SOLAGRA
SOLAR + AGRICULTURE + ENERGY STORAGE

926 Diablo Avenue
Suite A-180
Novato, CA 94947

Tel: 415-892-6149
Fax: 415-898-3823
info@Sol-Agra.com

RECEIVED
JUL 29 2014
NAT'L MARINE FISHERIES SVS
SACRAMENTO, CA

July 28, 2014

SENT VIA EMAIL (BDCP.comments@noaa.gov)

Mr. Ryan Wulff
National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814

RE: Comments on Draft Bay Delta Conservation Plan and Associated Draft Environmental Impact Report/Environmental Impact Statement

Dear Mr. Wulff:

These comments are submitted in relation to the Bay Delta Conservation Plan Alternative 4 ("BDCP") and associated draft Environmental Impact Report/Environmental Impact Statement ("EIR/EIS"). Any project, and particularly a project of the magnitude proposed here, must fully consider alternatives to minimize take of endangered species and means to avoid these and other significant environmental impacts. To better accomplish the tasks for which the BDCP was designed, construction of water intakes in the west Delta should be considered. The SolAgra West Delta Intake Plan (WDIP), could be powered by 100% renewable resources from our locally proposed Ryer Island Solar Power Plant, and augmented by power from the existing nearby Rio Vista wind farms. This alternative would better preserve natural river flows and maintain water quality in the Delta while simultaneously supporting export water supply needs and minimizing or avoiding many of the significant environmental impacts of implementing the BDCP identified in the Draft BDCP and EIR/EIS. As explained below, SolAgra would like to discuss our proposed solution with the BDCP proponents.

Why is SolAgra Interested in the Delta and the BDCP?

SolAgra Corporation is a California Corporation that develops utility-scale renewable energy power plants. SolAgra holds a 40-year lease on 2,422 acres of Ryer Island that SolAgra intends to use for the development of a 720 MW solar energy production facility. This facility will pair sustainable agriculture beneath

the solar arrays, using a patent-pending method of "solar double cropping" technology known as SolAgra Farming. This technology is currently being beta tested and peer reviewed by U.C. Davis, Plant Sciences Department under the auspices of Dr. Heiner Lieth. Dr. Lieth is a leading expert in this field and his team at U.C. Davis has already completed successful testing of this concept.

The SolAgra project will also develop an energy storage system capable of storing up to 640 MW of electrical power that can be used to time-shift the power delivery to a time when normal solar power is not available due to lack of sunlight. SolAgra has secured the use of depleted natural gas wells beneath its leased land to provide necessary subterranean storage for its Compressed Air Energy Storage ("CAES") System and other patent-pending energy storage technologies of its own design. SolAgra also has the right of first offer to purchase up to 6,202 acres on Ryer Island to expand the total electrical power production capability to 1,800 MW.

Since SolAgra's Ryer Island Solar Power Plant will also sustain agriculture beneath the solar arrays, the continued need for good quality irrigation water in sufficient quantities on Ryer Island is essential. The salinity barriers proposed by the Department of Water Resources ("DWR") for Steamboat and Sutter Sloughs, would devastate agricultural operations on Ryer Island. The potential that this high salinity level could continue, and be exacerbated due to the upstream diversions proposed by the new BDCP intakes on the Sacramento River is unacceptable to farming operations on Ryer Island and to many other rich agricultural areas of the Delta that rely on the Sacramento River to successfully produce crops for California and the nation.

SolAgra has studied the EIR/EIS for the BDCP as well as the many comments that have been submitted to date. While we agree that the water problems that have plagued California for more than 100 years require changes, we are convinced that the BDCP is not a solution.

Since the beginning of construction of the State Water Project ("SWP") in the 1950s, California has been guilty of "serial engineering". This means undertaking solutions that are not completely thought-out, reasoning that "the end justifies the means" OR "let's get the water flowing south and we'll worry about the consequences later." "Later" has now arrived and the consequences are dire. Each new engineering solution attempts to improve a disastrous condition created by the previous "solution." This is also the case with the currently proposed BDCP.

Many critics of the BDCP have stated their concerns regarding the currently proposed BDCP and their disbelief at the scope and cost of the proposal — both environmentally and fiscally. These comments allege that the current draft BDCP plan and EIR/EIS are inadequate and will require remedial research, re-coordination and recirculation prior to project approval. However, few alternatives to BDCP have been offered. The SolAgra approach provides an alternative that would better restore Sacramento River flow pathways and volumes, with significant resulting benefits to local residents, farmers, native fish species and other wildlife in the Delta while continuing to meet export water supply needs for the rest of California.

What Exactly is SolAgra Proposing?

The SolAgra proposal calls for the fresh water of the Sacramento River to flow to near its natural endpoint, where it mixes with the brackish water flows between Sherman Island and Chipps Island near the Antioch Bridge. (See Exhibit 1.) This is the perfect location to capture significant quantities of fresh river water before it mixes with the inexhaustible supplies of sea water that arrive by tidal flow from San Francisco, San Pablo and Suisun Bays. By installing a blending/treatment plant that is capable of blending inflows from the Sacramento and San Joaquin rivers, with the brackish waters of Sherman Lake, and filtering/desalinating this "custom blended" brackish water from multiple intakes around Sherman Island; the treatment and desalination (using reverse osmosis and later a far more efficient graphene desalination technology) will easily provide the 2.4 million Acre-Feet/year of fresh water that is currently shipped through the SWP in a "good water year." This new, clean water that is created on Sherman Island will be pumped through a single, smaller tunnel that is 19 miles long (See Exhibit 2), versus the twin tunnels proposed by the BDCP that are each 38 miles long and are proposed to be over 40 feet in diameter! Since this new water will be fish-screened and pre-filtered at Sherman Island, it can completely bypass the Clifton Court Forebay and the Banks Pumping Plant for processing, and be pumped directly to Bethany Reservoir where it will begin its gravity flow into the California Aqueduct.

By modularizing the pumping and desalination plants at Sherman Island, water taken directly from the Sacramento or San Joaquin Rivers that has not yet mixed with the brackish tidal flows, can be filtered (if necessary) and pumped directly into the tunnel for the journey to Bethany Reservoir. To augment the flow of fresh river water in years of limited river flow due to drought or other issues,

the desalination plant adjacent to the pumping / filtration plant can be increased in volume operation to add desalinated water to make up for the limited fresh water that is coming down river. This separation of processing functions allows the efficiency of both processes to be operated at peak efficiency, while still accomplishing the end result of producing 2.4 Million Acre-Feet/year of fresh water for introduction into the SWP. THIS WATER CAN BE ADDED TO WATER FLOWS THAT ARE CURRENTLY BEING PUMPED AT THE BANKS PUMPING PLANT TO EQUAL OR EXCEED THE VOLUME PROPOSED BY THE BDCP.

This new approach to dual-conveyance means that existing operations of the CVP and SWP will continue as they operate today **during normal rain years**. In drought years, rather than continuing to pump 2.4 million acre-feet/year OR MORE (per BDCP) and thereby decreasing the flow down the Sacramento River, thus allowing salinity levels to move up river – as they are doing today – we advocate that Banks Pumping Plant pump less water, thereby allowing more of the limited available fresh water to flow completely through the Sacramento & San Joaquin Rivers to Sherman Island. There it will be picked up filtered and/or desalinated as necessary, combined with the Bay water that arrived from the west on flood tides and then pumped at a rate of 2.4 million acre-feet/year to Bethany Reservoir for introduction into the SWP. The combination of these conveyances and the introduction of 2.4 million Acre-Feet/year from Sherman Island provides as much (or more) than the up to 9,000 cfs (6.5 million acre-feet/year) that is proposed by the BDCP. **The SolAgra WDIP alternative accomplishes that task without the environmental, economic and social impacts of the BDCP.**

During times of high river flow, the "big gulp" advocated by the BDCP can still be accomplished by pumping more through Banks AND by using Sherman as a pumping plant (only), since no desalination will be required during times of high fresh water flows. This will obviously require Central Valley Project ("CVP") water contractors to develop sufficient storage south of the Delta to provide reserves for lower precipitation years.

By modularizing the pumping plant(s) at Sherman, we can pump fresh water directly into the tunnel that goes from Sherman Island to Bethany Reservoir, desalinate the incoming tidal brackish water from Sherman Lake and then pump that water into the tunnel. This selectivity increases the efficiency of the entire system by transferring the fresh water directly and desalinating only the brackish water. Desalinating brackish water is far more efficient than

desalinating sea water, so the entire concept capitalizes on Sherman Island as the perfect location in the State to accomplish this task.

Electrical power needed for the desalination and pumping of water can be provided by the SolAgra Solar Power Plant proposed for Ryer Island, without interrupting or impacting the electrical power balance in the State. The State's power balance is currently impacted by the permanent closing of the San Onofre Nuclear Generating Station. The newly created Ryer Island green solar power can be delivered to the adjacent Grand Island Substation and transmitted directly to Sherman Island via the existing Brighton-Grand Island 115KV power corridor. Unlike the BDCP-proposed project, no new power corridors must be created or power rights-of-way acquired. Additional power may also be obtained from the windfarms west of Rio Vista. That power can be transmitted via the Birds Landing/ Contra Costa 230 KV transmission corridor that runs from the Montezuma Hills wind farms (west of Rio Vista) directly through Sherman Island. There would be no need to create new power corridors, obtain new power rights-of-way or otherwise increase environmental impacts from construction of new transmission corridors.

Why should BDCP Proponents Consider the SolAgra Alternative?

The SolAgra approach solves all of the major problems associated with the creation and transmission of water via the SWP without incurring many of the un-mitigatable consequences and expenses in the North Delta alternative that is enumerated in the EIR/EIS for the BDCP. We believe the SolAgra WDIP alternative could accomplish the task for **less than half the projected cost and in less than half the time of the BDCP**.

Rather than juggling and moving existing water from place-to-place via a bureaucratic scheme, the SolAgra proposal would create 2.4 million acre-feet/ year of new, fresh water for the SWP that California has never had previously. This new water would be created each and every year - IRRESPECTIVE OF DROUGHTS, tidal flows, sea levels or other weather conditions or anomalies. Under the SolAgra proposal, the CVP conveyance through the existing system can remain in place, avoiding unaffordable water rate increases that would make commercial agriculture less fiscally sustainable – creating a true "dual conveyance" solution – with new water supplies while providing reliable and higher quality water to the SWP in accordance with state law. This new water can be produced using green power, with no requirement to build additional fossil fuel power plants, nuclear plants, or to import "brown"

power from other states that typically burn coal to generate electricity. The SolAgra WDIP also better restores the eco-balance in the Bay-Delta than the alternatives studied in the current draft BDCP and associated EIR/EIS while equaling or exceeding the water quantities projected by the BDCP with far less environmental impact.

The SolAgra WDIP alternative is part of a reasonable range of alternatives that should be considered. Critically, the SolAgra alternative would reduce several of the significant and unavoidable impacts on the environment caused by the proposed BDCP project. The requirement to consider a reasonable range of alternatives and the ability of the SolAgra alternative to avoid or reduce significant impacts is discussed in more detail below.

A Reasonable Range of Alternatives Includes Water Supply Intakes in the West Delta

The BDCP review process is required to consider an adequate range of alternatives under CEQA, NEPA and the ESA. Under CEQA, an EIR must "describe a range of reasonable alternatives to the project. . . which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." (14 Cal. Code Regs., § 15126.6(a).) "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." § 15126.6(b). In its screening and review of alternatives, the EIR must provide more than "cursory" analysis. (*PCL v. DWR* (2000) 83 Cal. App. 4th 892, 919.) An EIR should not construe project objectives so narrowly that only the proposed project could conceivably be capable of achieving them.

Under NEPA, the alternatives section "is the heart of the environmental impact statement." The alternatives section should "sharply" define the issues and provide a clear basis for choice among options by the decision-maker and the public. (40 C.F.R. § 1502.14.) The EIS alternatives section must "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." (40 C.F.R. § 1502.14(a).) If "a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion. The agency shall

make every effort to disclose and discuss at appropriate points in the draft statement all major points of view on the environmental impacts of the alternatives including the proposed action." (40 C.F.R. § § 1502.9(a).)

Under the ESA, a conservation plan submitted in support of an incidental take permit application must include "Alternative actions the applicant considered that would not result in take, and the reasons why such alternatives are not being utilized." (Habitat Conservation Planning and Incidental Take Permit Processing Handbook (1996), p. 3-10, citing 16 U.S. C. § 1539(a)(2)(A)(3), 50 C.F.R. §§ 17.22(b)(1), 17.32(b)(1), and 222.22.) HCPs must also include, among other things, information regarding the applicant's plan to "minimize and mitigate" the impacts likely to result from incidental takes. (16 U.S.C. § 1539(a)(2)(A)(ii).)

We understand that an EIR need not study in detail an alternative that is infeasible or that the lead agency has reasonably determined cannot achieve the project's underlying fundamental purpose. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 574 ["a project alternative which cannot be feasibly accomplished need not be extensively considered"].) Moreover, a "potentially feasible alternative that might avoid a significant impact must be discussed and analyzed in an EIR so as to provide information to the decision makers about the alternative's potential for reducing environmental impacts." (*Habitat & Watershed Caretakers v. City of Santa Cruz* (2013) 213 Cal. App. 4th 1277, 1304 [striking down EIR for failure to consider any alternative that would reduce the project's effect on the city's water supply].) The SolAgra approach could achieve the fundamental purposes of the BDCP **and** reduce significant environmental impacts, and should therefore be considered.

With the exception of Alternative 9, the BDCP EIR/EIS evaluates only variations on the common theme of adding an isolated conveyance from the North Delta to the existing export facilities in the South Delta, referred to as Conservation Measure ("CM") 1. There is also virtually no variation in CMs 2-21 among the project alternatives, which are the remaining so-called "conservation measures" in the BDCP aimed at species recovery. (EIR/EIS, Table 3-1.)

Three years ago the National Academy of Sciences declared in reviewing the then-current version of the draft BDCP: "Choosing the alternative project before evaluating alternative ways to reach a preferred outcome would be post hoc rationalization – in other words, putting the cart before the horse. Scientific reasons for not considering alternative actions are not presented in the plan." (*National Academy of Sciences* Report in Brief (May 5, 2011), p. 2.) This

problem has still not been corrected. Early in the BDCP planning process, there was a decision to focus on new north Delta diversions on the Sacramento River as the primary means to meet the objectives of the BDCP participants. (BDCP Appendix 3A, pp. 3A9-3A-11.)

Moreover, to achieve the objectives, purpose and need of the BDCP, a frank and detailed study of alternatives is required. The BDCP should include alternatives that actually provide water supply reliability, restore the Delta ecosystem, and improve water quality for both exporters and in-Delta users. Such a goal is included the 2009 Delta Reform Act, which directs the State as a whole to: "Achieve the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place." (Wat. Code, § 85054.) The Delta Stewardship Council can only accept the BDCP into the Delta Plan if, and only if, the BDCP has studied a reasonable range of conveyance alternatives (Wat. Code, § 85320, subd. (b)(2)(B)), among other requirements. If the BDCP does not meet these requirements, it cannot be included in the Delta Plan and it will otherwise be non-compliant with State law.

Several alternatives have been proposed publically to date, but not adequately studied as alternatives in the BDCP.[1] The Western Delta Intakes Concept ("WDIC") is the closest alternative given any consideration in the BDCP EIR/EIS to that proposed by SolAgra. (BDCP Appendix 3A, Section 3A.11.4.) The WDIC would relocate the principal point of diversion for exports from the South Delta to the West Delta. Water surplus to upstream and in-Delta needs and the Delta outflow required to sustain fisheries would be extracted through permeable embankments on Sherman Island and then conveyed through large tunnels to Clifton Court Forebay for subsequent export.

The principle objective and benefits of this intake relocation would be:

- To restore more natural flows through the Delta both in pattern and quantity, supporting the retention of X-2 at its historical range, contributing

[1] Another such alternative is the Environmental Water Caucus, which has proposed a "Responsible Exports Plan" that calls for reducing exports from the Delta, implementing stringent conservation measures but no new upstream conveyance. This Plan prioritizes the need for a water availability analysis and protection of public trust resources that would comply with EPA statements indicating that more outflow is needed to protect aquatic resources and fish populations. (http://www.ewccalifornia.org/reports/responsibleexportsplanmay2013.pdf.)

to the recovery of natural breeding and feeding grounds for aquatic species of concern and more capable of coexisting with the increased minimum Delta outflow requirements that EPA, the State of the Estuary Report, the State Water Board and many other analyses have clearly shown would be required to restore the Bay-Delta and its fisheries;

- To improve both in-Delta and export water quality, rather than improving export water quality at the expense of in-Delta water quality; and
- To avoid significant impacts to North Delta communities, water supplies, and flood control facilities.

A western delta intake location thus should be considered. The EIR/EIS describes how a concept similar to what SolAgra proposes, referred to as the "Pyke Proposal", was not carried forward for further analysis. (EIR/EIS, Appendix 3A, pp. 3-89 to 3-92.) A point by point rebuttal to the coverage of the WDIC is provided in Appendix A to the comments of Dr. Pyke on the draft BDCP, dated May 26, 2014, and is not repeated here. The EIR/EIS primarily dismisses the WDIC over concerns of water quality affecting export reliability. (BDCP EIR/EIS, Appendix 3A, p. 3-91.) However, the SolAgra WDIP alternative addresses this issue by proposing to directly pump fresh water when available from the Sacramento River into the tunnel for immediate conveyance, and to only desalinate water from the WDIP as necessary. The SolAgra alternative also avoids the creation of a Sherman Island Forebay that was severely criticized due to the large volume of mass excavation that was required to create it. By processing incoming fresh and brackish water in real time, the need for a forebay on Sherman Island is eliminated.

The BDCP EIS/EIS, however, does not consider the possibility of providing water treatment – desalination – at the WDIP location. Though energy demand can be a limitation on the feasibility of desalination, in this case, solar powered filtration/desalination and pumping into the west delta operational facilities could convey newly created fresh water from Sherman Island to the SWP's Bethany Reservoir. This would be the best destination because the SWP primarily serves urban water users that require higher quality water. In summary, variations of the WDIC proposal, including that proposed by the SolAgra WDIP, meet project objectives and are feasible, and therefore must be considered.

How Would a Western Delta Intake be More Likely to Receive Take Authority <u>and</u> Meet Project Objectives?

One of the many barriers to the proposed BDCP project is the ability to be permitted as both a state and a federal habitat conservation plan. However, the primary objective of the BDCP – obtaining incidental take permits – may not be met in view of the BDCP's failure to produce an effects analysis that can meet minimum requirements of state and federal law.

For instance, the benefits to listed species are uncertain at best for BDCP. For instance, the current public review draft of the BDCP shows that implementation of the BDCP could potentially imperil nine key species including salmon, Delta smelt and greater sandhill cranes.[2] A plan that imperils the very species it seeks to cover is unlikely to receive needed permits under the state and federal endangered species acts. These species are imperiled by factors such as the reduction in freshwater flows in the Sacramento River, entrainment in the new and existing SWP/CVP pumps, and by the major land use changes brought about by the conversion/creation of tidal habitat in presently dry areas.

The ability of the restoration components of the BDCP to function as planned is also severely doubtful. As indicated in the March 2014 Delta Science Program Independent Review Panel Report - BDCP Effects Analysis Review, Phase 3:

> *The net effects analysis tends to overreach conclusions of positive benefits for covered fish species, given the inability to quantify the over-all net effects and the realization of high uncertainty. In particular, it does not adequately defend conclusions regarding the net effects of habitat restoration. Restoration of tidal wetlands (and other communities) is highly uncertain and at least an extremely long process. The Effects Analysis does not adequately justify the critical assumption of the benefit of tidal wetland restoration as a food web subsidy for covered pelagic fish given the uncertainties of tidal wetland restoration itself. A critical issue is the implicit expectation that restoration activities will result in increases in abundance of lower trophic levels, but it is uncertain whether the resulting increased production will result in food web pathways supporting covered species. . . .*

---

[2] See article by Matt Weiser, *Fate still unclear for nine species in Delta water tunnel plan* (December 18, 2014), available at: http://www.sacbee.com/2013/12/18/6009767/fate-still-unclear-for-nine-species.html Species include Longfin smelt, Delta smelt, Winter Spring and Fall Chinook salmon, Green sturgeon, White sturgeon, Steelhead and Greater sandhill crane.

(BDCP Effects Analysis Review, Phase 3, p. 7, available at: http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Science-Independent-Review-Panel-Report-PHASE-3-FINAL-SUBMISSION-03132014_0.pdf.)

The shoreline lengths along Sherman Island and the difference in water properties that can be obtained by water inflows that are taken along various segments of the Sacramento River, San Joaquin River and the brackish water flows in the Sherman Lake area allow the installation of multiple, low-flow intakes rather than the few high volume intakes proposed by the BDCP's North Delta intake plan. Multiple low-flow intakes, with lower probability of fish take, have a higher probability of approval. By providing water supply in a less environmentally damaging manner that preserves the natural flow of the Sacramento River, the SolAgra WDIP Alternative is more likely to be permitted as a state and federal conservation plan than the BDCP.

What Significant Effects Could be Avoided with the SolAgra Alternative?

TheSolAgra WDIP alternative would reduce or avoid significant impacts identified in the EIR/EIS, as well as reduce or avoid impacts that the EIR/EIS has either failed to address or inaccurately characterized as less than significant. A few of those impacts are discussed below. With proper review and analysis as a project alternative, additional environmental and other benefits of the SolAgra alternative would be determined in greater detail.

Agricultural Resources and Delta Communities

By reducing the freshwater flow through the Delta that is normally provided by the Sacramento River, the BDCP will significantly degrade water quality for more senior - Delta agriculture and municipal/industrial intakes, as well as for species of concern. Removal of fresh water inflows from the Sacramento River is expected to result in several significant and unavoidable water quality exceedances for which only inadequate mitigation is proposed. (BDCP EIR/EIS, Chapter 8.) These water quality impacts will reduce or eliminate agricultural productivity in an area that currently has excellent water quality. Relocation of intakes to Sherman Island would avoid local water supply impacts while also providing higher quality water to the SWP.

Additionally, the BDCP "conservation measures" require up to 150,000 acres of productive, agricultural land to be acquired, converted, restricted or

otherwise impacted. This conversion of productive agricultural land to aquatic habitat can be more generically described as: **"flooding precious farmland"**. (BDCP, Tables 3-4, 6-2, 8-1.) Under the SolAgra WDIP alternative, less than 1,000 acres of grazing land would be used to construct the Pumping & Desalination facilities on Sherman Island. PLUS, the indirect effects on agriculture from changes in salinity and water levels in the north Delta from operation of the BDCP's proposed Sacramento River intakes would be completely avoided. Moreover, the SolAgra alternative would not require any agricultural land conversion to accommodate experimental restoration projects to create mitigation for the **unavoidable environmental consequences** described in the EIR/EIS for the BDCP.

Construction of the BDCP - CM1 tunnels, in particular, would bring about major changes to north Delta communities and landscapes. **With the SolAgra alternative, impacts to the historic communities in the North Delta would also be entirely eliminated.** Sherman Island is already largely in public ownership. Much of the land is grazing land. This makes conversion of a small percentage of its land area for use for water pumping, processing, desalination and limited storage far less disruptive than what is proposed under BDCP Alterative 4.

Greenhouse Gas Emissions

In the SolAgra alternative, construction and operational greenhouse gas ("GHG") emissions would also be significantly reduced and 100% offset by production of green power at Ryer Island.

The EIR/EIS discloses that the BDCP would produce over 1.7 million metric tons of GHG during an estimated 9 year construction period for the Dual Conveyance Tunnels. (EIR/S, Table 22-94.) An additional 161 metric tons of GHG emissions would be emitted every year under operation of the proposed project. (EIR/S, Table 22-96.)

This calculation understates the actual amount however, as the Draft EIR/EIS presents a (global warming potential) GWP for methane ("CH_4"), of 21 over a 100-year time horizon. Yet, the IPCC updated the GWP for methane to 25 over a 100-year time horizon[3] and the EPA updated its GHG reporting rule in

[3] IPCC, Fourth Assessment Report: Climate Change 2007; http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html.

2013.[4] The EIR/EIS should rely on the most recent scientific consensus for GWPs published by the IPCC.

Construction GHG emissions under the SolAgra approach would be significantly reduced primarily due to a single, smaller, pressure tunnel that is less than half the length of that proposed in the BDCP Alternative 4. The SolAgra tunnel from Sherman Island to Bethany Reservoir would be the size of a normal transit (subway) tunnel for which Tunnel Boring Machines ("TBMs") are readily available. The dual tunnels proposed by the BDCP are so large that they would require the invention and creation of TBMs of a size that have never been previously built. GHG emissions during construction of the SolAgra tunnel would be more than offset by the production of Renewable Energy Credits (carbon credits) generated by the operation of the Ryer Island Solar Power Plant that provides power to operate the Sherman Island pumping/ desalination plants. Ultimately, the SolAgra alternative would actually reduce GHG emissions rather than increase them. Continued operation of the pumping/ desalination facilities during the entire life of the project at Sherman Island would be accomplished using 100% green power, making the SolAgra alternative an environmental benefit rather than the environmental deficit created by the BDCP.

The EIR/EIS incredibly assumes reduced GHG emissions under project operations by assuming that DWR will reduce GHG emissions statewide by compliance with its Climate Action Plan ("CAP"), and that no mitigation is necessary, even though operation of the tunnels would add approximately 1,405 GWh of additional net electricity demand each year. (EIR/EIS, pp. 22-43, 22-263.) Direct provision of renewable energy for the SWP would be a superior approach.

The transmission of 2.4 million acre-feet/year from Sherman Island to Los Vaqueros Reservoir at elevation 475 feet for ultimate delivery to Bethany Reservoir at elevation 244 feet would provide the opportunity to install a hydro-electric power plant just above Bethany Reservoir that would produce enough green hydro-electric energy to power many of the pumping plants along the California Aqueduct that currently are powered by "brown" power from local utilities. Using the SolAgra concept at Sherman Island, the California Aqueduct

[4] EPA, 40 CFR Part 98, [EPA-HQ-OAR-2012-0934; FRL-9902-95-OAR], RIN 2060-AR52, 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements, November 15, 2013, Table 2, page 21; http://www.epa.gov/ghgreporting/documents/pdf/2013/documents/2013-data-elements.pdf.

could become "self-powered" using the pumping pressure of the water flow from the pumping/desalination plant that is also powered by green solar power.

Conclusion

Thank you for considering the information in this comment letter. We strongly suggest that the SolAgra WDIP alternative, and any other reasonable variations, be fully analyzed as viable alternatives to the BDCP in the recirculated BDCP Plan and its associated EIR/EIS. The SolAgra WDIP alternative, and other local innovations, can comprise workable, 21st Century solutions that meet water supply objectives without compromising the environmental and economic values of the Delta without burdening our children and future generations with 50 years of unnecessary debt. Let's provide future generations with good water from sustainable resources at a reasonable price.

We welcome the opportunity to discuss the SolAgra WDIP in greater detail.

Sincerely,

Barry Sgarrella
Chief Executive Officer
SolAgra Corporation

Exhibits:

1. Ryer Island to Sherman Island Map – POWER PATH - showing the location of the proposed Ryer Island Solar / CAES project, existing Montezuma Hills Wind Farms and proposed Sherman Island Pumping & Desal
2. Sherman Island to Bethany Reservoir Map – WATER PATH - showing the proposed Sherman Island Pumping & Desal Facility, a potential path of the Conveyance Tunnel from Sherman Island to Bethany Reservoir, including the possibility of creating hydro-electric power from the pressure head created by the flow from Las Vaqueros Reservoir to Bethany Reservoir.
3. Northern California Power Map – showing the 115 KV power corridor from Ryer Island to Sherman Island and Barker Slough desal facilities, plus the 230KV power corridor from the Montezuma Hills Wind Farms to Sherman Island, and a table showing calculations comparing various elements & power required (for the SolAgra WDIP alternative compared to BDCP Alt 4 proposal)

SOLAGRA
SOLAR + AGRICULTURE + ENERGY STORAGE

cc:

The Honorable Governor Jerry Brown
State Capitol, Suite 1173
Sacramento, CA 95814

John Laird, Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Mark Cowin
Director, California Department of Water Resources
P.O. Box 942836, Room 1115-1
Sacramento, CA 94236-0001

Chuck Bonham
Director, California Department of Fish and Wildlife
1416 9th Street, 12th Floor Sacramento, CA 95814

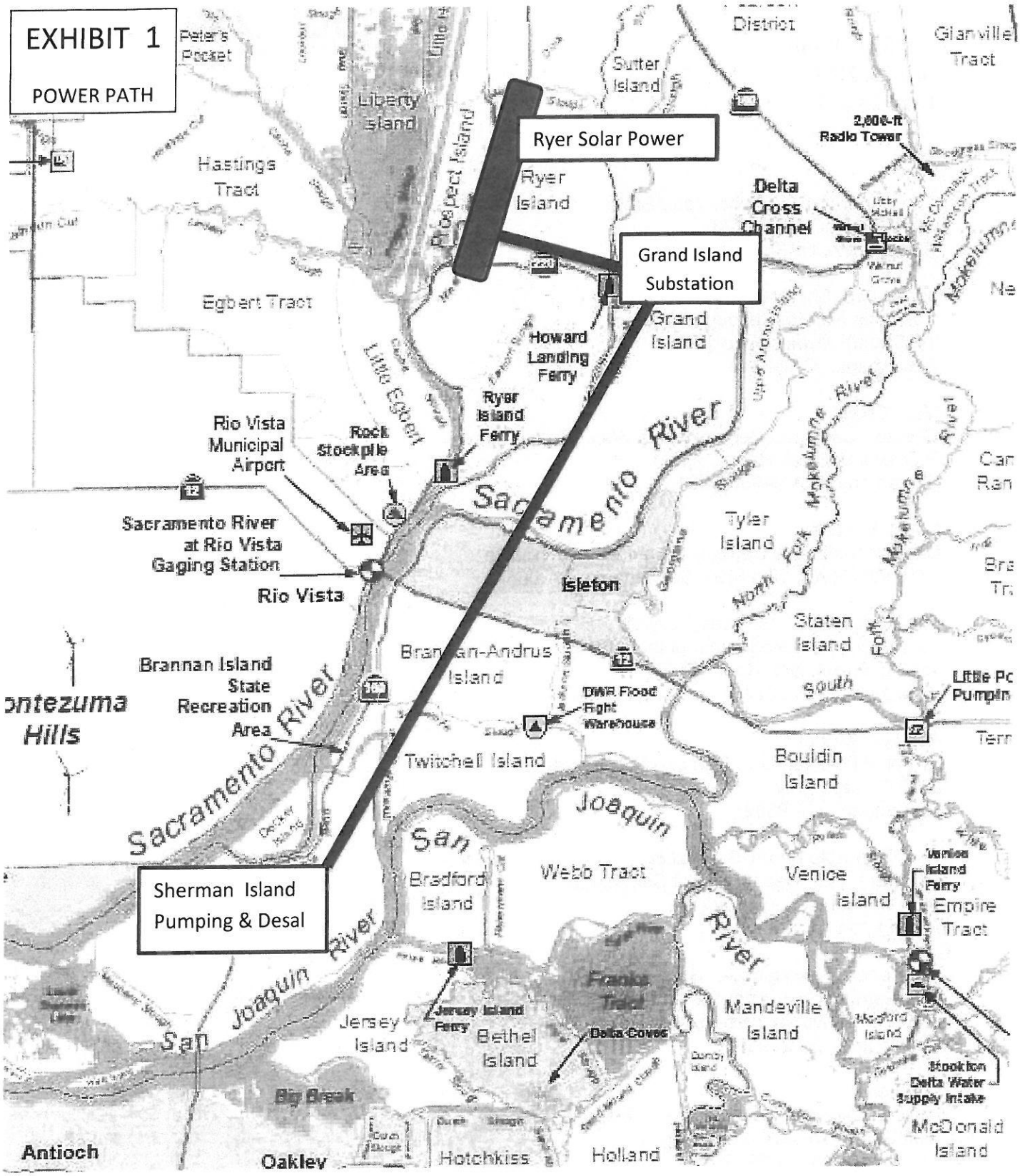
The Honorable Sarah "Sally" Jewell
Secretary, U.S. Department of the Interior
1849 C Street, NW, Room 6156
Washington, DC 20240

Ren Lohoefener
Regional Director, U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825

The Honorable Penny S. Pritzker
Secretary, U.S. Department of Commerce
1401 Constitution Avenue, NW
Washington, DC 20230

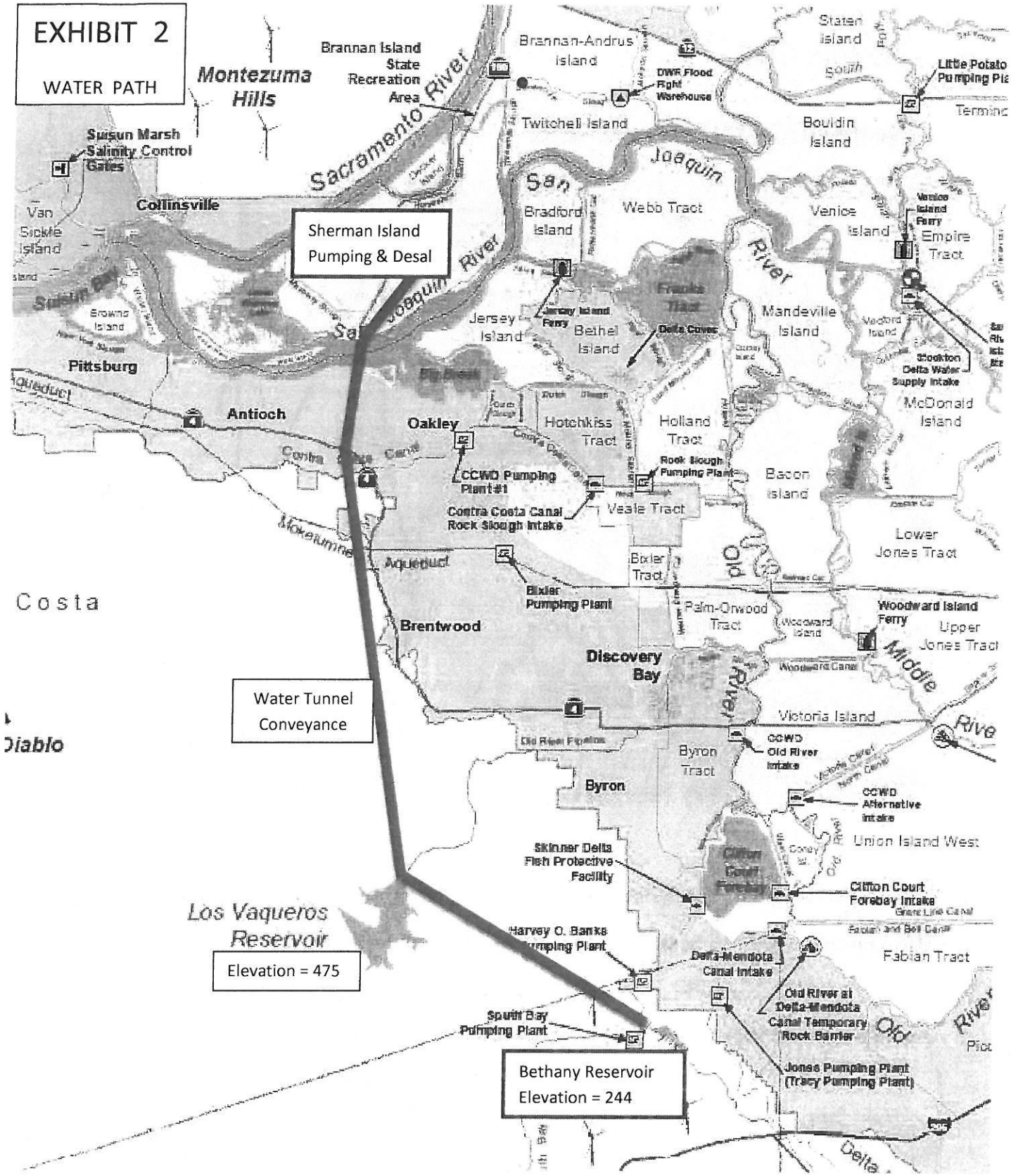
The Honorable Regina A. "Gina" McCarthy
Administrator, U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, Room 3000
Washington, DC 20460

Will Stelle
Regional Director, National Marine Fisheries Service
7600 Sand Point Way, NE, Bldg. 1
Seattle, WA 98115-0070



RYER ISLAND to SHERMAN ISLAND

Electrical Power Corridor

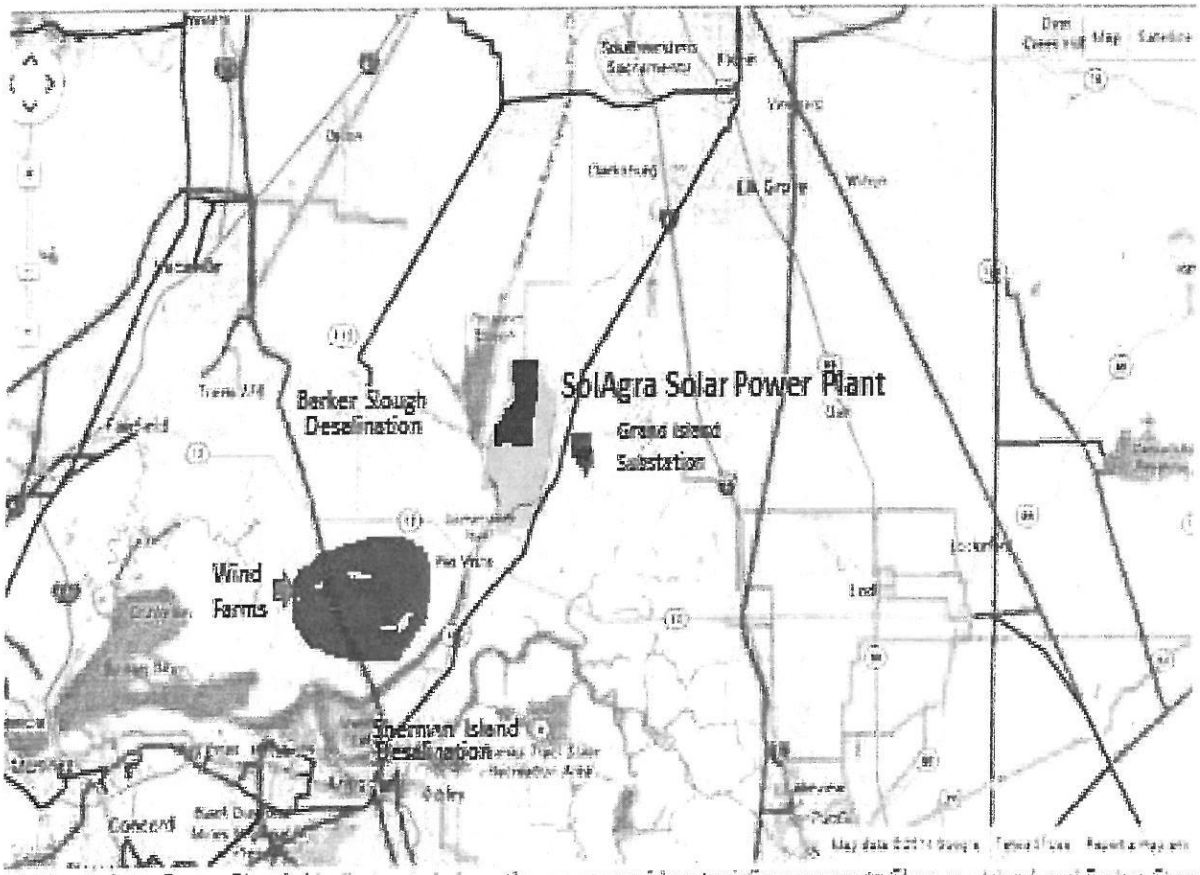


SHERMAN ISLAND to BETHANY RESERVOIR

Water Tunnel Conveyance

EXHIBIT 3
POWER GRID

Northern California Power Grid:



SolAgra's Solar Power Plant is ideally located along the power corridors to deliver power to Sherman Island and Barker Slough

Purple lines - 115 KV Transmission Corridors from Grand Island to Sherman Island & Barker Slough

Aqua lines - 230 KV Transmission Corridors from Wind Farms thru Sherman Island

Estimated Annual Energy Demand and Annual Energy Production Table

	SolAgra Energy Production Capability	West Delta Intake Plan Pumping & Desalination	BDCP - Alternative 4 Energy Demand
Diversion & Delivery	5,256 GWh	669 GWh	1,405 GWh
Desalination		1,105 GWh	N/A
Unmitigated CO2e Emissions	0	0	161