasing grid flexibility and productivity, and improving product quality.[9] In California, SCE's Pathway Paper analysis shows that electrifying 7 million vehicles and nearly one-third of all building space and water heaters by 2030 is the most cost-effective way to meet the state's climate change and related environmental goals. While adoption of electric technologies is increasing, the pace of change across the economy must accelerate.

TRANSPORTATION ELECTRIFICATION

In 2018, SCE proposed to take its light-duty charging infrastructure program from pilot to scale, expanding it to a level unmatched by any U.S. utility. We are also moving forward with the largest truck and transit charging initiative in the nation.

INVESTING IN LIGHT-DUTY EV CHARGING INFRASTRUCTURE

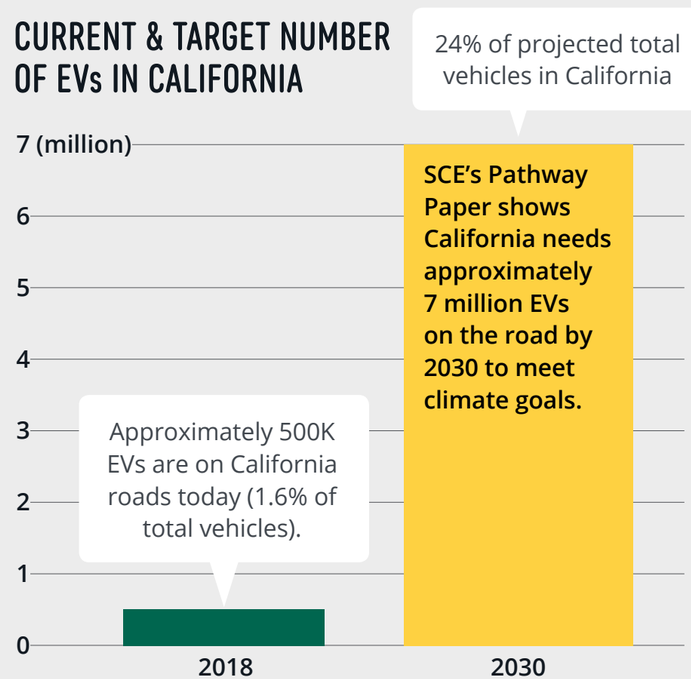
Launched in 2016, SCE's Charge Ready Program is expanding EV charging infrastructure for passenger cars and other light-duty vehicles at locations, such as workplaces and universities, where people park for four hours or more. Through the program, SCE pays all costs associated with providing and

[9] In April 2018, the Electric Power Research Institute (EPRI) released its U.S. National Electrification Assessment showing that efficiency gains from the application of electric technologies could lead to reductions in emissions while reducing water use, increasing grid flexibility, and increasing productivity and product quality (See EPRI, U.S. National Electrification Assessment, April 3, 2018, p. 5). A 2017 study by the California Energy Commission reaches similar conclusions. In addition, in April 2019, Energy + Environmental Economics released a study, "Residential Building Electrification in California" showing that building electrification would deliver lifecycle cost savings for most home types in the study area and significantly reduce greenhouse gas emissions from homes, starting today.

NATIONAL LEADERSHIP

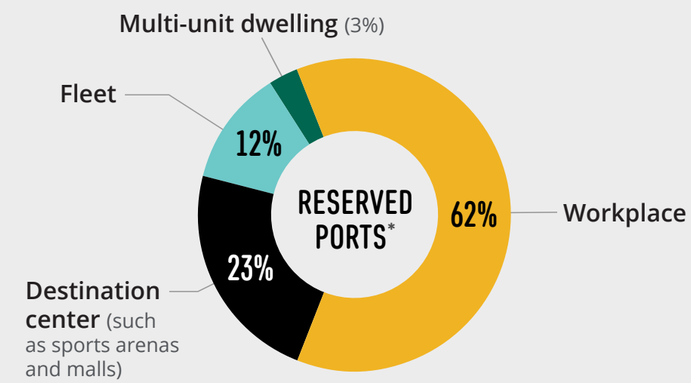
Edison International President and CEO Pedro Pizarro is the chair of the Electric Power Research Institute (EPRI) Board of Directors Efficient Electrification Working Group and the co-chair of the Edison Electric Institute's (EEI) CEO Electric Transportation Task Force. Both efforts have brought together stakeholders from across the country to advance electrification. The EPRI Working Group is developing an analytical framework that identifies technologies and develops strategies to provide customers with cleaner, more efficient energy options. The EEI Task Force is promoting electrification of the transportation sector by encouraging and facilitating the development of programs and investments by investor-owned utilities in transportation electrification. By working with our peers, we hope to lay the foundation for the nationwide effort required to achieve significant electrification and all of the benefits it entails.

CURRENT & TARGET NUMBER OF EVs IN CALIFORNIA



CHARGE READY PILOT RESULTS

SCE's Charge Ready Pilot was honored with the Alliance to Save Energy's Transportation 2018 Star of Energy Efficiency award in recognition of its contribution to expanding vehicle electrification.



75 sites completed with 1,147 ports

50% of ports are in state-designated disadvantaged communities.

1,486 total charge ports reserved

* Ports that are completed and in progress from program inception to Q1 2019.

INVESTING IN ELECTRIC TECHNOLOGIES AND SERVICES

Edison International believes in the future of electrification for all types of vehicles, which is why we're investing in electric technologies and services to make that possible. Examples of companies we've invested in include Proterra, a leader in the design and manufacture of zero-emission electric buses, ViriCiti, which provides monitoring and smart charging solutions for electric vehicle fleets, and AMPLY Power, which offers charging as a service to help fleets transition to electric vehicles.

maintaining the electrical infrastructure to support EV charging stations. Charge Ready customers procure, install, and maintain the EV charging stations and are responsible for electrical energy and networking costs. Customers also receive rebates to reduce the charging station equipment and installation costs.

What began as a $22 million pilot is successfully supporting the installation of close to 1,500 EV charge ports for light-duty vehicles, including 260 in 2018. We are now investing another $22 million to continue the program, expanding its reach, and have proposed to invest $760 million to support the installation of more than 48,000 charge ports over four years. The program is making charging easier and more accessible for all customers while also encouraging broader adoption of EVs, particularly in communities disproportionately impacted by pollution from gasoline and diesel-powered vehicles and with low EV adoption rates.

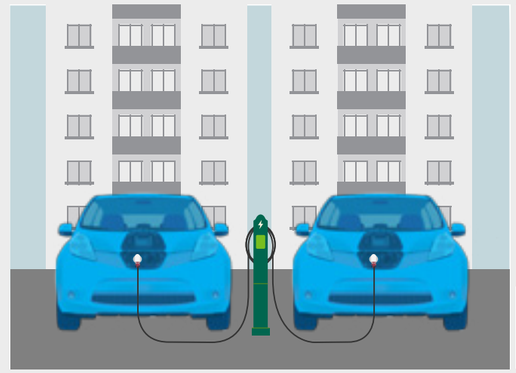
INVESTING IN MEDIUM- & HEAVY-DUTY EV CHARGING INFRASTRUCTURE

SCE is moving forward with the largest truck and transit charging program in the nation. Through the $356 million program, known as Charge Ready Transport, we will install infrastructure for at least 870 SCE customer sites by 2024.

The program is tailored to Southern California, where 40% of the goods entering the nation are moved through the region's ports and over its highways and railways. While important to the state and local economy, the goods movement industry is a major source of GHG emissions and air pollution from heavy-duty commercial and industrial vehicles. Accelerating EV adoption in this critical industry will not only reduce GHG emissions, but will also clean the air in local transit corridors, improving the lives of the many SCE customers who live and work in these areas. Several pilot projects related to electrifying port equipment and buses are underway.

SCALING LIGHT-DUTY EV CHARGING INFRASTRUCTURE

We are expanding our Charge Ready Program to increase access to EV charging in additional types of locations.



Charge Ready DC Fast Charge

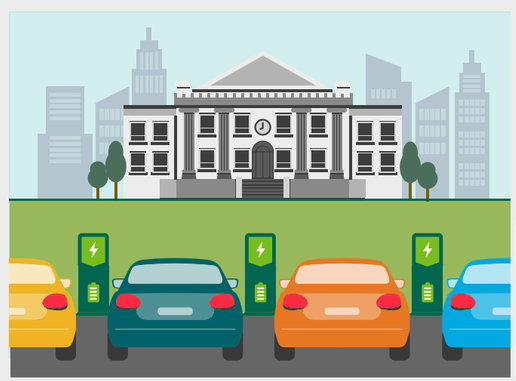
Installing fast charging stations, which reduce charging times to 30 minutes or less, at five pilot sites in state-designated disadvantaged communities that serve customers without access to home charging options (e.g., apartment dwellers).

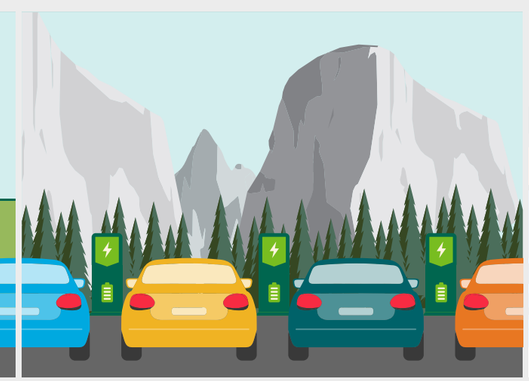
Clean Fuel Reward program

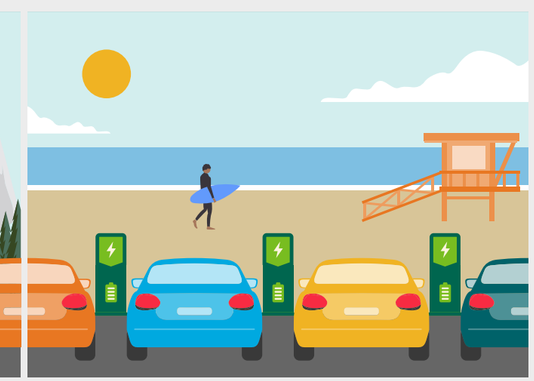
Offering a $1,000 reward to customers who drive new, used, and leased EVs or Plug-in Hybrid Electric Vehicles (PHEVs) through California's Low Carbon Fuel Standard Program. A unique aspect of SCE's program is that second and third owners of used vehicles are eligible for the reward, which helps stimulate the market for used EVs and encourages even more customers to drive EVs.

Charge Ready Home Install

Offering rebates to up to 4,000 SCE residential customers who wire their homes for EV charging. The rebates alleviate one of the major barriers to the adoption of personal EVs: the cost of installing home charging stations.







Schools, State Parks, and Beaches

Proposing to add hundreds of new EV charging stations at schools and state recreation area parking lots.

CHARGE READY TRANSIT BUS PILOT

Porterville Transit is the first site to participate in SCE's Charge Ready Transit Bus Pilot, through which it will receive financial assistance to build bus charging stations, including free installation of electrical infrastructure. The charging stations will support 10 new zero-emission buses that the transit agency is adding to its fleet, replacing older vehicles that run on fossil fuel. Porterville is located in the San Joaquin Valley, which has some of the worst air quality in the nation. Electrification of public transit in the area will reduce air pollution as well as GHG emissions.

BUILDING ELECTRIFICATION

SCE's Building Electrification initiative is helping customers reduce energy consumption and minimize the environmental footprints of their homes and facilities through programs, partnerships, and education. We are particularly focused on helping customers construct buildings that are energy-efficient, all-electric, and low- or no-carbon-producing. We also support the development of buildings that generate at least as much energy as they use on an annual basis, known as zero net energy (ZNE).

SCE's Energy Education Center in Irwindale offers customers a "hands-on" learning experience and training for high-performance building envelopes,[10] which are a major element of ZNE buildings, along with energy-efficient water heating and heating and cooling systems. The interactive display, which opened in April 2018, teaches customers how to comply with the existing and future building codes and allows them to view each individual construction layer of high-performance walls and attics.

For commercial customers, SCE runs a **foodservice technology center** showcasing the latest energy-efficient commercial foodservice equipment and technologies. The center lets customers "test-drive" leading manufacturers' equipment before buying. It also features a one-of-a-kind demonstration kitchen with free workshops on things like kitchen lighting, **all-electric induction cooking**, and other technologies that can save energy and reduce utility bills.

(Right) Chef Don Ocheltree checks vegetables cooked in a convection oven with infrared heat at SCE's Foodservice Technology Center.

[10] High-performance building envelopes (walls and attics) are designed and constructed to significantly reduce heat and air transfer into and out of buildings.

RESIDENTIAL CUSTOMERS GOING ALL-ELECTRIC

When SCE customers Wen Lee and Chris Stratton moved into Lee's childhood home, they were determined to fight climate change and improve air quality by renovating the home to be all-electric and ZNE. Based on Stratton's knowledge of the dangers of indoor contaminants, including from gas stoves, indoor air quality was a top priority — and one of the underlying reasons they chose to go all-electric instead of electric and gas. They also wanted to be completely zero carbon. Construction started in 2016, and currently, Stratton and Lee are doing better than ZNE. In fact, SCE is paying them $140 per year for their excess energy through net energy metering. They also signed up for a demand response program that rewards them for reducing their energy demand at peak times.

(Left) Chris Stratton and Wen Lee

"Mary's Village will be built with cutting-edge technologies, which will lead to lower utility bills for the life of the building, which will allow us to put the money back into caring for these men."

Terry Kent, Vice President of CrestWood Communities

SUPPORTING ALL-ELECTRIC, ZNE HOUSING

In January 2019, SCE was part of a groundbreaking ceremony for an all-electric, ZNE facility providing the first comprehensive housing and support services for homeless men in San Bernardino, California. Working with multiple partners, including Mary's Mercy Center, a long-time provider of homeless services, and HomeAid, a nonprofit organization founded by the Building Industry Association of Southern California, SCE brought together a unique combination of resources, including technical and financial assistance, that helped make the project a reality.

All told, SCE contributed more than $300,000 to the project, leveraging three SCE funding sources. SCE also provided expertise and customer incentives to support all-electric, ZNE project elements, as well as high-performance building envelope job training for the residents.

SCE employees help break ground for Mary's Village with Father Michael Barry, President and Chairman of the Board, Mary's Mercy Center (center right)

GRID OF THE FUTURE

We are creating the grid of the future — one that supports high levels of carbon-free resources and integrates new technologies and services, all while being reliable and resilient. Over the long term, SCE expects to invest at least $4 billion per year to create a safer, cleaner, more reliable, and more efficient grid that enables the integration of new technologies and is resilient in the face of climate change.

Roman Vazquez, Senior Engineering Principal Manager, at SCE's Gould Substation in La Cañada Flintridge, California (Angeles National Forest)

MODERNIZING OUR DISTRIBUTION BUSINESS

As we move to a clean energy future increasingly powered by renewables and distributed energy resources (DERs) — such as rooftop solar, on-site energy storage, EVs, and energy management systems — the systems needed to make the grid work effectively are becoming more complex. At the same time, severe weather and wildfires driven by climate change, along with the persistent threat of earthquakes, necessitate grid infrastructure and operations that can withstand extreme events.

At SCE, we're meeting these challenges by modernizing our distribution business, including these actions:

- Leveraging advanced hardware and software to enable **advanced grid management** of an increasingly complex and intelligent grid;
- **Connecting DERs to markets** to maximize the value of those DERs and to incentivize customers to adopt them at the right location and dispatch them at the right time; and
- **Empowering customers to partner** in making the grid more reliable, efficient, and clean.

ADVANCED GRID MANAGEMENT

SCE is taking a number of steps to transform its infrastructure and operations into an actively managed, DER-enabled grid. Collectively, our investments will transform the historically one-directional power system into a two-directional system capable of accommodating hundreds of thousands of clean DERs while increasing service reliability, security, and safety.

DISTRIBUTION VOLT/VAR CONTROL (DVVC)

SCE's new Distribution Volt/VAR Control (DVVC) capacitor optimization algorithm is helping customers reduce energy use and save on energy bills — all while acting seamlessly behind the scenes. In normal utility operations, SCE supplies electricity to customers at 120 volts, plus or minus 5%. Customer equipment and appliances are designed to be more energy efficient at a lower operating voltage range, and as a result, lower voltage causes a reduction in energy consumption. SCE's new algorithm, which it has patented, reduces the average voltage delivered to customers, resulting in a one-percent actual savings in energy costs for customers for every 1% reduction in voltage. This equates to an estimated annual energy cost savings of $54 million for customers. SCE has deployed this groundbreaking algorithm at 297 distribution stations, or 37%, over the past three years. In 2018, *Public Utilities Fortnightly* named the project leads "Top Innovators" for their work.

MODERNIZING GRID PLANNING

We are changing our grid planning capabilities to maximize the value of DERs. For example, we are transitioning our planning process from focusing on a single annual peak demand to forecasting based on hourly demand over the course of the entire year. This more granular data will help us improve our ability to optimize the use of DERs to support a reliable grid while minimizing costs.

UPDATING HARDWARE & SOFTWARE

We are advancing the hardware and software that make up and run the grid. For example, we are automating our distribution system by using more advanced switches and controls that provide better real-time visibility and restore outages faster. We will also be upgrading our operating systems to leverage these new technologies.

The team at SCE's Reliability Operations Center.

RELIABILITY OPERATIONS CENTER

SCE's Reliability Operations Center (ROC) highlights how we are putting digital technology to work. Formalized in 2017, the ROC uses advanced analytics to detect system faults and energized downed wires, provide advance notice of potential equipment failure, and identify grid anomalies before customers report any issues. This reduces time spent troubleshooting in the field, enabling crews to fix problems more quickly. As more data becomes available through smart meters and other devices, new analytics, algorithms, and data science techniques will further this effort, reducing outage times and, in some cases, even preventing outages altogether.

In 2018 alone, SCE estimates that its ability to detect early equipment failure avoided more than half a million customer minutes of interruption (CMI). Since late 2018, the ROC has also been using meters as sensors in high fire-risk areas to research meter data and then correlate it with other data sources to gather intelligence and make decisions aimed at proactive mitigations.

Edison Electric Institute (EEI) selected SCE's ROC as one of five U.S. industry finalists for its prestigious 2019 Edison Award.

LEVERAGING REAL-TIME BIG DATA

To support an increasingly automated grid, we are upgrading its foundational communication network to provide real-time information on customer energy usage, power flows, outages,

and faults. To make effective use of all this data, we are developing advanced analytics platforms to improve planning, operations, outage management, interconnection, and transparency for customers and to allow us to more quickly respond to changing conditions.

CONNECTING DERs TO MARKETS & EMPOWERING CUSTOMERS AS PARTNERS

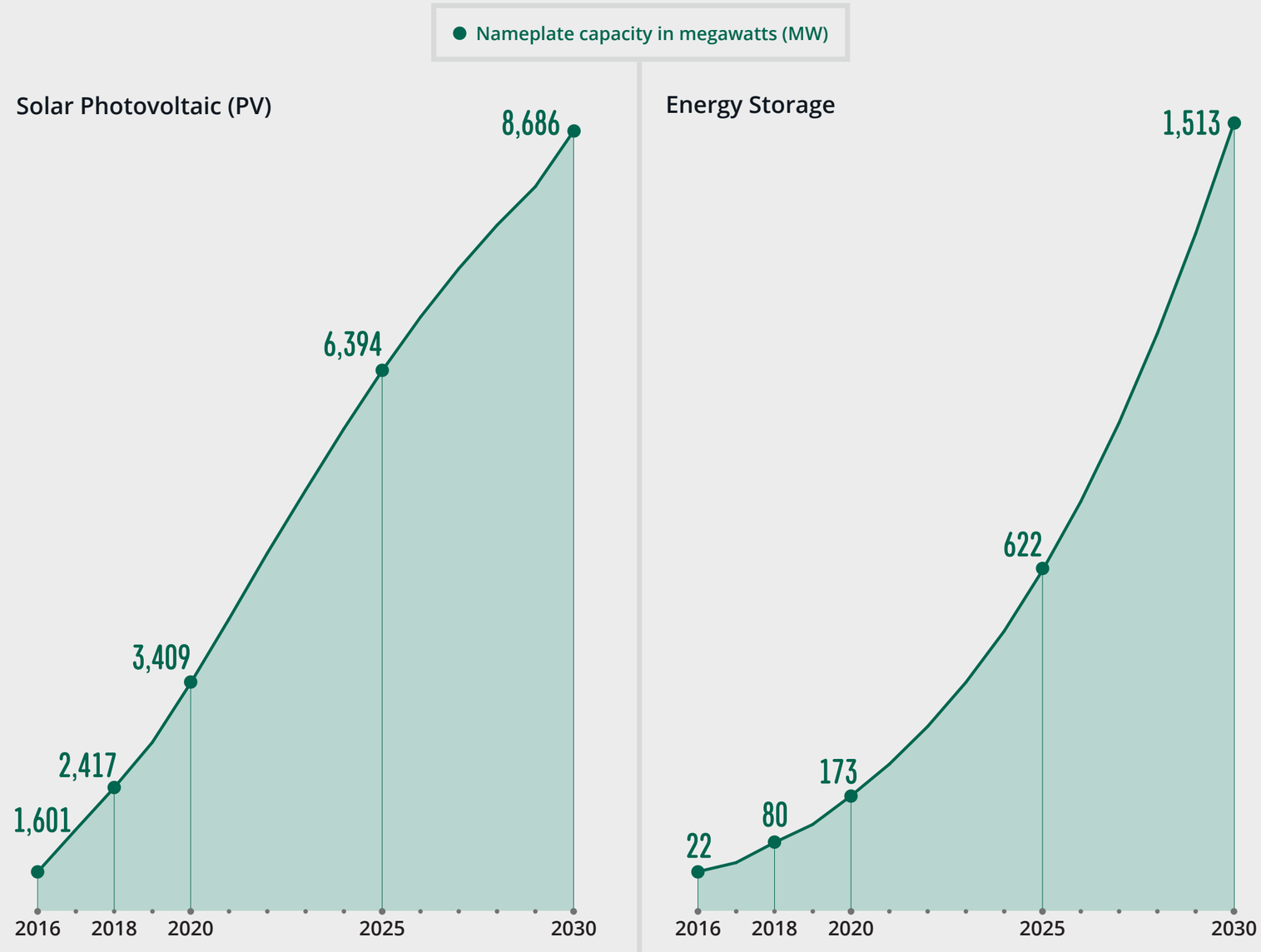
DERs integrated into the distribution system not only provide benefits to customers, but also can provide benefits to the grid. When they deliver energy at the right time and the right location, DERs can help reduce the need for capital upgrades, reducing costs and increasing efficiency.

More of our customers are adopting DERs and becoming suppliers of both power and energy storage capacity. In 2018 alone, SCE customers connected an average of 3,720 solar installations to the grid per month. Customers' use of behind-the-meter energy storage increased six-fold. Looking forward, customer adoption of DERs is projected to grow exponentially over the next decade.

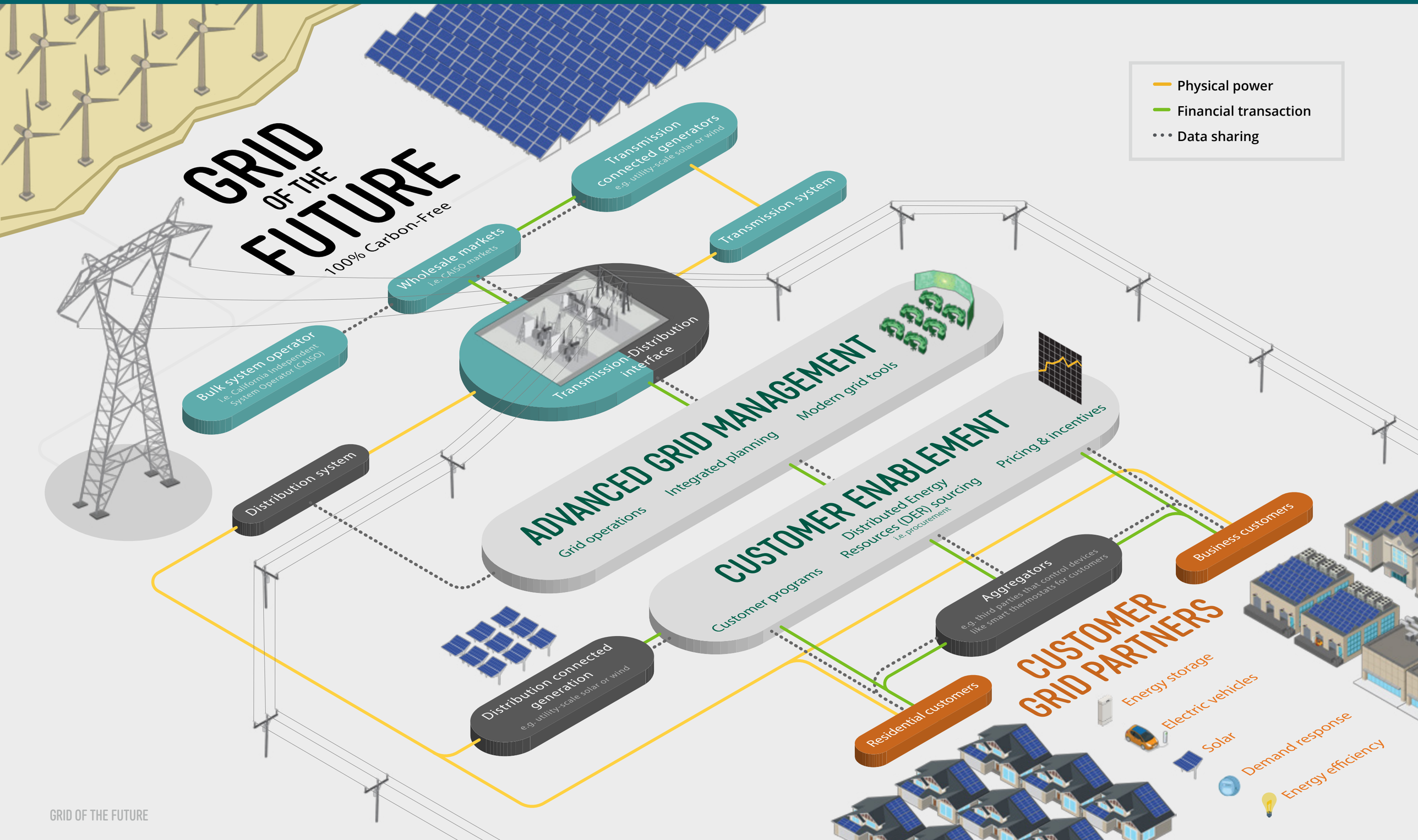
To accelerate adoption, SCE is maximizing the benefits of DERs to customers and to the grid overall. For example, we are helping customers identify locations for new DERs that will have the lowest interconnection costs and contribute the most value to the system.

We are also simplifying the process of connecting DERs to the grid and developing services to help customers navigate the transition to greener energy, including advice on the type(s) of DERs that would be best for each customer's situation and would maximize bill savings. (See Customer Choice for more details.)

ACTUAL & PROJECTED GROWTH OF SELECT BEHIND-THE-METER DERs IN SCE's SERVICE AREA



* Based on SCE's 2018 Q4 Sales Forecast Update. 2016 to 2018 reflects actual data.


GRID OF THE FUTURE
100% Carbon-Free
Physical power
Financial transaction
Data sharing
Transmission connected generators
e.g. utility-scale solar or wind
Transmission system
Wholesale markets
i.e. CAISO markets
Bulk system operator
i.e. California Independent System Operator (CAISO)
Transmission-Distribution interface
ADVANCED GRID MANAGEMENT
Grid operations
Integrated planning
Modern grid tools
CUSTOMER ENABLEMENT
Customer programs
Distributed Energy Resources (DER) sourcing
i.e. procurement
Pricing & incentives
Distribution system
Distribution connected generation
e.g. utility-scale solar or wind
Aggregators
e.g. third parties that control devices like smart thermostats for customers
Business customers
Residential customers
CUSTOMER GRID PARTNERS
Energy storage
Electric vehicles
Solar
Demand response
Energy efficiency

CUSTOMER CHOICE

At SCE, we are partnering with customers to deploy new clean energy technologies, such as rooftop solar, EVs, electric appliances, and energy storage. We are ensuring all customers have access to renewable energy. And we're giving customers information, tools, and incentives to use clean energy technologies in a way that maximizes benefits for themselves and the entire energy system. At Edison Energy,* we are helping large commercial and industrial customers align energy investments to lower costs, improve efficiency, meet sustainability targets, and achieve customers' strategic goals.

Stephanie Gebhardt, Cellarman for Innovation Brew Works, an all-electric, learn-by-doing brewery laboratory and SCE customer, at California State Polytechnic University, in Pomona, California

* Edison Energy is not the same company as Southern California Edison, the utility, and Edison Energy is not regulated by the California Public Utilities Commission.

ENCOURAGING ADOPTION OF CLEAN TECHNOLOGIES

SCE is transforming its relationship with our customers to continue to deliver value through energy by partnering to build a clean energy future together. As outlined in Grid of the Future, SCE is maximizing the benefits of DERs to customers and the grid overall. To encourage adoption of clean technologies, such as EVs, electric heat pumps, and energy storage, we implemented a new Time-Of-Use (TOU) rate in March 2019, providing customers using select green technologies with lower rates at off-peak times of day. The new rate expands the preferential pricing that was already available to EV owners to customers with select electrified building technologies. We also offer incentives to customers reducing the cost of installing new energy storage systems through our Self Generation Incentive Program, supporting significant growth in the adoption of behind-the-meter systems. By the end of 2018, more than 290,000 customers had distributed solar connected to our grid, and approximately 3,000 customers were interconnected with combined solar and storage systems.

MAKING CLEAN ENERGY ACCESSIBLE FOR ALL CUSTOMERS

SCE is improving its programs to expand access to clean and renewable energy resources to more customers. In 2018, we developed a suite of new programs with a focus on expanding access for low-income customers. We are launching these revamped green programs to enable customers to purchase 100% renewable energy with simplified rate structures and discounts for eligible customers in underserved communities. We are also working to advance community-based solar in California (see story to the right).

BRINGING CLEAN ENERGY & GREEN JOBS TO UNDERSERVED COMMUNITIES

Through a competitive solicitation, SCE has signed a 3-MW, 20-year Power Purchase Agreement (PPA) with JATON LLC to partner on a new community solar project in El Mirage, California. Once approved, this first-of-its-kind project for SCE will enable customers to subscribe to a portion of the renewable energy generated by this facility and to receive associated bill credits from SCE. This project could meet the needs of 600 to 800 residential homes that might not otherwise be able to access solar energy directly, such as rentals or homes that are not candidates for on-site solar installations.

EMPOWERING CUSTOMERS TO REDUCE ENERGY USE & COSTS

Energy efficiency, conservation, and energy-use timing are important components of a clean energy future. SCE has a range of programs to help customers manage their electricity use and lower costs. These include energy-saving plans, pricing for lower cost options during the off-peak times of day, and rebates for residential and business customers.

Our **energy efficiency programs** reward customers for making changes that lower their long-term energy usage by, for example, replacing older appliances or equipment with newer energy-efficient models. These include items such as heating, ventilation and air conditioning systems, pool pumps, lighting, and industrial process equipment. In 2018, SCE's energy efficiency programs saved 993.5 gigawatt-hours (gWh), achieving a 484,000 ton reduction in carbon dioxide (CO_2) emissions, equivalent to 97,000 gasoline-powered vehicles removed from the road.

Demand response programs reward customers who make short-term energy use reductions based on signals from us or one of our partner companies. These reductions usually last one to four hours per event and help avoid use of less-efficient gas-fired power plants. In 2018, more than 284,000 residences and nearly 15,000 commercial accounts were enrolled in the program, resulting in 992 MW of resources being made available for reduction, if needed. Some of our demand response programs include the following:

SCE customer U.S. Corrugated Inc., a national corrugated packaging producer, installed LED lights and sensors along with energy-efficient heating, ventilation, and air conditioning systems in its Santa Fe Springs, California, plant when it expanded operations to southern California.

- Summer Discount Plan: This popular demand response program allows residential participants to earn up to $160 and commercial participants up to $225 in bill credits over the summer by allowing SCE to remotely turn off (or "cycle") a customer's air conditioner approximately 15 to 20 times per year.
- Smart Energy Program: On any weekday when electricity demand is relatively high, SCE can call a "Save Power Days" event between 2 p.m. and 6 p.m. Events are administered through authorized smart thermostat service providers who may remotely adjust the temperature setting on participating customers' thermostats to reduce air conditioner usage.

INCENTIVIZING ENERGY USE WHEN POWER SUPPLY IS CLEANEST

As intermittent renewable resources like wind and solar are added to the grid, the time and location of customers' energy use is increasingly important to meeting our clean energy goals. In 2018, we expanded TOU rates for residential customers, with more than 300,000 residential customers now using this rate. This not only promotes conservation, it also lowers energy demand during peak hours, which supports GHG emission reduction goals by shifting use to times of day when the energy supply is cleaner. All commercial customers are on TOU rates, and SCE will continue expanding this rate to more residential customers with a goal of reaching all customers in 2021.

A TRIPLE WIN FOR 99 RANCH MARKETS: SAVING ENERGY, SAVING MONEY & IMPROVING CUSTOMER EXPERIENCE

At the 99 Ranch Market, part of California's largest chain of Asian American food stores, customers are appreciating better lighting and more comfortable temperatures in aisles with open-fronted, chilled display cases. Through a partnership with SCE, 99 Ranch Market is upgrading fixtures to new energy-efficient LED lights and improving its refrigeration systems by installing energy-efficient racks, cases, and doors in several of its regional stores in San Gabriel, Rancho Cucamonga, Rowland Heights, Alhambra, and Hacienda Heights. Thanks to these technologies, the company is reducing its energy use by 411,000 kilowatt-hours (kWh) annually, resulting in lower bills and energy savings. It has also seen more than $56,000 in savings through incentives. These energy savings translate into approximately 200 tons of CO_2 emissions eliminated, the equivalent of taking about 40 gasoline-powered vehicles off of the road.

"We are all part of a global community and every little bit we do to reduce our energy consumption and carbon footprint helps to reduce the strain on our environment."

Christopher Connaughton
Procurement Manager, 99 Ranch Markets

SCE'S INNOVATIVE APPROACH TO INCENTIVIZING ENERGY-USE REDUCTIONS

In 2018, SCE developed a new GHG emissions reduction program, working with seven University of California and California State University campuses. Called the Clean Energy Optimization Pilot, this program uses a simplified pay-for-performance approach to encourage the reduction of energy-related GHG emissions. Extensive reporting and stakeholder engagement will enable SCE to share in-progress learnings to enhance future GHG emissions reduction programs.

Produce section of a 99 Ranch Market.

Santa Rita East Wind project in Irion County, Texas

Lincoln Center for the Performing Arts

EDISON ENERGY SUPPORTS NOVARTIS IN EXECUTING WIND FARM AGREEMENT

Edison Energy* supported large pharmaceutical company Novartis in executing a Virtual Power Purchase Agreement (VPPA) to add 100 MW of wind power to the electric grid starting in 2019. Announced in 2018, the VPPA supports Novartis global sustainability strategy and is expected to reduce more than 220,000 metric tons per year of GHG emissions over the 12-year term of the agreement through the wind farm's renewable energy attributes. Edison Energy conducted a competitive project solicitation as the buyer's agent for Novartis and supported the financial analysis to support the project's long-term success.

OPTIMIZING PERFORMANCE FOR OUR EDISON ENERGY CUSTOMERS

Edison Energy worked with Lincoln Center for the Performing Arts (LCPA) to improve energy management at their 16-acre site. This award-winning project focused on operational efficiency improvements and capital-based engineering opportunities to reduce utility bills by 17% while saving 4 million kWh of electricity, 11,000 Mlbs of steam consumption, and over 800,000 ton-hours of chilled water consumption every year. Other project benefits included improved indoor air quality, reduction in unnecessary maintenance expenditures, and overall efficiency and effectiveness of the facility.

* Edison Energy is not the same company as Southern California Edison, the utility, and Edison Energy is not regulated by the California Public Utilities Commission.

OPERATING WITH EXCELLENCE

- Safety
- Environment
- Customers & Communities
- Employees
- Governance & Ethics

Jeffrey Belcher, SCE General Foreman based out of Santa Ana, California, at SCE's Gould Substation in La Cañada Flintridge, California

SAFETY

Safety is our top value. We are protecting our communities by increasing the resiliency of our operations and partnering with them to mitigate the risk of natural and human-induced disasters — including wildfires. Advancing a culture of safety within our own operations, including among employees and contractors, is driving us toward improved safety performance.

Wil Robinson (left) and Jacob Lybbert (right), SCE Journeymen Linemen based out of Ontario, California, at SCE's Covina Service Center

PUBLIC SAFETY

SCE is committed to upholding the highest levels of public safety. Expanding our wildfire mitigation, response, and recovery efforts by improving the resiliency and security of our grid is a key focus. We are also improving our preparation for, and response to, other types of disasters and emergencies that can impact public safety and our operations. Through new digital capabilities at our Reliability Operations Center, we have accelerated our ability to detect and respond to public safety hazards, while we continue to focus on communication and education campaigns to help the public stay safe near our equipment.

MITIGATING RISK OF WILDFIRES & INCREASING RESILIENCY

As of year-end 2018, approximately a third of SCE's service area was located in high fire-risk areas. As wildfire-related risks continue to increase, we are implementing a comprehensive wildfire mitigation strategy that includes further grid hardening, enhanced situational awareness, and expanded operational practices. While this strategy is focused on wildfires, the resilience we are building into our infrastructure and within our operations will increase public safety under all circumstances — not just during high fire-risk situations.

GRID HARDENING & RESILIENCY

Replacing and hardening infrastructure is a central focus of our approach. Many sections of the grid date back to the mid-20th century and were designed for environmental conditions different than today's reality. Hardening infrastructure will enable the grid to better withstand the types of interference that can cause sparks, such as vegetation and other debris blowing into power lines. We are rapidly deploying new technologies that can reduce fire risk, such as next-generation, fast-acting fuses and other devices that de-energize lines quickly when disturbances are identified. To minimize interruptions (known as faults) and short circuits that create sparks, we are replacing certain overhead conductors with larger and stronger conductors, as well as insulating wires. In 2019, we plan to upgrade at least 96 miles of circuit and install at least 7,500 current-limiting fuses in high fire-risk locations.

We are also replacing traditional wood poles with composite poles, which are less susceptible to wildlife damage, rotting, and fires. Since 2014 through the end of 2018, we installed more than 72,500 poles in high fire-risk areas and plan to install at least 1,100 additional composite poles in 2019.

ENHANCED SITUATIONAL AWARENESS

SCE's Business Resiliency Organization provides SCE with comprehensive situational awareness for all potential and realized hazards or threats. To respond to increasing wildfire-related risks, SCE has enhanced its existing situational awareness capabilities to better forecast potential wildfire conditions. These new capabilities inform operational decisions, help emergency management staff determine how to best reduce potential wildfire risks, and enable us to respond more effectively to fires when they occur.

In 2018, our meteorologists improved their ability to forecast weather conditions by leveraging new advanced modeling techniques capable of precision to a third of a mile. In parallel, we have installed more than 250 solar-powered weather stations in high fire-risk areas to provide real-time information on wind, temperature, humidity, and other factors and to help validate and improve weather models. We plan to install a total of 850 weather stations by the end of 2020.

Additionally, SCE brought on a fire science expert to establish a comprehensive fire program, which includes advanced modeling and fire analysis and incorporates the latest fire science and technology into operations.

To enhance real-time situational awareness for first responders and SCE incident management teams, we have partnered with the University of California, San Diego, to install more than 100 high-definition cameras in remote areas, with a total of 160 expected to be installed by the end of 2019.

Information from these cameras and weather stations feeds into our Situational Awareness Center, where SCE meteorologists, GIS mapping specialists, and outage management specialists work directly with other planning and emergency response experts to detect and respond to fires and other disasters.

EXPANDED OPERATIONAL PRACTICES

Leveraging new tools and situational awareness capabilities is changing the way we operate, including how we conduct inspections in high fire-risk areas, manage vegetation, and make a determination on whether to de-energize lines in high risk conditions.

We are enhancing and accelerating inspections of all of our overhead transmission and distribution power lines in high fire-risk areas. These risk-based inspections go beyond compliance checks and improve our ability to conduct preventative maintenance and make repairs.

We are also further reducing the risk of fire through enhanced vegetation management. We continually identify and remove dead, dying, and diseased trees, and in 2019, we are removing an additional 7,500 hazard trees that pose a threat to power lines. In addition, we have expanded our vegetation clearance distances to provide a greater buffer between trees and our power lines and increased the use of Light Detection and Ranging (LiDAR) technology to identify hazardous vegetation.

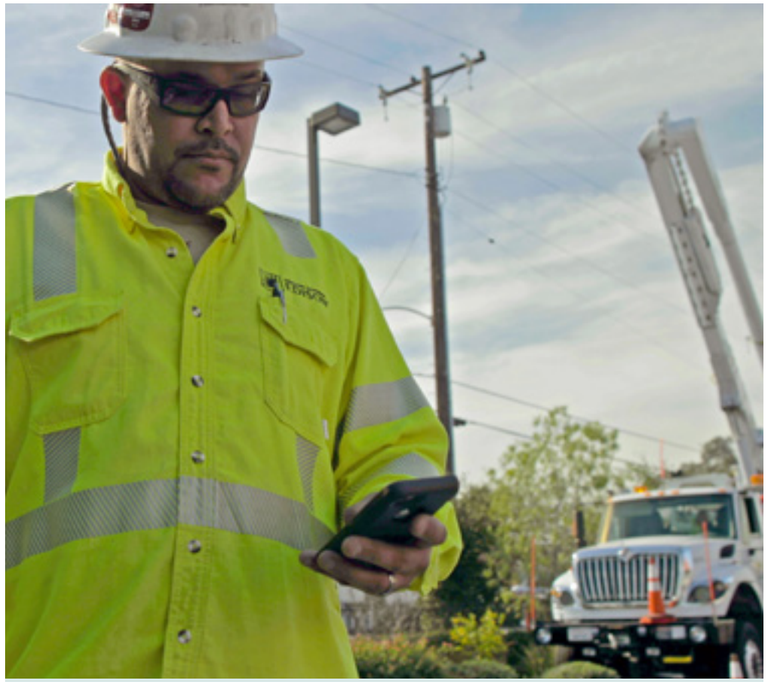
When extreme conditions are forecast, we restrict certain types of work and do not automatically re-energize distribution power lines in high fire-risk areas after a circuit interruption.[1] In certain cases, we pre-emptively turn off power to circuits or portions of circuits that are experiencing extreme fire weather conditions through public safety power shutoffs. We recently enhanced our risk-informed protocol for determining when to activate this measure, relying on weather forecasting tools, fuel conditions, internal assessments of equipment-related safety concerns, and collaboration with government agencies and other key private and public sector stakeholders. This measure is only intended to be activated when necessary to prevent wildfire ignitions and to help ensure public safety. SCE provides advance notice to customers when this measure is needed.

DISASTER PREPAREDNESS, EMERGENCY RESPONSE & CONTINUITY PLANNING

Wildfires aren't the only natural disasters that pose a risk to our customers. SCE has comprehensive programs to plan for and respond to earthquakes and other emergency situations.

PREPARING FOR EARTHQUAKES

We have made significant investments in our Seismic Assessment and Mitigation Program to enhance our ability to restore the system and limit public safety hazards in times of need. In a 2015 report, the United States Geological Survey (USGS) introduced its latest earthquake model, the third Uniform California Earthquake Rupture Forecast (UCERF3). Using this as a foundation, we have been conducting ongoing comprehensive assessments of potential seismic impacts to all of our operations and infrastructure. Based on these assessments, we have developed mitigation strategies and are implementing a range of structural and process improvements focused on life safety and service reliability.



Eddie Saldivar, Electrical Field Crew Foreman based out of Monrovia, California.

IMPROVING COMMUNICATIONS WITH FIRST RESPONDERS

In 2018, we implemented a new communication application to help 911 first responders alert SCE more quickly to electrical hazards, such as broken or damaged utility poles, downed or sagging wires, and transformer issues. The application allows first responders to communicate directly with relevant SCE personnel in less than a minute, rather than going through 911 dispatch or SCE call centers. SCE, in turn, can respond more rapidly and precisely, geo-locating the first responder and emergency issue in order to dispatch assistance.

[1] Most electric circuit interruptions, or "faults," are momentary, caused, for example, by a bird or metallic balloon making contact with power lines. Under normal conditions, the grid automatically tests the circuit and, if the fault condition no longer exists, the circuit is quickly re-energized. During extreme weather conditions, affected circuits are not automatically re-energized. Rather, SCE crews physically inspect the lines before they are re-energized.

First responders at Chino Airport for a wire avoidance safety seminar.

TRAINING & DRILLS

SCE conducts more than 20 drills and exercises annually to prepare incident management teams to respond to potential natural and human-induced disasters. In 2018, we conducted a full-scale exercise with public sector partners, SCE's incident management teams, and employees from across the organization to respond to a hypothetical cyberattack that could shut down power in our region — a critical national security concern. Learn more about our approach to cybersecurity.

WORKING WITH EXTERNAL PARTNERS

Helping to build a resilient region in partnership with all regional stakeholders, including our communities; local, state, and federal government agencies; other essential service providers; and nonprofit organizations, through partnerships, philanthropic funding, public education, and more is foundational to SCE's approach.

At the federal level, Edison International is a member of the Electricity Subsector Coordinating Council, which is the principal liaison between leadership in the federal government and the electric power sector to prepare for national-level incidents and threats to critical infrastructure.

Locally, we support Southern California's Critical Lifelines Workgroup, which is a collaborative forum to align service providers that support lives and livelihoods, including energy, gas, water, communications, and emergency services. In 2018, we also expanded trainings to help nongovernmental organizations (NGOs) participate in incident response teams — making it possible for NGOs to bring their resources to bear more effectively in disaster response efforts.

Since 2012, Edison International has funded PrepareSoCal, a partnership with the American Red Cross, through an investment of $3 million. PrepareSoCal promotes resiliency in the face of disaster by sharing life-saving tips, tools, and training with families in some of our state's most vulnerable communities.

We also partner with state and local fire authorities on an ongoing basis to mitigate against wildfires. For example, as part of Operation Santa Ana, SCE vegetation management staff accompanies fire agency personnel over a three- to four-month period in the summer to inspect overhead power lines in high fire-risk areas. SCE then remedies any vegetation conditions that it identifies. This program not only helps with SCE's vegetation management program, but also facilitates cross-training opportunities and important relationships.

SUPPORTING PEERS IN RESTORATION & RECOVERY

We support our peer utilities in times of need through mutual assistance agreements. In 2018, SCE sent rotating incident management teams and repair experts to Puerto Rico to support recovery and restoration efforts following Hurricane Maria.

PUBLIC EDUCATION CAMPAIGNS

We promote annual safety campaigns to help the public stay safe near our equipment. In 2018, SCE's public safety advertising campaign focused on safety near power lines, including downed wires, working around power lines, and metallic balloons coming in contact with power lines. The campaign achieved more than 1.68 billion advertising impressions via radio, digital/online, social media, billboards, and bus shelters. In alignment with the demographic makeup of our service area, the campaign was produced in English, Spanish, Korean, Chinese, and Vietnamese.

SCE also creates public safety campaigns to educate people who work near power lines and other electrical infrastructure. We have engaged with more than 111,000 companies that perform agricultural, tree-trimming, or other work that could include contact with electrical infrastructure. We also engaged with 1,500 first responder agencies, 6,000 teachers, and 75,000 elementary school students within our service area about safety near electrical wires.

Among other things, in 2018, Edison International continued its sponsorship of a live stage production to educate elementary school students across Southern California about safety around electricity. We also updated our public-facing informational website (formerly insideedison.com) and renamed it energized.edison.com. Approximately 37% of the content posted was tied to our corporate goal of safety. Of the top 10 most viewed stories last year, three of the pieces focused on public safety, receiving total traffic of 125,555 page views. SCE's social media channels (Twitter, Facebook) also share information on electrical hazards at home, seasonal and weather-related safety tips, and community meetings on SCE's wildfire mitigation efforts. We expect this level of outreach to continue in 2019.

EMPLOYEE & CONTRACTOR SAFETY

Our goal is for every one of our employees and contractors to return home safely every day, and we are investing a significant amount of time, energy, and focus to make sure that happens.

SAFETY PERFORMANCE

Per industry standards, we assess safety performance using the rate of workplace injuries reportable to the Occupational Safety and Health Administration (OSHA) and the Days Away, Restricted, and Transferred (DART) rate, which measures injuries serious enough for an employee to lose time away from work or that require the employee to be on restricted duty or transfer to an alternate work assignment.

SAFETY PERFORMANCE DATA

	2016	2017	2018	Peer Benchmark Average*
Employee OSHA Recordable Rate**	1.92	2.03	1.95	1.05
Employee DART Rate***	0.80	0.97	0.96	0.50
Tier 1 Contractor OSHA Rate	0.89	0.71	0.92	—
Tier 1 Contractor DART Rate	0.66	0.37	0.55	—

* Based on a benchmark of 19 peer utilities. Benchmarking data for contractors is not available.

** OSHA's recordable incident rate measures the number of employees per 100 full-time employees that have been involved in a recordable injury or illness.

*** DART measures the number of recordable incidents per 100 full-time employees that resulted in lost or restricted days or job transfer due to work-related injuries or illnesses.

Our 2018 performance did not meet our expectations; for example, our DART rate did not meet our target of ≤ 0.80 and remained approximately equal to our 2017 result. We were also deeply saddened by two contractor fatalities in early 2018. These tragic losses underscore the importance of the work ahead for our company and our suppliers. Real improvements in our safety performance will be driven by a shift in our safety culture, and we remain committed to that journey.

BUILDING A STRONG SAFETY CULTURE

While safety has long been at the core of our company's values, over the past two years, we have embarked on a journey to improve our safety performance. In particular, we are focused on developing a culture of safety ownership rather than safety compliance among our employees and contractors. This requires shifting from a mindset where safety is just another set of rules to be followed to one in which all employees and contractors feel empowered to control their own safety, support their team members' safety, and contribute to a safe work environment.

In 2018, we enhanced our safety training, particularly for field employees who work on higher risk jobs. The training, which occurs over two days (with three additional training days for leaders), is focused on our culture around being both physically and psychologically safe. We also continued to collaborate frequently with our unions on programs to reduce injuries. For example, the Craft Driven Safety Program (CDSP) is a partnership between the International Brotherhood of Electrical Workers (IBEW) Local 47 and SCE that focuses on reducing on-the-job injuries and improving our safety culture. The CDSP clarified safety behavior expectations, established a corrective action framework for safety-related performance issues, and harnessed the power of peer-to-peer accountability in the field.

In 2019, we are continuing our journey to build this safety culture through actions related to the following:

- **Safety culture engagement and measurement**, including deepening the cultural impact of safety through an integrated culture strategy;
- **Leadership and talent management**, including expanding efforts to select and develop effective safety leaders; and
- **Hazard awareness and risk management**, including leveraging tools and data to identify, discuss, and mitigate serious injuries and fatalities.

LINEMAN'S RODEO

What do you get when you swap bucking broncos for 40-foot-high utility poles? The International Lineman's Rodeo, an annual competition that tests the skills of traditional lineman tasks, from pole climbing to "hurt man rescue." The event has grown from 12 teams in 1984 to more than 200 journeyman teams and nearly 300 apprentices today.

To participate in the rodeo, linemen and apprentices must first compete in local rodeos and place high enough to qualify for the international competition held each October in Kansas. SCE teams have done extremely well at the event historically and took several top spots in the 2018 competition.

The rodeo is part teambuilding exercise, part safety training — and part good, old-fashioned fun. Participants are expected to follow a suite of strict safety guidelines — the same types of guidelines that would be expected on-the-job — or risk having points deducted. The rodeo also includes a safety and training conference for participants.

ENVIRONMENT

As we build a clean energy future, we are committed to protecting the environment. We are focused on reducing the environmental footprint of our utility operations and our overall business by greening our processes, fleet, and facilities.

Melissa Hochmuth, Environmental Services Senior Manager, in the Angeles National Forest near SCE's Gould Substation in La Cañada Flintridge, California

ENVIRONMENTAL MANAGEMENT & COMPLIANCE

SCE's robust environmental compliance program aligns with ISO 14001 protocols and covers core utility operations, including infrastructure maintenance and upgrades. Our cross-functional, executive-level Environmental Leadership Council oversees SCE's adherence to environmental laws and regulations while continuing to advance environmental practices and improve performance.

SCE's Environmental Services Department manages a centralized program to facilitate environmental permitting and compliance across the company. A major aspect of this is reviewing potential environmental impacts of infrastructure development and maintenance projects and preparing mitigation plans. Each year, we conduct approximately 20,000 comprehensive environmental reviews of transmission and distribution infrastructure projects to avoid disturbing sensitive habitats or archeological sites. In 2018, we had over 500 public agency inspections of our work, a 37% increase from 2017; 99% of the inspections had no notices of violation, up from 97% of the inspections in 2017.

GREENING OUR PROCESSES

At SCE, we work to reduce the potential environmental impact of our daily operations by greening our processes, including everything from minimizing waste to landfill to selecting better, more environmentally friendly materials to engaging our supply chain on sustainability.

RESOURCE RECOVERY & MATERIALS MANAGEMENT

SCE has a comprehensive program to minimize waste to landfill when equipment and materials reach the end of their useful life. We track capital investments — transmission and distribution equipment, furniture, information technology equipment, and more — to maximize reuse and resale, rather than landfilling or otherwise disposing of assets as waste. In 2018, we found reuse opportunities for 50,000 pounds of material, diverting it from landfill. We also enhanced and formalized the program to expand its reach across the company.

We consider the materials we use in our transmission and distribution infrastructure and other facilities to reduce environmental impacts. For example, we are working to use vegetable-based cooling FR3 fluid in overhead transformers, replacing petroleum-based mineral oil. This change is not only good for the environment, but also for our customers because it improves equipment performance during summer heat and increases equipment life expectancy. With a higher fluid flash point than mineral oil, FR3 also reduces fire risk.

SUPPLY CHAIN SUSTAINABILITY

We engage our suppliers and vendors on the topic of sustainability to expand our clean energy impact through leveraging the approximately $4 billion we spend on procurement every year. Engagement also helps us explore opportunities to create shared value and new partnerships. Since 2008, SCE has been a member of the Electric Utility Industry Sustainable Supply Chain Alliance, which formed to help reduce the environmental footprint of the electric utility industry supply chain and address common sustainability challenges. The Alliance recently expanded its membership to include suppliers directly, creating a trade association and strengthening our ability to partner on sustainability issues. As a result, utilities and our suppliers are now using the Alliance to collaborate.

ASSESSING OUR ENVIRONMENTAL MANAGEMENT SYSTEM

We measure the success of our environmental management program based on key compliance metrics, such as the number of violations found during regulatory agency site visits, the number of environmental incidents reported by field personnel, and the on-time completion of compliance tasks. We improved our rate of "on-time completion of compliance tasks" to 99% in 2018 compared to 98% in the prior year.

In 2018, we undertook a comprehensive review of our environmental management program to assess its maturity in key areas. Based on this assessment, we found that our systems are effective and mature. This analysis was in addition to regular programmatic reviews and internal audits of controls related to environmental risk management, governance, and compliance.

In 2018, the Alliance implemented a new digital knowledge sharing platform to assess and share best practices among suppliers. Alliance members also added a supplier survey tool through which suppliers rate themselves on key sustainability issues; this information is shared among utilities and, at SCE, feeds into our procurement assessments and decisions. As part of the Alliance, we are also engaged in sustainability discussions and benchmarking activities with our suppliers directly.

In addition to our supplier outreach through the Alliance, we work directly with suppliers on transportation logistics. For example, through our Supplier Integration Initiative, which began in 2014 and aims to boost efficiency and streamline operations within our supply chain, we have reduced the number of monthly inbound trucks from suppliers by as much as 55%, lowering fuel consumption and carbon dioxide (CO_2) emissions by up to 286 metric tons.

PROTECTING BIODIVERSITY & CULTURAL RESOURCES

At SCE, we protect special status species, habitats, ecosystems, and cultural resources everywhere we operate. Whether we're upgrading and expanding infrastructure for future reliability or repairing poles or wires damaged by storms, biodiversity and cultural resource protection is one of our central priorities.

SCE conducts environmental screening and review of all activities that could impact protected environmental and cultural resources and then develops avoidance, minimization, and mitigation plans to reduce impacts.

PROTECTING HABITAT ON CATALINA ISLAND

In 2018, SCE installed fire-resistant poles on Catalina Island, a high fire-risk area. Before beginning work, SCE biologists and local conservancy employees surveyed the area to mark sensitive species like the American bison (pictured) and designate travel paths to avoid them. Throughout the course of SCE's work on the island, these environmental teams and SCE pole crews regularly resurveyed work areas for possible signs of nesting birds or other species of concern, revising work plans as necessary to avoid disturbing them.

SCE has an avian protection program focused on protecting birds from electrocution while reducing the risk of animal-caused power outages. We also take special precautions to avoid impacts to the desert tortoise, a federal- and state-listed threatened species found in our service area. We developed an award-winning training program outlining requirements that field workers must follow to protect this species.

SCE manages the San Dieguito Wetlands Restoration Project, which revitalized 150 acres of coastal wetlands impacted by the now-retired San Onofre Nuclear Generating Station (SONGS). The project created a fish nursery and a refuge for migratory waterfowl and endangered species. We also built a 174.4-acre artificial kelp reef, the first of its kind in the nation, which is attracting countless species of coastal fish and invertebrates. We monitor and enhance these restoration projects to ensure they are achieving critical biodiversity functions. In 2019, we plan to stock additional native fish and increase habitat by adding 200 acres to the existing reef.

To minimize impacts from operation of our hydroelectric infrastructure, we collaborate with state and federal wildlife agencies while maintaining and improving aquatic habitat. This includes ensuring minimum instream flows and implementing other riparian protection measures to support aquatic species' populations, which is especially important during extended drought conditions.

SUSTAINABLE FOREST MANAGEMENT

We manage 20,000 acres of Sierra Nevada forestland near Shaver Lake and Dinkey Creek to maintain a healthy forest habitat around the Shaver Lake Dam, which SCE built in 1927 as part of the Big Creek Hydroelectric system. Our efforts are restoring forest conditions to their pre-1850 status and helping wildlife populations — including breeding bald eagles and spotted owls — thrive. Our uneven-aged approach to forestry, where we remove mature trees giving room for young trees to grow, produces proper stocking levels, and our prescribed fire program controls fuel loading and prevents wildfires. This area is also home to the Edison Nursery, which we manage to supply trees to mitigate company projects in other areas.

WATER CONSERVATION

SCE has significantly reduced consumptive water use for fossil fuel generation over the past few years, partially driven by the Hybrid EGT installed at two SCE peaker plants. The Hybrid EGT has an optimized emissions control system that reduces each peaker's consumptive water use by approximately 45% — or 2 million gallons per plant.

EDISON NURSERY & CAMP EDISON

The Edison Nursery, located near Shaver Lake, is used to grow plants to mitigate company projects and to help maintain a healthy forest. The nursery is currently growing approximately 10,000 oak seedlings to preserve the biological integrity of the forest near SCE's Tehachapi Renewable Transmission Project (TRTP), spanning from Palmdale/Lancaster to Ontario/Mira Loma.

In 1963, Edison International built Camp Edison in a pine forest on the western shore of Shaver Lake. SCE is proud to operate the camp as a resource for the public, with 252 sites, water, electricity, cable TV, Wi-Fi, modern restrooms, a general store, and a marina. Surrounding the camp are cross-country ski trails and 40 miles of maintained trails for hiking, biking, and horseback riding. In 2018, SCE had about 1 million visitor days at Camp Edison and Shaver Lake.*

* A visitor day is a standard unit of measurement within the recreation industry and is designed to capture each person who uses our facilities for at least four hours. Thus, a family of four at our facilities for one day would equal four visitor days.

SCE also manages storm water runoff from construction projects to protect against erosion with storm water pollution prevention plans, preventing sediment from entering nearby waters. Where possible, storm water runoff is captured and reused for dust control or compaction on SCE construction projects. For example, during our multiyear construction project at Mesa Substation, which is ongoing through 2022, storm water runoff is being captured and reused, saving millions of gallons of otherwise potable water.

GREENING OUR TRANSPORTATION

With close to 6,000 vehicles operating in a 50,000-square-mile service area, emissions from SCE's fleet make up more than half of SCE's nongeneration operational carbon footprint. Just as we are advancing efficient electrification among our customers, we are working to reduce our carbon footprint by electrifying our fleet and supplying EV charge ports for fleet vehicles, as well as for employees and visitors.

We are an industry leader in fleet electrification. In 2014, we made a commitment through the industry group Edison Electric Institute (EEI) to spend at least 5% of our annual fleet acquisition budgets on fleet electrification options and have exceeded that commitment every year since then. In 2018, roughly 23% of SCE's fleet acquisition budget was invested in EVs and plug-in technologies. As of December 2018, we had 459 vehicles that were electrified or included plug-in technology, which is 8.7% of our total powered fleet of 5,259 vehicles. Conventional hybrid EVs make up an additional 3.6% of SCE's fleet.

As an example of how we are greening our fleet, we are installing electric power takeoff systems (ePTO) on the bucket trucks our distribution crews use to service power lines. This means that trucks no longer need to keep their engines running for the hydraulic lifts to work, reducing CO_2 emissions and making job sites quieter for the benefit of crews and the surrounding community. For some specific vehicles, finding the right electrification option is more challenging, and we are working with automakers and others in the industry to explore a path forward. We are working with vehicle manufacturers on electric options for medium-duty vehicles and using that knowledge to further our work with our own customers on electrification solutions.

FLEET CHARGING INFRASTRUCTURE

To support the growing number of EVs in our fleet, we have invested in more than 300 fleet-available charge ports at our facilities.

IMPROVING TRANSPORTATION LOGISTICS

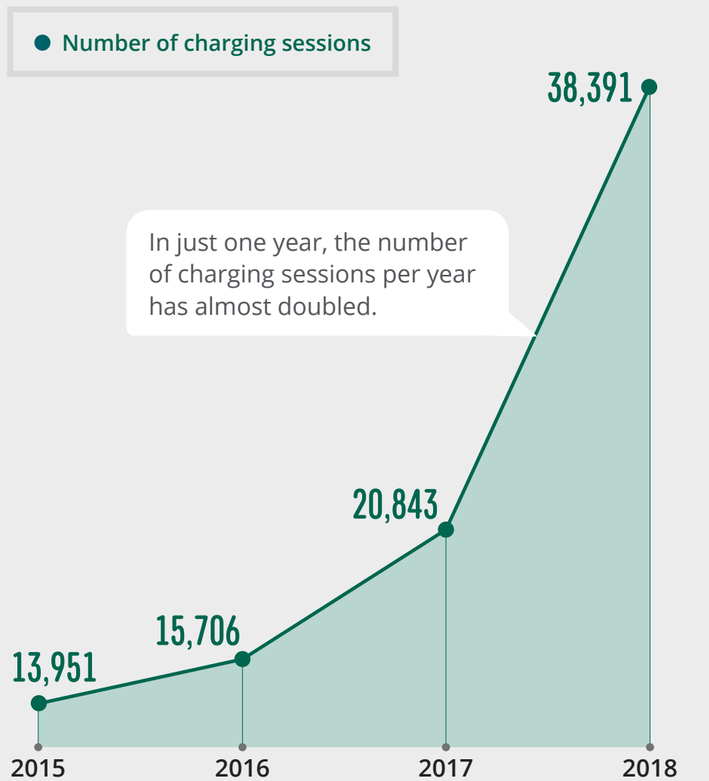
Every day, SCE employees drive hundreds of miles delivering products and materials and doing needed monitoring and maintenance tasks. We are increasing the efficiency of these transportation logistics by carrying cargo on return journeys, rather than returning empty. In 2018, SCE's Material Transport Group incorporated 2,571 backhauls into their daily routing. As a result, SCE reduced the number of miles driven by more than 247,300.

NUMBER OF FLEET CHARGING PORTS*

203	171	2
Level 1 (120v, 20 amp outlets)	**Level 2** (240v, 32 amp outlets)	**DC Fast Chargers**

* Fleet charger inventory excludes vehicle specific forklift and off-road equipment chargers.

SCE EMPLOYEE EV CHARGING



EMPLOYEE CHARGING INFRASTRUCTURE

In 2015, we began operating employee- and visitor-accessible EV charge ports at our facilities. Between 2017 and 2018, SCE employees increased charging sessions by 84%, from approximately 20,800 to 38,400. SCE's employee EV charging program has eliminated more than 2.5 million pounds of CO_2 and saved nearly 131,000 gallons of gasoline. We are developing a plan to expand charging infrastructure at SCE sites with more than 50 employees.

GREENING OUR FACILITIES

At SCE, we are working to reduce the environmental impacts of our 1,300 buildings. All of our facilities, including service centers and operations buildings, use electricity as a primary energy source, with only 16% of our facilities using nominal amounts of natural gas. Additionally, we are implementing a range of energy efficiency measures.

In 2017, SCE began an employee-driven initiative to identify and implement ideas to improve SCE's environmental footprint and demonstrate that we are "walking the talk" toward a clean energy future. As part of this effort, SCE has calculated a GHG baseline for internal operations and fleet vehicles and is conducting energy audits of its own facilities.

We are also pursuing energy conservation measures at our facilities, including the installation of window tinting on south, east, and west exterior windows; mechanical equipment replacements, such as chillers and higher efficiency HVAC units; modification of our operations and better utilization of the building management system, which controls building operations from heating and cooling to lighting, for higher efficiencies; and modification of our construction standards to include more efficient LED lighting.

LEED-CERTIFIED FACILITIES

Since 2010, all of our new buildings have been designed to a minimum LEED (Leadership in Energy and Environmental Design) Silver-equivalent design standard. For example, our Wildomar Service Center has a LEED Platinum designation, the highest level available to buildings in the areas of energy efficiency and sustainability. The 19-acre complex is 39% more efficient than similar buildings that use minimum sustainability standards thanks to state-of-the-art energy-efficient lighting, solar panels, storm water bio-retention basins, vegetated channels to convey storm water runoff, inlet filters, underground storm water detention, and other features.

SOUTHERN CALIFORNIA EDISON LEED-CERTIFIED FACILITIES

1	2	6
Platinum level	Gold level	Silver level

SUSTAINABLE LANDSCAPING PROJECTS

We have made great strides in reducing environmental impacts and maximizing the habitat value of land surrounding our facilities. Since 2008, we have completed 11 innovative sustainable landscape projects that are preserving natural resources and reducing our carbon footprint. At the Villa Park substation in the City of Orange, for example, we have dramatically cut annual water use and eliminated dry-weather runoff. At our award-winning Gateway Business Center in Irwindale, we have planted 9,525 plants, removed and recycled concrete and asphalt, created outdoor walking paths and a rainwater harvesting system, and reduced storm water runoff. To reduce freshwater use for landscaping, we use reclaimed water for irrigation on SCE properties and have implemented native desert vegetation where possible.

"I am right in the thick of renewable energy as we upgrade the grid, all while helping to protect the environment. We are minimizing our impact to the environment and SCE is doing it correctly."

Jack Goldfarb, SCE Herpetologist

CUSTOMERS & COMMUNITIES

At SCE, our commitment to customers and communities is rooted in our mission to provide safe, reliable, affordable, and clean power. Meanwhile, Edison Energy* is transforming the way market leaders manage energy through advanced analytics. In all we do, we know that serving our customers means serving the whole community. We're partnering with local nonprofit organizations to support education, the environment, public safety, and civic engagement

Edison International volunteers planted trees with community partner Tree People in Lynwood, California

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SERVING OUR CUSTOMERS

We want to meet the needs of our customers and provide more choices and innovations for the long term. At SCE, we are streamlining our products and services, making them easier to use while leveraging new digital technologies that keep the customer top of mind. At Edison Energy,* we are helping customers design the most optimal and risk-adjusted energy portfolio, leveraging our proprietary data and advanced analytics.

RELIABILITY

In 2018, SCE exceeded its reliability goal and achieved its lowest System Average Interruption Duration Index (SAIDI)[2] score on record. Our SAIDI score was 20 minutes better than in 2017 and 12 minutes better than our goal.

This success is in large part due to our Reliability Roadmap, a multi-year reliability improvement program launched in 2017. Focused on several key areas — performance management, improved work practices, engineering, and technology — the Roadmap has contributed to the improvement of our SAIDI performance by more than 35% in just two years: from approximately 110 minutes in 2016 to 71 minutes in 2018.

Beyond the Roadmap, we are using digital technologies to change our processes and are also investing in cutting-edge automation, smart meters, and analytics to help us respond to outages more quickly and, in some cases, eliminate the need for an outage altogether. Our Reliability Operations Center is at the core of this innovative work.

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[2] The SAIDI score measures the cumulative duration of sustained repair outages experienced by the average customer in a year (excluding major event days). A sustained repair outage is one lasting more than five minutes.

Outage management

SCE is investing in the grid of the future, updating and replacing grid infrastructure on a large scale. Maintenance outages are often needed to replace segments of underground cable, overhead conductors, poles, or other equipment.

Through proactive notifications, improved scheduling, and more accurate restoration information, SCE works to minimize the inconvenience customers experience when planned outages occur. Where possible, we combine multiple jobs in bundles, allowing us to complete all maintenance work during one interruption. As a result, the average outage duration decreased by 2% and the number of customers impacted per outage went down by approximately 9% from 2017 to 2018.

SCE also continues to improve planning for and scheduling of maintenance outages to avoid sensitive dates, such as religious and civic holidays and events, as well as to improve work practices to reduce the duration of maintenance outages and the number of customers impacted.

In 2018, 85% of all maintenance outages began when scheduled, and nearly 74% ended early or as planned. In 2018, we launched an outage progress tracker on our website that keeps customers informed of the status of the restoration process, similar to the way customers can track delivery of their packages. This has been made possible in part due to a new smart phone app called Customer Crew Connect, or "C3," that SCE is rolling out to crews across its service area. C3 allows foremen to enter outage information directly into SCE's outage management system, giving customers more timely and accurate outage status updates. In just the initial pilot, the app reduced the time to communicate an outage to customers by 75% (from 20 minutes to less than five minutes).

RELIABILITY PERFORMANCE	2016	2017	2018
System Average Interruption Frequency Index (SAIFI): Number of sustained repair outages* experienced by the average customer in a year**	0.99	0.87	0.72
System Average Interruption Duration Index (SAIDI): Cumulative duration (in minutes) of sustained repair outages experienced by the average customer in a year**	109.98	91.72	71.25
Customer Average Interruption Duration Index (CAIDI): The average repair outage duration (in minutes) per customer; also, average time to restore service**	110.69	105.40	99.58

* Sustained outage: Power outage lasting longer than five minutes.
**Major event days excluded

SCE's proactive notification system informs customers about current outages, progress updates, and estimated restoration time through various communication channels, including voice, email, and text message. At year-end 2018, more than 3 million customers were enrolled in the program, and we expect that number will continue to grow. Customers can enroll in the notification program by visiting SCE.com/outage.

INCOME-QUALIFIED CUSTOMERS

California Alternate Rates for Energy (CARE) Program

Provides a discount of 30%–35% on monthly electric bills for qualifying low income customers

1.2M SCE households enrolled in CARE

Approximately 30% of estimated total SCE households as of December 2018

Family Electric Rate Assistance (FERA) Program

Provides a discount of 18% on monthly electric bills for households of three or more with income which slightly exceeds the CARE program allowances

19,140+ participating households

as of December 2018

Energy Savings Assistance Program (ESAP)

Helps save energy and lower costs by offering energy-efficient appliances at no cost to customers

47+M kWh saved (kWh = kilowatt-hour)

6,360+ kW of demand reduced (kW = kilowatt)

85+K participating homes

SCE's Energy Assistance Fund (EAF)

Administered by United Way and funded by SCE employees, customers, and shareholders. Qualifying SCE customers can receive up to $100 toward their energy bill once in a 12-month period.

11,830+ households assisted

$1.2M donated by employees, customers, and Edison International shareholders

AFFORDABILITY

SCE strives to keep costs low for customers. One way SCE measures affordability is by nongeneration operations and maintenance (O&M) costs per customer. SCE continues to reduce O&M costs and achieved top quartile performance in 2018 when compared to peer utilities nationwide. SCE also tracks system average rates. Not only does SCE maintain the lowest system average rate among California's investor-owned utilities, SCE's average rate has grown less than Los Angeles-area inflation over the past 29 years. In addition, SCE's average residential bill ($/month) was 27% lower than the national average in 2017 due to California's higher energy efficiency appliance and building standards, as well as a milder climate than other regions.

For customers with qualifying incomes, SCE offers reduced energy bills and free appliances and installations. These important programs serve approximately 30% of SCE's residential customers (see box to the left).

CUSTOMER SATISFACTION

SCE is committed to meeting the expectations of its customers and sharing timely, accurate information about its services. Our approach to managing and improving customer experience starts with our "Voice of the Customer" (VOC) survey tool, which captures feedback daily from more than 1,000 customers after they have completed a variety of different transactions with SCE, such as paying their bill, experiencing a power outage, using our website, or speaking with an Energy Advisor at one of our Customer Contact Centers.

For example, VOC feedback enabled our digital team to quickly identify and resolve customer confusion resulting from a recently updated webpage. Soon after the webpage launched, the increase in questions and detailed feedback from customers helped us pinpoint the root cause of the confusion.

USING ROBOTICS TO IMPROVE OPERATIONAL EFFICIENCY

One way SCE is reducing O&M costs per customers is through the use of robotics to automate and accelerate back-end processes. SCE's Customer Service Operations, Revenue Services Organization has led the way among utilities in the implementation of robotic process automation capabilities, automating more than 50 processes in just two years, including over 30 in 2018 alone. More than one-third of the Revenue Services Organization's work is now being done by robots, helping SCE complete backlogged work without increasing staffing levels. In 2018, this cutting-edge effort was recognized nationally, including winning Chartwell's 2018 Gold Best Practices Award in the Billing and Payment category.

INTEGRATION WITH GOOGLE/AMAZON VOICE ASSISTANT TECHNOLOGY

In 2018, SCE took several big steps to improve both the information shared with customers and the ease of their interactions with us. We launched a chat bot to help customers navigate our website and are now using voice assistant technology where customers can talk to their smart speaker (e.g., Google Home, Amazon Alexa) to get basic information about SCE services.

In December 2018, we launched basic, frequently asked questions (FAQs) skills on the Alexa platform and are continuing to evolve this digital channel with expanding FAQs. We will eventually offer personalized interactions and transactions through voice, such as "How much is my electric bill?" and "Am I on the best rate for my needs?"

Without this critical customer input, weeks would have passed with increasing customer frustration before our team became aware of, and could address, the issue.

Additionally, we track industry surveys, such as the J.D. Power Electric Utility Satisfaction Study and Market Strategies International's Trusted Brand and Customer Engagement Study, to benchmark our performance, understand trends, and gain insights on best practices from other electric utilities. Among large utilities in the West, we ranked in the top quartile — second out of 11 — in the 2018 J.D. Power Business Electric Utility Customer Satisfaction Study, up three positions from 2017 and marking the first time since 2013 that SCE has been ranked among the first quartile. We ranked fifth of 13 in J.D. Power's 2018 Residential Electric Utility Customer Satisfaction Study, down one position from 2017.

NATIONAL RECOGNITION

In 2018, SCE received the National Key Accounts Program Award for Outstanding Customer Service, presented on behalf of all national, multisite customers by Edison Electric Institute's Customer Advisory Group. SCE's national and key accounts team was chosen by customers in a nationwide open-ballot process. This award reflects our commitment to, and continuous improvement around, being best-in-class in customer satisfaction.

COMMUNITY ENGAGEMENT

SCE supports and partners with community-based organizations, as well as leaders from key customer segments, to increase awareness about safety, promote programs and services, gain feedback, and align on common goals.

In 2018, SCE continued to convene the Clean Energy Access Working Group and also held 22 community meetings in areas of high fire-risk to share the company's wildfire mitigation program with customers.

We also convened advisory panels and roundtables as part of an ongoing effort to facilitate dialogue and build relationships. These forums provide a sounding board to inform prospective company initiatives and policies and bring greater community input to, and awareness of, SCE's positions on current issues.

Our advisory panels include the following:

- Consumer Advisory Panel
- Government Advisory Panel
- Business Advisory Panel
- Small Business Advisory Panel
- Streetlight Advisory Panel
- California Large Energy Consumer Association Advisory Panel
- California Manufacturers & Technology Association Advisory Panel

In addition, SCE engaged with community-based organizations to educate customers about rate reform and assistance programs. In 2018, our Mobile Energy Unit (MEU) team traveled the region and attended more than 50 events to provide energy efficiency and energy-management information to households and businesses.

HELPING OUR COMMUNITIES THRIVE

Edison International supports and is closely tied to the communities it serves. We're powering the Southern California economy and, over 130 years of operation, we have invested in the region through capital expenditures, procurement practices, employment, charitable giving, and volunteering. Meanwhile, our national team at Edison Energy* supports nonprofits throughout the country through its employee volunteer program.

Dr. Pedro Noguera, professor in the Graduate School of Education and Information Sciences at UCLA, served as keynote speaker at SCE's 15th annual Black History Month celebration.

ECONOMIC DEVELOPMENT

SCE's Economic Development Services (EDS) team helps existing and potential customers navigate the California business climate, offering one-on-one specialized consulting for retention, attraction, and expansion services at no cost. In 2018, EDS retained, expanded and/or attracted over 10,000 jobs in SCE's service territory, accounting for $60 million in new revenue.

SUPPLIER DIVERSITY

SCE contributes to more robust local economies and healthier communities by purchasing goods and services from small and diverse business enterprises. As we work to build a clean energy future, we are relying on our suppliers to partner and innovate with us. In turn, these partnerships are leading to new business opportunities and capabilities for our suppliers.

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We are committed to helping small and diverse firms gain access to contract opportunities in traditional and new sourcing areas while bringing economic benefits and job growth to local communities.

In 2018, SCE spent more than $2.13 billion, or 46.73% of SCE's overall spend, procuring goods and services from diverse business enterprises. This represents the sixth consecutive year that we exceeded our 40% aspirational spend goal.

Learn more about supplier diversity at SCE.

2018 SUPPLIER DIVERSITY HIGHLIGHTS

$2.13B (or 46.73%) spent with diverse firms

$2.75B of SCE's capital market transactions co-managed by 17 diverse firms

$422M+ diverse sub-contracting spend

120+ outreach events sponsored and/or supported

9 diverse firms among SCE's top 20 suppliers

580 diverse suppliers

COMMUNITY INVESTMENT

We partner with local nonprofits to brighten our communities, invest in the future, and build a better tomorrow. Today, Edison International is one of the largest corporate charitable contributors in Southern California.

In 2018, Edison International donated $20 million in philanthropic funding, with nearly 90% of donations supporting underserved communities. Charitable contributions are funded entirely by shareholder dollars, not by customers.

Recently, we have been shifting our charitable contributions to better align with our business strategy. We're partnering with key nonprofits to help customers make clean energy choices, drive EVs, preserve the environment, and learn more about wildfire preparedness and community resiliency. In addition to our financial contributions, we encourage employee volunteerism and engagement with nonprofits.

OUR FOCUS AREAS

We focus our philanthropy and charitable giving in four key areas that resonate with our business and the communities where we operate — environment, education, public safety/emergency preparedness, and civic engagement.

EDISON ENERGY IN THE COMMUNITY

In 2018, Edison Energy* raised over $72,000 on behalf of nonprofit organizations and continued supporting one of its flagship philanthropic initiatives, the annual One More Tri unified triathlon event benefiting Special Olympics New Jersey. Edison Energy* also participated in the Movember Challenge in support of the Movember Foundation to address some of the biggest health issues faced by men and supported local community efforts near Edison Energy* offices in Massachusetts and Ohio.

SCE LAW DEPARTMENT GIVES BACK

The SCE Law Department supports underrepresented and underserved communities in Southern California through its pro bono work. In 2018, more than 30 employees participated and helped children find permanent homes with adoptive parents; a veteran with post-traumatic stress disorder (PTSD) secure benefits; and victims, including unaccompanied minors, through immigration proceedings.

Environment

Our commitment to protecting the environment began decades ago, and it's deeply rooted in our company culture as we work to minimize our environmental footprint. We're uniting with nonprofits that have the passion and expertise to address environmental issues impacting our region and the state, such as improving Southern California's air quality, conserving green spaces for future generations, restoring habitat, and creating healthier communities through education and awareness.

In 2018, we provided $75,000 to CALSTART, a nonprofit dedicated to advancing the clean transportation industry, to bring all-electric school buses to students in the Fontana Unified School District in San Bernardino County, California. Fontana Unified was one of 11 school districts in SCE's service area selected to receive electric bus funding from the South Coast Air Quality Management District and the California Air Resources Board. CALSTART provided the technical assistance and guidance to support the rollout of the buses and the installation of necessary infrastructure, including charging stations. These schools are located in areas that rank among the nation's worst for air quality.

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Edison Scholars Winnie Huang (left) and Connie Lee.

2018 EDISON SCHOLARS: SUPPORTING TOMORROW'S LEADERS

Edison Scholars recognizes students who want to be makers of tomorrow — dreamers, inventors, guardians, and pioneers — and those who dare to be great. Each year, Edison International awards $40,000 scholarships to 30 high school seniors who want to make a difference in the world by studying STEM in college. The program, which is open to all with an emphasis on underrepresented and low-income students, supports the future innovators who will help transform our industry and society in the years to come.

Since 2006 through program year 2018, we have awarded more than $8.7 million in scholarships to 610 Edison Scholars. Read the stories of some of the Edison Scholars we have supported.

"It's such a great feeling to go to college with one less thing on my mind. This scholarship has given me the confidence to pursue STEM and I am so grateful."

Connie Lee, UCLA – Chemistry

Education

We believe education has the power to change lives and communities. Approximately 50% of our funding goes toward educational programs designed to help enrich curriculum while opening doors to higher education. We look for education programs that emphasize science, technology, engineering, and mathematics (STEM) because we are committed to developing a future workforce that advances renewable technologies and electrification. For example, we support the innovative Community Learning Enhances Air Resources (CLEAR) in Schools Program developed and managed by the nonprofit Coalition for Clean Air. The program allows students to take air samples in their local community and propose strategies to minimize the pollutants.

Public Safety & Emergency Preparedness

We recently shifted our public safety portfolio to focus on four key areas: wildfire mitigation and preparedness, first responder capacity building, community engagement and resiliency, and disaster recovery.

Edison has been a longtime partner of the California Conservation Corps, which trains individuals between the ages of 18 and 25 in environmental projects and natural disaster response. The demand for the Corps' fire crews has been increasing in recent years. In 2018, we made a $100,000 grant in support of the nonprofit's wildland firefighting program and its wildland mitigation measures.

We also partnered with Crafton Hills Fire Academy, which trains aspiring firefighters. A $25,000 grant from Edison will support scholarships with the intention of increasing the number of women in the fire service. According to the U.S. Department of Labor, only 4% of firefighters nationwide are female.

Edison also gave a total of $125,000 to five local community colleges with firefighter training programs.

Civic Engagement

Our success hinges on the success of the communities we serve. To keep our communities strong, we partner with organizations that provide vital services, such as workforce and leadership development, and capacity building for additional nonprofits.

For example, we partner with the Salvation Army Haven Veterans Employment Services Program, which supports veterans seeking career changes. The organization helps its clients with everything from resume writing to interview coaching. A $30,000 grant from Edison International has helped veterans reintegrate into their communities as they return to civilian life.

SUPPORTING WILDFIRE RECOVERY EFFORTS

In late 2018, the Woolsey and Hill wildfires impacted our communities in Ventura and Los Angeles counties. In February 2019, the Edison International Board approved a $3 million donation to the Edison International Wildfire Assistance Fund to enhance community resiliency and wildfire prevention and mitigation. The company also donated $100,000 to the Disaster Relief Fund established by the United Way of Greater Los Angeles and provided $100,000 in matching grants for employee donations to the Ventura County Community Foundation, the Salvation Army, and the Humane Society of Ventura County. Employees contributed an additional $33,806 through the Edison International Relief Fund.

2018 Community Investments

$20M Total in philanthropic funding donated by Edison

929 Total grants awarded

118K Employee volunteer hours

$160K Volunteer grants*

$2.9M Value of employee volunteering**

$1.8M Total funds raised by employees

Environment
(23.5% of total funding)

$4.7M through **163** grants to support organizations

Including

$1.6M to support electric vehicle transportation

$843K to support climate resiliency & adaptation

Education
(47.5% of total funding)

$9.5M through **446** grants to support education

Including

$4.5M STEM scholarships

$1.8M to support STEM programs and science, technology, engineering, arts, and mathematics (STEAM) programs

Public Safety & Emergency Preparedness
(9.5% of total funding)

$1.9M through **64** grants to support public safety & emergency preparedness

Including wildfire relief

$100K Company donation

$100K Company match & donation

$34K Employee donation

Civic Engagement
(19.5% of total funding)

$3.9M through **257** grants to support civic engagement programs

Including

$806K to support leadership and mentoring

$732K to support workforce development

* For every 40 hours volunteered, employees receive $100 to donate to a nonprofit organization of their choice, up to $600 a year.
**Based on Independent Sector Valuation

EMPLOYEES

Our team is fueling the innovation needed today to solve the complex challenges of tomorrow. We know that an inclusive and values-drive culture is key to our success.

Alyssa Grigoryan, SCE Human Resources Principal Manager

DIVERSITY & INCLUSION

A diverse and inclusive workplace leads to innovation, better business decisions, and a work environment that effectively leverages the talents of our more than 12,500 employees. Our teams reflect a broad array of cultures, ethnicities, genders, sexual orientations, generations, and life experiences and is a reflection of the communities we serve. An inclusive environment leverages the strengths that diversity brings to our organization.

We have made several advances and bold commitments in our diversity journey, reflecting our desire to achieve a truly inclusive work environment. Edison International is among the nearly 100 organizations that have signed onto Paradigm for Parity, a public commitment to achieve gender parity in senior roles by 2030. Our partnership with Fairygodboss, an online forum that provides transparency around a woman's experience in the workplace, underscores our commitment to being a leader in gender diversity. In addition, in 2018, we signed the CEO Action for Diversity & Inclusion™, the largest CEO-driven business commitment to advance diversity and inclusion within the workplace. We also recently supported the Human Rights Campaign Business Coalition for Equality Act in support of federal legislation that would provide the same basic protections to lesbian, gay, bisexual, transgender, and queer (LGBTQ) employees as to other protected groups. These pledges and our broader advocacy reflect our aim to create a company where there are no barriers to talent.

INCLUSIVE LEADERSHIP

Our commitment to diversity is rooted in our culture and a core part of our strategy. We are focused on supporting women and diverse employees through recruitment and outreach, unconscious bias workshops, and other activities.

2018 WORKPLACE AWARDS

BEST PLACES TO WORK FOR DISABILITY INCLUSION
Disability:IN Disability Equality Index 90% score

LEADING DISABILITY EMPLOYER
National Organization on Disability

TOP 20 EMPLOYEE RESOURCE GROUPS OF THE YEAR
LatinaStyle, Inc.

BEST PLACES TO WORK FOR LGBTQ EQUALITY
Human Rights Campaign Corporate Equality Index 100% score

OUR PLEDGES

COMMITMENT TO GENDER PARITY IN SENIOR ROLES
Paradigm for Parity

COMMITMENT TO GENDER DIVERSITY
CEO Action for Diversity & Inclusion

A FOCUS ON PAY EQUITY

We believe in pay for performance, and we value and recognize the significant role women have in advancing our company's vision and mission. We have been conducting pay equity analyses for more than two decades and are committed to best-in-class inclusion practices and leading from the front. Edison International's Board of Directors is actively engaged on this topic.

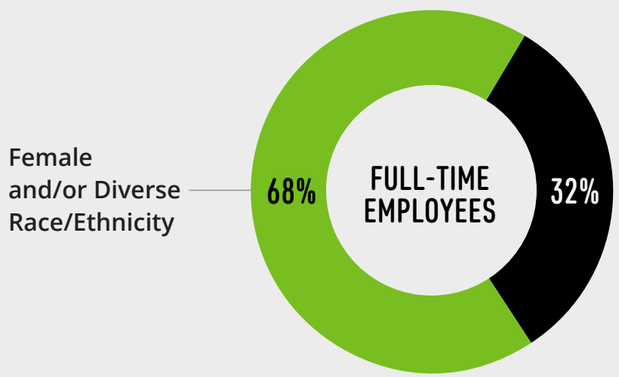
In 2018, senior leaders in partnership with Women's Roundtable, our business resource group (BRG) focused on women's issues in the workplace, discussed the company's pay equity performance with employees. We shared a very recent analysis which shows that, at SCE, women overall earn the same as their male counterparts in the same roles (i.e., "equal pay for equal work"). However, the simple average compensation for all women across all non represented roles compared to all men is approximately 80 cents on the dollar. This is a representation issue, which is the case society-wide; we have more men than women in higher paying positions.

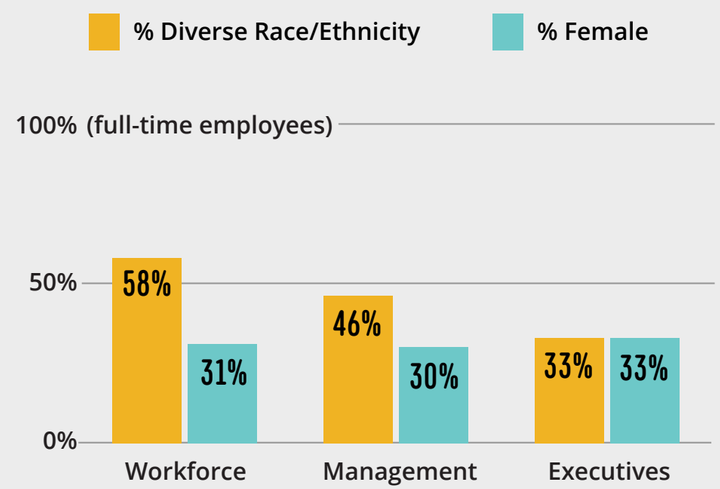
While we have "equal pay for equal work," we aspire to address the gender gap in corporate leadership at our company and across society. We are focused on expanding the number of women in higher paying positions, particularly executive-level positions. One way to do this is to focus on increasing representation among women in "feeder" jobs, such as entry- and mid-level management. In 2018, Edison International and SCE made progress, increasing the proportion of women in all entry- and mid-level management positions between 2017 and 2018. Most notably, 38% of "directors," which is a first-level executive position that feeds into our officer pool, were women in 2018, compared to just 29% in 2017.

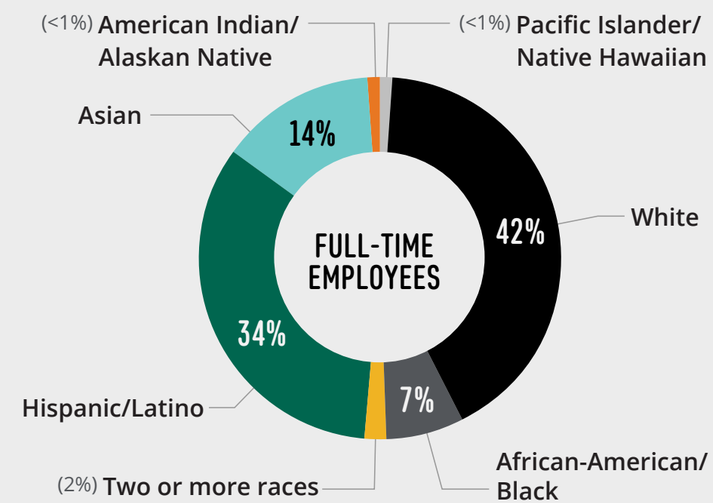
In 2018, we also developed an approach to look holistically at four key areas that affect an employee's overall experience at the company: pay, access, advancement, and environment. Part of our work is not only finding ways to do better than market at attracting women into key positions, but also expanding the pool of talent available to us in the first place. For instance, in 2018, 12% of SCE engineers were female compared to a local market availability of 8%. We're working to increase the diversity of STEM fields across society through our philanthropic focus on STEM education, in particular for girls and other underrepresented talent, and joint advocacy with other companies through initiatives like Paradigm for Parity.

DIVERSITY HIGHLIGHTS

Edison International had 12,574 full-time employees as of December 31, 2018.







Throughout 2018, we offered inclusive leadership training to employees, beginning with our senior-most leadership. In addition, our operating units at the company customize diversity and inclusion plans for their organization. To drive accountability, teams must report on their progress to top company executives twice a year, enhancing our ability to scale best practices for inclusion throughout the organization.

ENGAGED EMPLOYEES

Everyone has an important role to play at Edison, contributing to our diverse, dynamic, and collaborative culture. We attract, retain, and develop individuals who are aligned with our vision and have a sense of ownership to transform the electric power industry and create a clean energy future. Keeping our employees engaged is key to our success, and we are committed to achieving an open culture that harnesses the power of diverse ideas. We are creating an environment that reflects our values, empowers our people, and allows for a robust exchange of different viewpoints. We also foster a collegial spirit that sparks creativity, keeps each other safe, and provides mutual support to generate new ideas.

We regularly survey employees to hear their perspectives on working at our company, so we can learn from their feedback and look for ways to improve. In 2018, employee engagement was a company strength, with a favorability score of 70% — 10% higher than utility company peers. Pride in the company was the most favorably rated item at 82%, and trust in leadership has risen from 54% to 72% in the past three years. Survey results indicate that 63% of employees feel confident in the future success of Edison, which leaves room for improvement in this area. We're addressing this feedback by educating employees on the direction of our company and the related opportunities and challenges through many communication channels, including livestream events with the CEOs of Edison International and SCE.

SUPPORTING MILITARY VETERANS

We actively encourage military veterans to apply for jobs at SCE, recognizing the vast skills they bring to the workplace. In 2018, SCE hosted our first "Veterans Mean Business" hiring symposium to encourage military job-seekers to meet with recruiters, managers, and employees to learn how their military skills can transfer into opportunities at our organization. More than 120 military members attended. We also frequently participate in employment workshops hosted by veteran-advocacy organizations, offering career coaching, mock interviews, and one-on-one resume guidance. For veterans who are already employed with us, we host annual luncheons and walks to promote unity, caring, and recognition of former and current military employees. Our Employee Resource Group (ERG), VALOR, provides an additional support network. In 2018, military veterans represented more than 5% of our workforce, and 4% of our executives had military experience.

BUSINESS & EMPLOYEE RESOURCE GROUPS

Leading and participating in Business Resource Groups (BRGs) and Employee Resource Groups (ERGs) are important ways for employees to create a sense of community, develop professionally, and engage with one another and company leadership. As the cornerstone of our diverse and inclusive culture, our BRGs and ERGs have been active for more than 40 years, and today Edison International supports 12 BRGs and ERGs and their members. The groups represent employees from a range of cultures, ethnic groups, and sexual orientations, as well as important business issues such as safety and environmental stewardship.

We encourage our employees to volunteer their time to nonprofit and community-based organizations. Each year, our ERGs hold a "Season of Service" event where they donate $5,000 to a nonprofit in conjunction with a hands-on volunteer project.

IDEA SHARING FORUMS

SCE has two senior leadership-sponsored idea sharing forums to help foster a culture of innovation and provide support for, and visibility around, promising ideas. Our X-Change Program encourages employees to identify process improvement opportunities, problem areas or inefficiencies, submit their ideas to address the issue, and then implement the solution. Initiated in 2015, this program has exceeded our expectations. In 2018 alone, employees completed 41 X-Change projects, which was above our internal target of 30 projects.

SCE Ideas is another program open not only to employees, but to customers and community members as well. Through an online submission forum, SCE accepts ideas for new and innovative technologies, products, and services, including everything from operational efficiencies to products and programs that help customers save energy and reduce costs.

SCE employees (from left to right), Rosetta Henderson, Yolanda Hunter, and Mildred Stinnett-Walker, attending Networkers 34th Annual Black History Month celebration at SCE's Energy Education Center in Irwindale, California

2018 BRG & ERG HIGHLIGHTS

Networkers promotes diversity and advances career enhancement strategies, providing targeted coaching, mentoring, and support to the company's African-American/Black employees. In 2018, the Networkers successfully launched two development programs: Mentoring Matters and Leadership Ladders Cohort 2. The group also hosted a series on how to successfully navigate the hiring process, providing insight to succession planning and additional resources for further advancing diverse talent at SCE.

EcoIQ, an ERG focused on environmental awareness, has established vital connections with many environmental groups and nonprofits, including the National Forest Foundation, GRID Alternatives, the Orange County Conservation Corps, Friends of the Los Angeles River, and Amigos de los Rios. The ERG supports company environmental initiatives, volunteer opportunities, and educational speakers.

Abilities Beyond Limits and Expectations (A.B.L.E.) unites and supports SCE employees with disabilities, their caregivers, and their family members. A.B.L.E. advocates for individuals with disabilities by promoting a supportive and inclusive work environment where their capabilities are recognized so they can obtain a meaningful and fulfilling professional life.

Native American Alliance (NAA) promotes awareness of Native American cultures, ancestry, and heritage, focusing on company and community events and educational development. In 2018, NAA partnered with "IndigeNATION 2018" at Pomona College with graduating students, promoting Edison Scholars internships, and career opportunities.

The ideas are tracked, responded to, and implemented, as appropriate, by a dedicated team. In 2018, we received 177 ideas, 108 of which (61%) have been completed or are in implementation.

EMPLOYEE DEVELOPMENT

We offer our employees a robust suite of training and career development programs, including hundreds of online educational courses and resources, targeted learning to gain job-specific skills, and education tuition reimbursement for accredited degree or certification programs. For new employees, we provide an onboarding program that focuses on cultural connections and community support to help set employees up for success. For new leaders, we offer a yearlong immersive experience, providing tools and resources to strengthen their leadership skills. For targeted leaders, we have programs designed to help prepare them to take on roles of increasing responsibilities. These programs include access to career planning resources, leadership coaching, and mentorships with senior leaders. All of our programs and learning opportunities are aimed at building and retaining talent throughout the company.

EMPLOYEE BENEFITS & WELLNESS

We offer a competitive benefits package with a menu of choices that employees can combine to best meet their and their family's needs, including 401(k), voluntary benefits, wellness, and educational reimbursement.

Our employee wellness programs are designed to help keep people healthy and safe. For example, we reimburse employees up to $400 annually for activities to improve and maintain health, such as gym memberships, nutrition counseling by registered dieticians, and smoking cessation programs. Our Wellness Ambassador Initiative has nearly 850 employee advocates who support and promote wellness activities throughout our workforce. We offer programs to help employees build resistance to injury and reduce stress on the body. In addition, we partner with our health plan vendors, as well as national organizations such as the American Heart Association and WW (formerly Weight Watchers), to provide employees with a wealth of wellness resources that we promote through monthly communications and activities. At our headquarters, we provide a fitness center, on-site car wash, dry cleaning, and banking amenities.

We also help employees make the switch to EVs, including through manufacturer rebates and the availability of on-site EV charging.

LABOR RELATIONS

About one-third of our employees are covered by collective bargaining agreements. SCE and International Brotherhood of Electrical Workers (IBEW) Local 47 partnered to implement the IBEW Code of Excellence (COE), a program that emphasizes safety, high quality work, and craftsmanship. The COE, which reinforces SCE's longstanding company values, provides a set of expectations about our duties and behaviors on the job. All IBEW members are held to these expectations and hold their peer members accountable to the strict standards. Also learn about the Craft Driven Safety Program.

Edison volunteers listen to instructions before installing solar panels with community partner GRID Alternatives on a new home in the Inland Empire.

EMPLOYEE VOLUNTEERISM

Edison International and SCE employees have ample opportunities to give back through company wide and organization-specific events. We have a robust employee volunteerism website that allows employees to give donations to nonprofits (which are matched up to $2,000), sign up for events, and log volunteer hours. Edison Energy* employees are also actively engaged in their local communities.

* Edison Energy is not the same company as Southern California Edison, the utility, and Edison Energy is not regulated by the California Public Utilities Commission.

GOVERNANCE & ETHICS

Our corporate governance structure, risk management and compliance practices, and security protocols reflect our ongoing commitment to corporate responsibility and our responsiveness and accountability to stakeholders.

Sanjay Guragain, Information Technology Architecture Systems Designer, at SCE's Advanced Technology Lab in Westminster, California

CORPORATE GOVERNANCE

Edison International's Board of Directors provides independent oversight of the management of our organization with the best interest of shareholders in mind. Some of the Board's primary responsibilities include the following:

- Providing oversight of the company's strategy;
- Reviewing the company's risk management process and monitoring strategic and emerging risks, including risks arising from wildfires and other climate-related events;
- Reviewing and monitoring safety programs, policies, and practices relating to the company's safety culture, goals, risks, and significant incidents;
- Overseeing climate change, safety, and other environmental, social, and governance (ESG) risks as an integral part of its strategy oversight responsibility; and
- Overseeing the company's Ethics and Compliance Program, including the Chief Ethics and Compliance Officer's performance, helpline calls and investigations, and the Employee Code of Conduct.

Our Board members are elected annually by shareholders and follow Corporate Governance Guidelines that outline the Board's policies for overseeing the company. Board members are selected based on a number of criteria, including a reputation for the highest ethical standards, recognized positions of leadership, and knowledge and expertise in core parts of the business including safety and operations. We seek directors who will increase the Board's range of experience and skills relevant to our business strategy.

SHAREHOLDER ENGAGEMENT

We regularly seek and value input from our shareholders. Each year we reach out to our major institutional shareholders to discuss the company's corporate governance, executive compensation, and business strategy. In the last year, we have engaged with shareholders on a variety of issues, including these examples:

- Board composition, diversity, and skill sets
- Strategy and climate change
- Wildfire risk and mitigation
- ESG oversight and disclosure
- Board evaluation process
- Compensation goals and metrics
- Cybersecurity
- Succession and talent planning

Learn more about how we are addressing ESG issues and Driving Sustainability.

BOARD ENGAGEMENT WITH EMPLOYEES

Our directors interact with employees through company- and employee-sponsored events. In the past year, Board directors participated in Business Resource Group (BRG) and Employee Resource Group (ERG)-led dialogues on important issues for the company, including diversity of thought in leadership with a focus on ethnicity, gender, and sexual orientation. We also connected our female Board directors with our high-performing women leaders over dinner. Events like these give directors more insight into the company culture and employee perspectives while helping employees understand how their work feeds into the company's overall decision-making processes.

To see core operations up close and stay current on the latest innovations, our directors also regularly visit field locations and engage with employees in operations and other parts of the business.

Once chosen, directors are well informed on key issues and trends impacting our business and engaged with our operations and employees to enhance their ability to guide company strategy and provide risk oversight.

We value the diversity of ethnicity, gender, skills, backgrounds, and qualifications on the Board. Of the 10 directors currently on our Board, three are female (33%) and four are from a diverse racial/ethnic background (40%), which exceeds the average gender and racial/ethnic diversity at S&P 500 companies.

The Board has also shown a strong commitment to refreshing its membership in recent years. The Board's average tenure is four years compared to an average of over eight years for S&P 500 companies. Eight of our 10 directors have served on the Board for less than six years, including five new independent directors elected to the Board since 2016.

Our CEO is the only non-independent member of the Board. In 2016, Edison International's Board separated the chair and CEO positions and appointed an independent chair, believing it to be the most appropriate leadership structure for our organization. The separation allows our CEO to focus on the day-to-day management of the business and execute our strategic priorities, while the independent chair focuses on leading the Board, providing counsel to the CEO, and facilitating the Board's independent oversight of management.

Learn more about our Board and corporate governance.

RISK MANAGEMENT

Our company has a culture of decision-making informed by risk management. This starts with strong governance. Our Board of Directors oversees our company's enterprise risk management (ERM) process and monitors identified risks.

Our ERM team is responsible for the day-to-day management of the ERM Program and ensures, with oversight from senior management, that identified risks are appropriately linked to our strategy, financial planning, and goal-setting processes. Our ERM team also assists individual operating units with analysis to identify risks; treatment of identified risks, such as implementing process controls or insurance requirements; monitoring and reporting; and recovery and response in the event of an emergency.

We are enhancing our efforts in these areas. For example, at SCE, we are building on the "treatment" part of our risk management process by incorporating risk assessments more prominently in rate case applications. SCE recently conducted its first annual Risk Assessment Mitigation Phase (RAMP) report, analyzing key safety risks, such as wildfires, climate change, and cybersecurity threats, and mitigations to reduce those risks. Incorporating this type of analysis into future rate case applications, starting with the next filing in September 2019, will help SCE and regulators ensure that resource requests and approvals appropriately consider and mitigate risk.

ETHICS & COMPLIANCE

Acting ethically and obeying the law is an expectation for both employees and business partners. Our Ethics and Compliance Program facilitates and sustains a "speak-up, listen-up, follow-up" culture by utilizing a companywide, integrated Compliance Management Framework that includes the following elements:

- Prevention — identifying, interpreting, and implementing compliance requirements and ensuring that employees understand their roles and responsibilities related to compliance;
- Detection and response — monitoring, investigating, and reporting on compliance processes, practices, and outcomes to provide reasonable assurance that operations are carried out in accordance with applicable requirements;
- Improvement — updating policies and processes and seeking out best practices in managing compliance requirements.

Our Employee Code of Conduct defines expectations of ethical behavior in specific workplace situations and helps employees find additional guidance when needed. Each year, our employees certify their compliance with the Employee Code of Conduct and participate in ethics and compliance training.

We expect all company leaders to set an ethical tone and encourage employees to speak up and raise concerns. Leadership training helps managers and supervisors know their roles and responsibilities in complying with laws, regulations, and company policies, as well as demonstrating and promoting a strong ethical culture in their workgroups.

EDISON HELPLINE

Our employees are encouraged to seek advice or report concerns of misconduct through a multitude of avenues, including by speaking with their immediate supervisors. For employees who do not feel comfortable going to their immediate supervisors, we offer the Edison HelpLine, which is a seven-days-a-week, 24-hours-a-day phone service staffed by dedicated experts. When calling the HelpLine, employees can choose to identify themselves or remain anonymous. We do not tolerate retaliation against anyone for making a report or seeking advice.

We also have a team of 75 Values Ambassadors, who are employee representatives from across the company selected to help promote our core values and to provide the Ethics and Compliance Program with input and insight into company culture.

SUPPLIER CODE OF CONDUCT

Our Supplier Code of Conduct contains principles and standards recognized and adopted by a wide spectrum of industries. We expect our suppliers, as well as their employees, sub-suppliers, and subcontractors, to follow this Supplier Code of Conduct and to promote ethical conduct at all times. As outlined in our Supplier Code, we also expect suppliers to uphold our values of supporting employees, protecting the environment, and expanding diversity. We monitor approximately 4,500 suppliers and other third parties to ensure that the organizations with which we interact are reputable business partners.

CYBERSECURITY

Our nation's electric grid is essential to national security — and the economy. We work continuously to defend this extensive, complex network of generation, transmission, and distribution infrastructure from cyberthreats, including deploying the latest in cybersecurity technology. Our multi-layered strategy combines tools, technologies, and processes with robust governance. In addition, a close collaboration of shared intelligence across local, state, and federal government, as well as other utilities, strengthens our protective defenses.

The backbone of grid security is grid design. SCE's electrical system includes a number of cybersecurity controls to combat potential interference from logical threats. SCE's highly skilled and trained engineers study, evaluate, and prioritize the utility's resources and infrastructure to mitigate security risks. As we modernize our grid, we are also deploying the latest in cybersecurity technology.

Our Cybersecurity Oversight Group, consisting of a multidisciplinary senior management team, provides governance and strategic direction. The Board's Safety and Operations Committee oversees cybersecurity and receives updates focusing on critical assets, cybersecurity drills, and efforts to mitigate cyber risks at each of their meetings. Cyber risks are also included in key risk reports to the Audit and Finance Committee.

SCE employees and supplemental workers play an important role in protecting our system. Our cybersecurity awareness efforts — annual training, simulated phishing exercises, and ongoing communications related to potential threats — ensure personnel have the knowledge to help defend against attacks by reporting suspicious emails and websites rather than interacting with them.

SCE's Grid Control Center in Alhambra, California

In addition to infrastructure and governance controls, we develop and test our incident response plans through participation in cyber-preparedness drills. In 2018, we held a full-scale response drill to respond to a hypothetical cyberattack. SCE also runs periodic incident response plan scenarios, designed by the Federal Emergency Management Association (FEMA), to test internal processes and systems.

We also collaborate with public sector and utility partners to share lessons learned, best practices, and threat intelligence, as well as on forward-leaning research and development initiatives. Our most important collaboration is participation in the Electricity Subsector Coordinating Council. We participate in the North American Electric Reliability Corporation's (NERC) GridEx, which allows participating government agencies and critical infrastructure organizations to measure their readiness for a potential attack on the grid. We are also members of California Energy Systems for the 21st Century (CES-21), a collaborative cybersecurity research program among California utilities, the California Public Utilities Commission (CPUC), the state legislature, and the Lawrence Livermore National Laboratory, which is developing the next generation of cybersecurity protection systems for electric grid infrastructure.

SCE employees Elizabeth Lespron-Vargas and Andrew Fowler participating in a simulated drill at the company's Emergency Operations Center in Irwindale.

POLITICAL CONTRIBUTIONS

Elected officials and ballot measures can have a significant impact on our company, customers, shareholders, and employees. We actively participate in the political process to support our clean energy strategy by making contributions to candidates, political parties, and political action committees. All political contributions are guided by our policy and reflect company interests and not those of individual officers or Board directors. We only make political contributions that comply with the law and that adhere to our Employee Code of Conduct.

All political contributions are approved by our most senior officer responsible for Government Affairs or the President & CEO, reviewed by the Audit and Finance Committee of our Board of Directors, and publicly disclosed, including on our website.

We are recognized as a "Trendsetter" by the Center for Political Accountability, a nonprofit, nonpartisan organization working to bring transparency and accountability to corporate political spending, in its Index of Corporate Political Disclosure and Accountability. The Trendsetter category highlights leaders in the S&P 500 for their commitment to transparency and accountability.

APPENDIX

FORWARD-LOOKING STATEMENTS

Statements contained in this report, including the message from Edison International's President and CEO, about future performance, plans, expectations, objectives and forecasts, and other statements that are not purely historical, are forward-looking statements. These forward-looking statements reflect our current expectations; however, such statements involve risks and uncertainties. Actual results could differ materially from current expectations. These forward-looking statements represent our expectations only as of the date of this report, and Edison International assumes no duty to update them to reflect new information, events or circumstances. Some of the factors that could cause actual results to differ materially are discussed under the headings "Forward-Looking Statements," "Risk Factors," and "Management's Discussion and Analysis" in Edison International's Form 10-K for the year ended December 31, 2018 and other reports filed with the Securities and Exchange Commission, which are available on our website: www.edisoninvestor.com. These filings also provide additional information on historical and other factual data contained in this report.

NON-GAAP RECONCILIATIONS

EARNINGS NON-GAAP RECONCILIATIONS ($ millions)

Reconciliation of Edison International GAAP Earnings to Edison International Core Earnings

	2016	2017	2018
EARNINGS ATTRIBUTABLE TO EDISON INTERNATIONAL			
Basic Earnings			
SCE	$1,376	$1,012	($310)
EIX Parent & Other	(77)	(447)	(147)
Discontinued Operations[1,5]	12	—	34
Total Basic Earnings	**$1,311**	**$565**	**($423)**
Non-Core Items			
SCE[1,2,3]	—	($481)	($1,750)
EIX Parent & Other[1,4]	5	(420)	(58)
Discontinued Operations[1,5]	12	—	34
Total Non-Core	**$17**	**($901)**	**($1,774)**
Core Earnings			
SCE	$1,376	$1,493	$1,440
EIX Parent & Other	(82)	(27)	(89)
Total Core Earnings	**$1,294**	**$1,466**	**$1,351**

[1] Includes income tax benefit of $34 million, income tax benefit of $66 million and income tax expense of $12 million in 2018 related to the settlement of the 1994–2006 California tax audit for discontinued operations, SCE and EIX parent and other, respectively.
[2] Includes income of $12 million ($9 million after-tax) for the year-ended December 31, 2018, and impairment charges of $716 million ($448 million after-tax) in 2017 related to the Revised San Onofre Settlement Agreement. Also includes $33 million tax expense from the re-measurement of deferred taxes as a result of Tax Reform in 2017.
[3] Includes 2018 charge of $2,534 million ($1,825 after-tax) related to wildfire-related claims, net of recoveries.
[4] Includes loss of $56 million ($46 million after-tax) related to sale of SoCore Energy in April 2018. Also includes tax expense of $433 million in 2017 as a result of Tax Reform and income related to losses (net of distributions) allocated to tax equity investors under the (HLBV) accounting method of $21 million ($13 million after-tax) for the year-ended December 31, 2017, compared to $9 million ($5 million after-tax) for the year ended December 31, 2016.
[5] Includes income from discontinued operations of $1 million ($12 million after-tax) for the year ended December 31, 2016, which was primarily related to the resolution of tax issues related to EME.

Note: See use of Non-GAAP Financial Measures

CORE EPS NON-GAAP RECONCILIATIONS

Reconciliation of Edison International Basic Earnings Per Share to Edison International Core Earnings Per Share

	2016	2017	2018
EARNINGS PER SHARE ATTRIBUTABLE TO EDISON INTERNATIONAL			
Basic EPS	**$4.02**	**$1.73**	**($1.30)**
Non-Core Items			
SCE			
Wildfire-related claims, net of recoveries	—	—	(5.60)
Settlement of 1994–2006 California tax audits	—	—	0.20
Write down, impairment and other as a result of Revised San Onofre Settlement Agreement	—	(1.38)	0.03
Re-measurement of deferred taxes as a result of Tax Reform	—	(0.10)	—
Edison International Parent and Other			
Settlement of 1994–2006 California tax audits	—	—	(0.04)
Re-measurement of deferred taxes as a result of Tax Reform	—	(1.33)	—
Sale of SoCore Energy and other	0.02	0.04	(0.14)
Discontinued Operations			
Resolution of tax issues related to EME	0.03	—	—
Settlement of 1994–2006 California tax audits	—	—	0.10
Less: Total Non-Core Items	0.05	(2.77)	(5.45)
Core EPS	**$3.97**	**$4.50**	**$4.15**

USE OF NON-GAAP FINANCIAL MEASURES

Edison International's earnings are prepared in accordance with generally accepted accounting principles used in the United States. Management uses core earnings internally for financial planning and for analysis of performance. Core earnings are also used when communicating with investors and analysts regarding Edison International's earnings results to facilitate comparisons of the Company's performance from period to period. Core earnings are a non-GAAP financial measure and may not be comparable to those of other companies. Core earnings (or losses) are defined as earnings or losses attributable to Edison International shareholders less income or loss from discontinued operations and income or loss from significant discrete items that management does not consider representative of ongoing earnings, such as: exit activities, including sale of certain assets, and other activities that are no longer continuing; asset impairments and certain tax, regulatory or legal settlements or proceedings.

GLOBAL REPORTING INITIATIVE CONTENT INDEX

This report references disclosures from the Global Reporting Initiative (GRI) Standards (2016), as well as disclosures from the GRI Electric Utility Sector Supplement. The following index provides the location of information in this report and other public documents that address GRI indicators relevant to our business. Titles of specific GRI standards referenced and their publication years, as well as the specific indicators reported, are noted within this index. Please visit the GRI website for the full text of the indicators and other information on the guidelines. In addition, the company makes filings with the Securities & Exchange Commission (SEC), including on Forms 10-K and 10-Q, with additional details. Please visit our website for more information.

Disclosure #	Disclosure Title	Report Section or Other Documentation
GRI 102: GENERAL DISCLOSURES (2016)		
Organization profile		
102-1	Name of the organization	Company Overview, p. 5
102-2	Activities, brands, products, and services	Company Overview, p. 5
102-3	Location of headquarters	Company Overview, p. 5
102-4	Location of operations	2018 Edison International Form 10-K, p.3
102-5	Ownership and legal form	2018 Edison International Form 10-K, p.3
102-6	Markets served	About Us 2018 Edison International Form 10-K, p.3, 119
102-7	Scale of the organization	2018 Edison International Annual Report, inside cover
102-8	Information on employees and other workers	Diversity Highlights, p. 58 Sustainability Scorecard, p. 10-12
102-9	Supply chain	Company Overview, p. 5 Supply Chain Sustainability, p. 45

Disclosure #	Disclosure Title	Report Section or Other Documentation
102-12	External initiatives	About This Report, p. 5 Reporting & Disclosure, p. 8 Limiting Global Warming to 1.5°C, p. 15 Environmental Justice, p. 18 National Leadership, p. 24 Diversity & Inclusion, p. 57
102-13	Membership of associations	Engaging in Public Policy, p. 18 National Leadership, p. 24 Diversity & Inclusion, p. 57
Strategy		
102-14	Statement from senior decision-maker	CEO Letter, p. 4
102-15	Key impacts, risks, and opportunities	Environmental, Social & Governance (ESG) Materiality, p. 7
Ethics & integrity		
102-16	Values, principles, standards, and norms of behavior	Our Values, p. 6 Edison International Employee Code of Conduct
102-17	Mechanisms for advice and concerns about ethics	Edison Helpline, p. 63 Edison International Employee Code of Conduct
Governance		
102-18	Governance structure	Corporate Governance
102-21	Consulting stakeholders on economic, environmental, and social topics	Engaging in Public Policy, p. 18 Community Engagement, p. 52 Shareholder Engagement, p. 62 Political Contributions, p. 65 Edison International & Southern California Edison 2019 Joint Proxy Statement, p. 17
102-22	Composition of the highest governance body and its committees	Edison International & Southern California Edison 2019 Joint Proxy Statement, pp. 4-21
102-23	Chair of the highest governance body	Edison International & Southern California Edison 2019 Joint Proxy Statement, p. 3

Disclosure #	Disclosure Title	Report Section or Other Documentation
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102-25	Conflicts of interest	Edison International Employee Code of Conduct, p. 7 Edison International & Southern California Edison 2019 Joint Proxy Statement, pp. 4-10, 18
102-29	Identifying and managing economic, environmental, and social impacts	Environmental, Social & Governance (ESG) Materiality, p. 7 Edison International & Southern California Edison 2019 Joint Proxy Statement, p. 16
102-30	Effectiveness of risk management processes	Edison International & Southern California Edison 2019 Joint Proxy Statement, p. 15 Risk Management, p. 63
102-33	Communicating critical concerns	Contact our Board of Directors
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ELECTRIC UTILITY SECTOR SUPPLEMENT		
Sector Specific General Disclosures		
EU1	Installed capacity, broken down by primary energy source and by regulatory scheme	2018 Edison International Form 10-K p. 125
EU3	Number of residential, industrial, institutional, and commercial customer accounts	2018 Edison International Form 10-K, p. 119
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Management Approach	Demand-side management programs including residential, commercial, institutional, and industrial programs	Empowering Customers to Reduce Energy Use & Costs, p. 35 Affordability, p. 51
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