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March 23, 2018

Ms. Rajinder Sahota
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Dear Ms. Sahota:

Subject: Comments on Senate Bill 350 (SB 350) Integrated Resource Plan Workshop

The Los Angeles Department of Water and Power (LADWP) appreciates the opportunity to provide comments on the March 2 public workshop to discuss the 2030 Greenhouse Gas (GHG) emission reduction targets for the electricity sector and individual publicly owned utilities and other load serving entities (LSE).

The LADWP is a publicly-owned water and electric utility of the City of Los Angeles, serving a population of over 4 million people within a 465 square mile service territory including the City of Los Angeles and portions of the Owens Valley. The LADWP's mission is to provide reliable water and power in a safe, environmentally responsible, and cost-effective manner. LADWP is a vertically-integrated utility that generates and delivers electricity to customers. LADWP's electricity supply comes from a diverse mix of generating resources that are located within the state of California as well as out-of-state resources located in Arizona, Nevada, Utah, Wyoming, and the Pacific Northwest.

SB 350 states that each load serving entity shall file (and periodically update) an integrated resource plan (IRP) to "*Meet the greenhouse gas emissions reduction targets established by the State Air Resources Board, in coordination with the commission and the Energy Commission, for the electricity sector and each load-serving entity that reflect the electricity sector's percentage in achieving the economy wide greenhouse gas emissions reductions of 40 percent from 1990 levels by 2030.*"

The purpose of the IRP process is not to impose an enforceable or otherwise binding GHG emission reduction requirement on the electricity sector in general or any LSE specifically. Rather, the IRP process is intended to serve a planning function to achieve the 50 percent Renewable Portfolio Standard (RPS) by 2030 and ensure the electric sector is on track to help California achieve its 2030 statewide GHG emission reduction target, while meeting customer resource needs, maintaining reliable electric service and reasonable customer rates.

The electric sector has already made significant progress towards achieving the 2030 GHG emission reduction goal. Based on the 2017 Edition of the California GHG Emissions Inventory, 2015 GHG emissions from in-state and imported electricity were 24% below the electric sector's share of the 1990 emissions baseline. As an individual utility, LADWP achieved the 2030 GHG emission reduction goal in 2016 when LADWP's 2016 GHG emissions were 41% below

LADWP's 1990 emissions baseline. The electric sector will continue to achieve additional GHG emission reductions in response to existing known commitments such as the Renewables Portfolio Standard (RPS), energy efficiency and energy storage requirements, and the GHG Cap-and-Trade program.

The focus of the IRP process is not limited to assuring that California is on track to achieve the statewide GHG emission reduction targets. SB 350 also directs LSEs to develop IRPs that meet many other important criteria that are designed to ensure an effective and reliable clean energy strategy for reducing GHG emissions from the electric power sector. For example, the IRPs should "identify a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner." In addition, the IRPs should be crafted to ensure that LSE can perform other important functions, such as ensuring just and reasonable electricity rates, minimizing impacts on ratepayers' bills, ensuring system and local reliability, strengthening the diversity, sustainability, and resilience of the bulk transmission and distribution systems and local communities, enhancing distribution systems and demand-side energy management, and minimizing localized air pollutants and other GHG emissions with early priority on disadvantaged communities.

With regards to the GHG Target to be developed for each LSE, that target should be a non-binding planning target range that is:

- A realistic and achievable estimate of potential future GHG emission levels based on each LSE's load forecast, portfolio of generating resources, and known commitments.
- Expressed as a range to allow for uncertainty in predicting what the demand for electricity, portfolio of generating resources and GHG emissions will be 10 years in the future.
- Flexible enough to allow room for load growth due to electrification of various other emission sources in California (such as ports, vehicles, and industrial equipment).
- Adjustable to account for uncertainty in the extent to which electrification within the LSE's service territory will affect GHG emissions.

Electric Sector GHG Target Range

LADWP recommends using 42 to 52 million metric tons (MMT) as the range of expected electric sector GHG emissions in 2030 based on the electric sector modeling and analysis performed by the California Public Utilities Commission (CPUC).

- **The 52 MMT scenario** represents a 53% decrease from 1990 electric sector GHG emissions, 50% RPS, energy storage mandate of 1325 MW plus additional cost-effective storage, and roughly 1.5x gain in energy efficiency by 2030. This GHG emission target is ambitious but achievable.
- **The 42 MMT scenario** represents a 61% decrease from 1990 electric sector GHG emissions, approximately 65% RPS, and the same energy storage and energy efficiency levels as the 52 MMT scenario. This GHG emission target is an even more ambitious stretch goal.

- **The 30 MMT scenario** from the 2017 Scoping Plan should not be included in the electric sector GHG emissions target range because it is not cost effective. The 30 MMT scenario represents the Alternative 1 “No Cap-and-Trade” scenario in the Scoping Plan modeling and has a very high carbon abatement cost of \$309 per ton in 2030 per the CPUC analysis. Since Cap-and-Trade was selected as the preferred path forward in the Scoping Plan which allows emissions to be reduced in the most cost-effective manner, it stands to reason that there are other more cost-effective ways to reduce statewide GHG emissions, such as electrification of the transportation sector which is the largest source of GHG emissions in California.

LSE specific GHG Target Range

The LSE GHG Targets should be realistic, achievable planning targets that are tailored to each LSE based on load forecast, existing and planned generating resources, known commitments, and service territory needs.

The LSE GHG targets should allow room to grow to meet electrification needs. Electrification of emission sources within the LSE’s service territory will likely increase the LSE’s GHG emissions (due to generating more electricity to supply the additional demand) while achieving substantial emission reductions in the transportation, industrial and/or commercial sectors. Electrification will result in an overall net reduction in statewide GHG emissions, so is a key strategy to achieve the state’s ambitious 2030 and 2050 GHG emission reduction goals.

In SB 350, the California Legislature recognized that electrification of vehicles is an important tool in the quest to reduce GHG emissions. SB 350 states that LSEs should not be discouraged from exploring transportation electrification and other types of fuel switching. Any GHG planning methodology adopted should encourage LSEs to explore transportation electrification and other types of fuel switching (i.e. switch from traditional petroleum-based fuels to lower carbon electricity) as potential solutions to reduce GHG emissions.

SB 350 added section 740.12 to the Public Utilities Code which reads (in pertinent part) as follows:

740.12. (a) (1) The Legislature finds and declares all of the following:

(A) Advanced clean vehicles and fuels are needed to reduce petroleum use, to meet air quality standards, to improve public health, and to achieve greenhouse gas emissions reduction goals.

(B) Widespread transportation electrification is needed to achieve the goals of the Charge Ahead California Initiative (Chapter 8.5 (commencing with Section 44258) of Part 5 of Division 26 of the Health and Safety Code).

(C) Widespread transportation electrification requires increased access for disadvantaged communities, low- and moderate-income communities, and other consumers of zero-emission and near-zero-emission vehicles, and increased use of those vehicles in those communities and by other consumers to enhance air quality, lower greenhouse gases emissions, and promote overall benefits to those communities and other consumers.

(D) Reducing emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification.
(E) Widespread transportation electrification requires electrical corporations to increase access to the use of electricity as a transportation fuel.

(1) According to the State Alternative Fuels Plan analysis by the Energy Commission and the State Air Resources Board, light-, medium-, and heavy-duty vehicle electrification results in approximately 70 percent fewer greenhouse gases emitted, over 85 percent fewer ozone-forming air pollutants emitted, and 100 percent fewer petroleum used. These reductions will become larger as renewable generation increases.

(2) It is the policy of the state and the intent of the Legislature to encourage transportation electrification as a means to achieve ambient air quality standards and the state's climate goals. Agencies designing and implementing regulations, guidelines, plans, and funding programs to reduce greenhouse gas emissions shall take the findings described in paragraph (1) into account.

Furthermore, SB 350 directs the California Air Resources Board (CARB) to "*identify and adopt appropriate policies, rules, or regulations to remove regulatory disincentives preventing retail sellers and local publicly owned electric utilities from facilitating the achievement of greenhouse gas emission reductions in other sectors through increased investments in transportation electrification. Policies to be considered shall include, but are not limited to, an allocation of greenhouse gas emissions allowances to retail sellers and local publicly owned electric utilities, or other regulatory mechanisms, to account for increased greenhouse gas emissions in the electric sector from transportation electrification.*"

Electrification is an important tool to reduce statewide GHG emissions. It is also an important tool to reduce emissions of criteria air pollutants at the local level to meet the federal ambient air quality standards.

In its 2016 Air Quality Management Plan (AQMP), the South Coast Air Quality Management District identified over 40 control measures for stationary and mobile sources that will significantly increase the demand for electricity. These electrification related control measures include the installation of electric powered emission control equipment to reduce criteria pollutant emissions from stationary emission sources, replacement of gasoline and diesel fueled vehicles with near-zero and zero emission electric vehicles, use of electric roadway infrastructure for heavy duty trucks on the I-710 and I-60 freeways, and electrification at the Port of Los Angeles and Port of Long Beach. The ports of Los Angeles and Long Beach are expected to triple or quadruple their electricity demand by 2030. Electrification measures at the ports include providing shoreside power so that ships can turn off their main and auxiliary engines while at berth, electric cargo handling equipment, and automation of container terminals. The Environmental Impact Report for the 2016 AQMP estimates that implementation of all the electrification related control measures will increase electricity use within Los Angeles, Orange, Riverside and San Bernardino Counties 7.8 percent by 2024 and 12.7 percent by 2031.

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Given the importance of electrification in achieving both the climate change and air quality goals for California, the GHG targets should not create a new burden on the electric sector that goes beyond the existing regulatory programs and mandates. In setting the GHG targets, CARB should be sensitive to the financial burden on electricity customers in California to comply with the existing programs and mandates. Setting the LSE GHG target too low could pressure the LSE to spend more money on emission reductions to meet the GHG target, thereby increasing electricity costs to consumers. Increasing electricity costs to consumers would create a disincentive to electrification of the transportation sector and be counterproductive for achieving the state's overall GHG emission reduction goals. For example, electric vehicles currently cost more to purchase than conventional vehicles, so to incentivize the purchase and use of electric vehicles rather than conventional vehicles, electricity needs to remain a low-cost alternative fuel so that electric vehicles will be cost effective. According to CARB's statewide GHG emissions inventory, the transportation sector composed 39 percent of the statewide GHG emissions in 2015 whereas the electric sector was only 19 percent. The potential GHG emission reductions to be gained through electrification of the transportation sector far outweigh the additional reductions that could be gained from the electric sector.

To ensure that the LSE GHG targets include sufficient room to grow to support electrification, LADWP recommends that the most recent California Energy Demand (CED) 2018 – 2030 Revised Forecast that was adopted in February 2018 as part of the 2017 Integrated Energy Policy Report (IEPR) be used to update the draft LSE GHG targets that were calculated using the CED 2016-2026 forecast from the 2015 IEPR. The CED 2018-2030 forecast incorporates a number of improvements including hourly load forecasting, rooftop solar generation, electric vehicle consumption, residential time of use, and energy efficiency as well as policy initiatives such as building codes and standards, electric utility efficiency programs, distributed generation incentive programs, demand response programs, zero emission vehicle incentives, and electrification of ports, airports, etc. The CED 2018-2030 baseline forecast shows higher expected growth in electricity consumption than previous forecasts, so it is important that the LSE GHG targets be updated using the 2018-2030 forecast to properly account for future load growth. The CED 2018-2030 forecast includes Low Demand, Mid Demand, and High Demand scenarios along with various combinations of Additional Achievable Energy Efficiency (AAEE) and Additional Achievable Photo Voltaic (AAPV). The Mid Demand No AAEE or AAPV scenario is the best forecast to use to estimate LSE GHG emissions in 2030 because it is a conservative estimate based on known commitments without the uncertainty of AAEE and AAPV (which are estimates of future potential that is not yet approved or funded).

In summary, LADWP requests that the LSE 2030 GHG targets be a realistic and achievable range of potential future GHG emission levels based on the LSE's load forecast, portfolio of generating resources, and known commitments, developed using the updated CED 2018-2030 forecast, and with room to grow to support electrification in the transportation and other sectors.

If you have any questions, please contact me at (213) 367-0403 or Ms. Jodean Giese at (213) 367-0409.

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Sincerely,

A handwritten signature in blue ink that reads "Mark J. Sedlacek". The signature is fluid and cursive, with the first name "Mark" being the most prominent.

Mark J. Sedlacek
Director of Environmental Affairs

CP:lct

c: Mr. Jason Gray, CARB
Ms. Rachael Gould, CARB
Mr. Jakub Ziekiewicz, CARB
Ms. Jodean Giese