

**STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

California Energy Commission

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In the Matter of:

2013 Integrated Energy Policy Report
(2013 IEPR)

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) Docket No. 13-IEP-1E
)

) WORKSHOPS RE:

) 1) Environmental and Land-Use
) Factors in Renewable Scenarios and
) Database Development

) and

) 2) Transmission Planning and
) Permitting Issues
)

**PATHFINDER RENEWABLE WIND ENERGY AND
ZEPHYR POWER TRANSMISSION, LLC COMMENTS ON
THE MAY 7, 2013 STAFF WORKSHOPS
IN THE 2013 INTEGRATED ENERGY POLICY REPORT**

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Pathfinder Renewable Wind Energy (“Pathfinder”) and Zephyr Power Transmission, LLC (“Zephyr”) (together “Pathfinder/Zephyr”) respectfully submit these comments on the Staff Workshops in the 2013 Integrated Energy Policy Report (“2013 IEPR”) proceeding held at the California Energy Commission (“Commission”) on May 7, 2013 and addressing the Environmental and Land-Use Factors in Renewable Scenarios and Database Development (a.m. session) and Transmission Planning and Permitting Issues (p.m. session). Pathfinder and Zephyr are submitting these comments in addition to their public comments given during these workshops.

I. INTRODUCTION AND BACKGROUND

Zephyr is a Delaware limited liability company established for the purpose of developing and financing the Zephyr transmission project, a proposed 850 mile, 3,000 MW high voltage, direct current merchant transmission line project that will originate near Chugwater, Wyoming

and terminate south of Las Vegas, Nevada in the Eldorado Valley (“Zephyr Project”) with an interconnection to the California Independent System Operator controlled grid. Pathfinder is in the development stages of a 3,000 MW wind generation project and associated mitigation land proposal in Wyoming and has contracted with the Zephyr Project for delivery to California. The Pathfinder project is unique in that it is partnering with landowner associations, ranchers, and individual farmers for development of wind generation. The Zephyr Project is being developed to enable extremely high quality wind generation resources to be delivered to the California markets.

Pathfinder/Zephyr greatly appreciate the addition to the 2013 IEPR workshop schedule of the workshop on environmental and land-use factors in renewable scenarios and development of a renewable energy project database, and the workshop on California and Western States transmission planning and permitting issues. At both of these workshops, held on May 7, 2013, Pathfinder and Zephyr provided public comment. The morning workshop considered environmental and land use attributes used in the California Public Utilities Commission’s (“CPUC”) Long-Term Procurement Plan renewable portfolio scenario development process, and sought public comment on what is needed for a comprehensive in-state and out-of-state renewable energy project database.¹ The afternoon workshop topics included Western state transmission issues, status of transmission projects needed to meet the 33% renewable portfolio standard (“RPS”), and synchronization of generation and transmission permitting to achieve renewable policy goals.²

¹ See Notice of Joint Lead Commissioner Workshop on Consideration of Environmental and Land-Use Factors in Renewable Scenarios and Development of Renewable Energy Project Database, Docket No. 13 IEP-1E, Apr. 19, 2013, available at: http://www.energy.ca.gov/2013_energypolicy/documents/2013-05-07_siting_workshop/2013-05-07_IEPR_Siting_Workshop_Notice.pdf.

² See Notice of Lead Commissioner Workshop on California and Western States Transmission Planning and Permitting Issues, Docket No. 13-IEP-1E, Apr. 19, 2013, available at:

Pathfinder and Zephyr are each impacted by the issues considered at both of these workshops. Pathfinder is developing renewable generation out-of-state, and Pathfinder seeks to have its project included in the resource scenarios considered by California's decision making bodies, including the Commission, CPUC, and the California Independent System Operator ("CAISO"), which requires that the project be accurately represented in the state's renewable energy project database. Zephyr also seeks to ensure that California correctly characterizes the cost, environmental impacts, reliability and other attributes of out-of-state renewable resources, in particular wind energy from Wyoming.

At this time, developing out-of-state projects have been either excluded from or inaccurately represented in California's renewable energy databases and the CPUC's RPS calculator. In regard to issues involving transmission planning, Pathfinder and Zephyr are impacted where planning efforts fail to correctly characterize the impacts and benefits to California from developing out-of-state projects.

II. COMMENTS ON THE WORKSHOP COVERING RENEWABLE SCENARIOS AND DEVELOPMENT OF RENEWABLE ENERGY PROJECT DATABASE

A. The Commission Should Support Inclusion in this IEPR Proceeding of Renewable Scenarios, Estimated Costs, Capacity Factors, and Multi-year Trends that Include Geographically Diverse Renewable Resources Delivering to California.

In addition to estimating costs, capacity factors, and multi-year per-unit cost trends for in-state resources, the 2013 IEPR should pursue the same analyses for location diverse new renewable projects. Incorporation of out-of-state renewable projects is essential because these projects increase the reliability and reduce the cost of California's intermittent resource portfolio. For example, where a wind corridor in California has a low production period, the same is not

http://www.energy.ca.gov/2013_energypolicy/documents/2013-05-07_transmission_workshop/2013-05-07_IEPR_Transmission_Workshop_Notice.pdf.

necessarily true for a wind corridor located outside the state. Wind generation from Wyoming is a particularly cost effective option for California, even when taking into account the cost of long-distance transmission. This is because of the extraordinary capacity factor of Wyoming wind (estimated for the Pathfinder Project at 49%) and the integration benefits of wind resource diversity. These benefits accrue even after accounting for the cost of transmission from Wyoming. Estimation of these characteristics for out-of-state new renewables is entirely possible, and there are multiple sources of out-of-state renewable project data that are available for the Commission's and CPUC's use.

One excellent source is the 10-Year Regional Transmission Plan – 2020 Study Report, which was prepared by the Western Electricity Coordinating Council (“WECC 2020 Study Report”).³ Among the scenarios considered in the WECC 2020 Study Report were two involving 25,000 GWh increases in Montana and Wyoming wind production and associated transmission to convey the energy to California. Based on the capital cost estimates prepared for the aggressive wind cases, WECC concluded that the impact of increasing wind production was an overall cost benefit, and these savings were mostly related to the estimated costs of capital of the resources. The magnitude of the identified savings is substantial, in particular for the Wyoming high-wind scenario. For that scenario, the WECC 2020 Study Report found a net reduction in regional production costs of \$1,556 million per year compared to the base case scenario—the lowest production cost of any of the scenarios studied.⁴

Pathfinder/Zephyr also suggest that the Commission consider the data and conclusions of the University of Wyoming's Wind Research Center report, *Wind Diversity Enhancement of*

³ The 2020 Study Report is available at <http://www.wecc.biz/library/StudyReport/Documents/2020%20Study%20Report.pdf>.

⁴ 2020 Report at Table 25, p. 93.

Wyoming/California Wind Energy Projects (“Wind Diversity Report”). This report focuses on the importance of geographic diversity in wind resources and specifically considers the benefits of combining Wyoming and California wind resources.⁵ The Wind Diversity Report analyzes multiple Wyoming-California wind production scenarios, and in each case finds that combining Wyoming wind resources with California wind resources decreases the variability of power production with variability reductions ranging from one-third to one-half when up to only four wind assets (two California and two Wyoming) are combined.⁶

The Wind Diversity Report also conducts a cost-benefit analysis of the impact of reducing wind asset variability through incorporation of geographically diverse wind projects into the California wind portfolio, finding savings in the range of \$10 million to \$100 million annually. More specifically, where makeup power is priced at \$50/MWh, annual savings resulting from a combination of both California and Wyoming wind resources is estimated to be \$100 million per year.⁷

In summary, the report concludes that its analyses have the following implications:

Decrease in variability and increase in correlation with demand that can occur when diverse renewable resources are used should make it easier to integrate these resources within the limitations of the existing grid. In addition, the reduction of ramping events will not only reduce the costs associated with purchasing backup power, but has the potential to reduce greenhouse gas emissions assuming the backup power is provided by fossil fuels. Finally, diversification has the potential to allow California to develop its own indigenous renewable resources further as the variability and ramping issues that are present today will only grow greater as the amount of power supplied by California renewable resources increases.

⁵ The Wind Diversity Report, issued January 2013, is the first in a series of four studies on geographic diversity. It is available at <http://wyia.org/wp-content/uploads/2013/01/final-report-wy-ca-geo-diversity-study1.pdf>.

⁶ See Wind Diversity Report, p. 24.

⁷ Wind Diversity Report, p. 24-25

To ensure that the most economical and environmentally advantageous mix of resources are encouraged and planned for California, the Commission should closely consider the analyses and conclusions of the Wind Diversity Report, and, at a minimum, include in the 2013 IEPR the costs and benefits of location diverse, utility-scale, renewable resources delivering into California.

B. Pathfinder/Zephyr Support the Roundtable Comments Given by Natural Resources Defense Council Representative.

Pathfinder/Zephyr support the comments given by Carl Zichella of the Natural Resources Defense Council during the round table discussion of the morning workshop. In particular, Mr. Zichella noted that adequate transmission planning is needed if the state chooses to encourage renewable development and generation in preferred areas that may be located outside California's boundaries. Beyond a mere planning effort, California should be building transmission to the low-cost out-of-state renewable resource locations, as was done in the case of the Tehachapi transmission project. Pathfinder/Zephyr support these views, and note that where there are renewable energy zones outside the state with desirable resource availability, low environmental impacts of project development, and a generation profile complimentary to California, as such is the case with Pathfinder's Wyoming wind projects, then it follows that adequate transmission planning that leaves open the option to take advantage of these developing out-of-state resources, should be encouraged and pursued.

Mr. Zichella also provided the Commission with a list of resources that may assist the Commission in collecting data for out-of-state resources, and Pathfinder and Zephyr second these suggestions. These include environmental impact statements prepared for renewable projects pursuant to the National Environmental Policy Act and materials prepared by the Western Governors' Association's for the Western Renewable Energy Zones ("WREZ")

initiative.⁸ Mr. Zichella also pointed the Commission to the University of Wyoming Wind Diversity Report (which Pathfinder/Zephyr discuss both in these comments and in comments filed in response to the March 7, 2013 IEPR workshop). Additionally, where a developing out-of-state project, such as Pathfinder, is known to the Commission, then Pathfinder/Zephyr encourage the implementation of Energy Commission practice to directly request the desired data from the out-of-state party.

Lastly, Pathfinder/Zephyr agree with Mr. Zichella that the 33% RPS goal should be approached as a floor and not as a ceiling. The fact that California utilities may have on paper sufficient contracts to meet the 33% goal should not preclude consideration of additional renewable energy that offers significant environmental, cost and reliability benefits. There is nothing in California law or policy that prohibits procuring more than 33% when ratepayers will benefit from doing so. To the contrary, there is strong support for doing so in this Commission's past IEPR policies,⁹ the state's AB-32 greenhouse gas reduction statutes and policies,¹⁰ and the RPS statutes themselves.¹¹ Yet California utilities typically are treating the 33% as a limit on their renewable procurement obligations.

Moreover, the Commission should recognize that there is a vast difference between the signing of contracts and the ultimate delivery of renewable energy. Pathfinder/Zephyr expect

⁸ In March 2012, WGA issued a report titled "Renewable Resources and Transmission in the West; Interviews on the Western Renewable Energy Zones Initiative." The March 2012 WREZ Report identifies reductions in the cost for wind integration and capital costs, increases in wind capacity factors, and an improved approach to modeling wind resources. The March 2012 WREZ Report is available at http://www.westgov.org/reports/cat_view/95-reports/263-2012.

⁹ See 2012 Integrated Energy Policy Report Update at pp. 2, 3, 6, and 55, available at <http://www.energy.ca.gov/2012publications/CEC-100-2012-001/CEC-100-2012-001-CMF.pdf>.

¹⁰ AB 32 sets an aggressive 80% GHG reduction target by 2050, which favors an increased reliance on renewable energy resources.

¹¹ See Pub. Res. Code §25740: "It is the intent of the Legislature in establishing this program, to increase the amount of electricity generated from eligible renewable energy resources per year, so that it equals *at least* 33 percent of total retail sales of electricity in California per year by December 31, 2020.." (Emphasis added.)

that a significant percentage of the renewable energy now under contract will not clear all the development hurdles necessary to successful project development in California.¹²

In reaching, and hopefully exceeding, 33% renewables by 2020, renewable generation from out-of-state projects is an existing and necessary part of the renewable mix if the Commission truly aims to ensure that the state meets the 33% goal in a cost-effective manner. Additionally, integration of wind generation from Wyoming has the capability to shape California's wind portfolio, resulting in less reliance on fossil fuels and beneficial greenhouse gas impacts.

III.COMMENTS ON THE WORKSHOP COVERING WESTERN STATES TRANSMISSION PLANNING AND PERMITTING ISSUES

A. California Agencies Involved in the Generation and Transmission Planning Process have Omitted Out-of-State Projects Important to California's RPS Goals

It has been Pathfinder's and Zephyr's experience that no current planning processes provide a forum for considering the transmission needs of developing out-of-state generation. This is problematic because without robust transmission planning that allows for multiple potential future generation scenarios, avoidable future transmission congestion will likely result.

Pathfinder/Zephyr have actively sought to be included in planning scenarios and studies at the Energy Commission, CPUC and CAISO. However, these processes have not included scenarios representing a reasonable level of out-of-state wind generation and transmission needed for delivery of this energy to California. The three California bodies tasked with important roles in the renewable portfolio and transmission planning process have avoided taking

¹² Any comparison of the contracts executed, or even permits issued, to actual commencement of construction will bear this out. The suspension by BrightSource Energy of two 500 MW solar projects within the past 3 months illustrates the challenges of developing renewable energy projects within California.

the necessary steps to integrate high out-of-state resource scenarios into the portfolio and transmission planning process.

In particular, Pathfinder/Zephyr have attended the CAISO's 2012-2013 Transmission Planning Process ("TPP") meetings and submitted written comments throughout that stakeholder process. The 2012-2013 TPP was basically limited to the CPUC's recommended generation portfolios, which did not adequately account for high out-of-state renewable imports and for which the CPUC had not provided a public process to vet the portfolios considered by the CAISO. The CAISO did conduct a sensitivity analysis for the import bus of interest to Zephyr, and based on study results showing a need for additional facilities to facilitate increased imports at this bus Zephyr has renewed its request for an economic study considering a high out-of-state scenario. Pathfinder and Zephyr have also commented on the CPUC's renewable resource portfolios for the 2013-2014 transmission planning process, and the Commission's efforts to establish scores for the out-of-state renewable projects to integrate into the calculator. Pathfinder/Zephyr comments on this workshop encourage the CPUC and Commission Staff to modify the assumptions used in the 33% RPS Calculator to better represent data regarding the costs, benefits and availability of out-of-state resources. Pathfinder/Zephyr have also commented on the CEC's 2012 IEPR Update, noting the absence of discussion on the potential contribution of out-of-state projects to the RPS and the transmission needed to serve these projects in the update.

Based on Pathfinder/Zephyr's experience in California's planning efforts, we have seen that "economic" projects in California have been narrowly characterized only as those that reduce congestion from existing generation and not those that would enable access for planned generation. As a result, the very real economic benefits of building transmission to access such planned generation falls through the cracks of California's transmission planning process

because the CAISO will only study potential solutions to congestion that exist based on its assumptions. While the high import sensitivity study showed stakeholders that a relatively low cost solution exists to increase import capability from the Eldorado Valley, the study failed to address any economic impacts from such imports. Without studying the economic impact to California ratepayers of delivering low cost Wyoming wind to the Eldorado Valley, it is impossible to make a well informed decision about future resource procurement. As noted throughout the current comments and in numerous comments at multiple agencies, there are real, tangible benefits to the delivery and importation of Wyoming wind to California that deserve to be studied. Accordingly, Pathfinder/Zephyr are asking that the CAISO perform studies to inform stakeholders about the real benefits of delivering Wyoming wind. The high import sensitivity was a step in the right direction, but more needs to be done to ensure that California's decision makers have the necessary information to make the best possible decisions on behalf of California customers.

Through Pathfinder and Zephyr's continued participation, our aim is to encourage agency and CAISO integration into planning efforts of scenarios and data that accurately represent the potential contribution and actual costs of renewable imports and transmission in the 2013 IEPR and in the next round of the CAISO's transmission planning.

B. There Remains an Overall Cost Savings to Economical and High Capacity Out-of-State Wind Projects.

The costs of long-distance transmission development and interconnection may be outweighed by a project with a very economical cost of generation. Pathfinder's 49% capacity factor wind resource enables significant per MWh cost reductions compared to typical wind facilities in California even when transmission costs are considered. These cost benefits are in addition to significant reliability and integration benefits discussed above. Under the current planning processes, this is not being analyzed or considered. Accordingly, the 2013 IEPR should incorporate an analysis considering the total cost of a large-scale, geographically diverse wind project.

C. California should Plan for a Robust Transmission System that Can Meet Many Possible Future Generation Options.

Pathfinder/Zephyr encourage the Commission to include in the IEPR policies that encourage planning for a robust transmission system based on a range of possible scenarios that reflect not only preferred policies but also the encouragement of the least cost renewables, regardless of their location, and based on their total delivered cost of power. A potential project that provides long term, stable priced, low cost energy should not be discouraged as a result of the project being located outside of California or that it is not yet operational.

Greater flexibility in transmission planning can accommodate the uncertainty that is inherent in the development of new generation resources, and transmission planning should not be confined to a narrow or single scenario for resource development. Expanded transmission planning and permitting should consider variations in a recommended resource mix, ensuring that the system plan can accommodate actual future procurement. Such prudent planning would necessarily include a greater level of out-of-state resources, as actual generation outcomes are determined from a competitive process that includes both in-state and out-of-state resources.

Furthermore, adequate transmission planning is necessary to synchronize generation and transmission project initial operation timelines. Transmission planning involves longer periods for development as approvals may be needed from an array of local, state and federal agencies. Zephyr is permitting hundreds of miles of transmission through four Western states, whereas Pathfinder is developing wind projects mostly on privately held ranch land in one state. In order for California to ultimately access the economical and environmentally preferred Wyoming wind resources, adequate transmission planning by California decision-making bodies is an essential early step in the longer planning and development timeline for transmission projects.

IV. PATHFINDER AND ZEPHYR APPRECIATE THE COMMISSION'S INCLUSION IN THIS IEPR PROCEEDING OF RENEWABLE PORTFOLIO DATA AND TRANSMISSION FOR OUT-OF-STATE ENERGY PROJECTS

At the initiation of the 2013 IEPR Workshop process, the schedule did not expressly allow for consideration of resources that are not located in California or address topics associated with transmission planning necessary for cost-effective and high capacity out-of-state projects to contribute to California's clean and renewable energy portfolio. However, with the addition of the May 7th workshops, the Commission has provided an opportunity to discuss the benefits and limitations for developing out-of-state renewable generation and the associated transmission concerns. Pathfinder and Zephyr greatly appreciate the opportunity to both hear other stakeholder comments on these issues and to provide comments at the workshop and herein.

V. CONCLUSION

Pathfinder and Zephyr greatly appreciate the Commission expanding the issues under consideration for the 2013 IEPR to expressly include issues relevant to out-of-state renewable generation and Western state transmission by adding the May 7 workshops. For the reasons described above, the 2013 IEPR should recognize and encourage the contribution and cost-effectiveness of out-of-state renewable generation, and should support a transmission planning process that facilitates delivery of these important out-of-state resources.

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Respectfully submitted,

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