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BEFORE THE STATE OF WASHINGTON  
ENERGY FACILITY SITE EVALUATION COUNCIL

In the Matter of Application No. 2006-02  
**Desert Claim Wind Power Project**

**EXHIBIT 15**  
**PREFILED DIRECT TESTIMONY**  
**STEPHEN GROVER, PH.D.**

**Q. Please state your name and address.**

A. Stephen Grover. My business address is 888 S.W. 5th Avenue, Suite 1460, Portland, Oregon, 97204.

**Q. What is your current occupation and position?**

A. I am a Managing Director at ECONorthwest, an economics consulting firm based in Portland, Oregon.

**Q. What topics will your testimony address?**

A. My testimony will focus on the economic impacts expected to result from the construction and operation of the Desert Claim Wind Project (the "Project").

**Background and Experience**

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3 **Q. Briefly describe your educational background.**

4 A. I have a Ph.D. and an M.S. in Economics from the University of Wisconsin, and a  
5 B.A. in Economics from Pacific Lutheran University.  
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11 **Q. Please describe your professional experience.**

12 A. Since March 2000, I have worked at ECONorthwest, where I am the head of the  
13 firm's energy practice. I am also an adjunct professor at Portland State University,  
14 where I have taught graduate courses in econometric modeling and forecasting and  
15 energy economics. I am a member of the Oregon Energy Planning Council recently  
16 formed by Oregon Governor Kulongoski.  
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25 Prior to joining ECONorthwest, I worked at Quantum Consulting, a firm based in  
26 Berkeley, California that specializes in evaluating energy efficiency programs. Prior  
27 to that, I worked at Battelle Pacific Northwest Laboratories in Richland, Washington,  
28 where I researched topics for the U.S. Department of Energy and the Environmental  
29 Protection Agency. A copy of my resume is attached as **Exhibit 15.1**.  
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37 **Q. Have you performed the type of economic analysis you performed in this case**  
38 **before?**  
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40 A. Yes, I have done this type of analysis before for several different energy-related  
41 projects. My firm also has completed several hundred economic impact studies  
42 across a wide range of topic areas, both energy and non-energy related.  
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1 **Q. Have you analyzed the economic impacts of wind power projects before?**

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3 A. Yes. I have conducted similar impact analyses for the Wild Horse Wind Project and  
4 the Kittitas Valley Wind Project. I also developed a guidebook for estimating the  
5 economic impacts of wind projects in rural counties in Washington. We have also  
6 used the IMPLAN model to estimate the economic benefits of wind projects in  
7 Oregon and the potential benefits of having a wind power manufacturing facility  
8 located within Oregon.  
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17 **Q. Have you testified as an expert witness on these topics before?**

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19 A. Yes. I testified before this Council in connection with both the Wild Horse Wind  
20 Project and the Kittitas Valley Wind Project.  
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25 **Desert Claim's Economic Impacts**

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27 **Q. Can you describe your involvement with the Desert Claim Project?**

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29 A. Yes. ECONorthwest was retained to estimate the Project's economic impacts in  
30 Washington State, and to provide testimony as needed in these proceedings.  
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35 **Q. What is Exhibit 15.2, a report entitled "Economic Impacts of the Desert Claim  
36 Wind Project"?**

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38 A. **Exhibit 15.2** is the report that I prepared, with the assistance of Alec Josephson,  
39 Logan Van Ert, and Robert Whelan, who are my colleagues at ECONorthwest. This  
40 report summarizes the work we performed and the conclusions we reached regarding  
41 the economic effects of the Desert Claim project in Washington State.  
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1 **Q. Are you familiar with an economic analysis concerning the Desert Claim project**  
2 **that has been performed by Richard Mack and his colleagues from Central**  
3 **Washington University?**  
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6  
7 A. Yes. I have spoken with Dr. Mack and his colleagues, and have reviewed their  
8 report.  
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12 **Q. How does your analysis differ from Professor Mack's analysis?**  
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14 A. The primary difference is that Professor Mack's work focused on the local effects of  
15 the Project in Kittitas County, whereas we looked at the effects through the state. In  
16 other word's, Professor Mack looked at a subset of the economic effects that we  
17 considered. There are also some minor differences in the models and assumptions  
18 we used, but the local versus state-wide focus is the primary difference in our  
19 approach.  
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29 **Q. Can you briefly describe the method you used to estimate the Project's**  
30 **economic impacts?**  
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32 A. I used the IMPLAN model to estimate the net economic impacts of spending on the  
33 Desert Claim project on Washington State. I examined these impacts during the  
34 construction phase and during the operations phase. I also estimated the potential  
35 change in tax revenues resulting from the project. All economic impacts are  
36 estimated relative to a Base Case scenario where the Desert Claim project is assumed  
37 to not be constructed.  
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1 The spending on construction and operation of a wind project affects the state  
2 economy through several different channels. Construction and operations  
3 expenditures impact the economy *directly*, through the purchases of goods and  
4 services in the state, and *indirectly*, as those purchases, in turn, generate purchases of  
5 intermediate goods and services from other, related sectors of the economy. In  
6 addition, the direct and indirect increases in employment and income enhance overall  
7 economy purchasing power, thereby *inducing* further spending on goods and  
8 services. This cycle continues until the spending eventually leaks out of the state  
9 economy as a result of taxes, savings, or purchases of out-of-state goods and  
10 services.  
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13 The economic modeling framework that best captures these direct, indirect, and  
14 induced effects is called input-output modeling. Input-output models provide an  
15 empirical representation of the economy and its inter-sectoral relationships, enabling  
16 the user to trace out the effects (economic impacts) of a change in the demand for  
17 commodities (goods and services).  
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35 **Q. Is this approach one that is generally used and accepted by experts in your**  
36 **field?**

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39 A. Yes, the approach is the one most commonly used. The model we use for this  
40 analysis is IMPLAN, which was developed in the 1980's by the U.S. Forest Service  
41 to estimate economic impacts and is the model most commonly used for these types  
42 of projects. The IMPLAN model has been used thousands of times since its  
43 development to estimate economic impacts.  
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1 **Q. Can you summarize your conclusions about the Project's economic impacts?**

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3 A. Yes. The economic impacts during construction are summarized in the following  
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5 table:

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8 **Desert Claim Economic Impacts for Washington (Construction Phase)**

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<b>Impact Type</b>	<b>Output</b>	<b>Wages</b>	<b>Business Income</b>	<b>Other Income</b>	<b>Jobs</b>
Direct	\$18,975,300	\$7,961,300	\$1,715,700	\$1,128,200	163
Indirect	\$5,813,200	\$1,763,000	\$321,900	\$618,600	41
Induced	\$8,343,900	\$2,878,400	\$351,000	\$1,068,800	78
<b>Total</b>	<b>\$33,132,400</b>	<b>\$12,602,700</b>	<b>\$2,388,600</b>	<b>\$2,815,600</b>	<b>282</b>

21 The economic impacts during operation are summarized in the following table:

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24 **Desert Claim Annual Economic Impacts for Washington (Operations Phase)**

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<b>Impact Type</b>	<b>Output</b>	<b>Wages</b>	<b>Business Income</b>	<b>Other Income</b>	<b>Jobs</b>
Direct	\$3,156,450	\$937,650	\$0	\$600,000	12
Indirect	\$1,525,570	\$470,430	\$74,660	\$217,910	10
Induced	\$1,476,980	\$509,760	\$64,130	\$141,500	14
<b>Total</b>	<b>\$6,159,000</b>	<b>\$1,917,830</b>	<b>\$138,800</b>	<b>\$959,410</b>	<b>36</b>

37 **Q. Have you also looked at the tax implications of the project?**

38  
39 A. I've looked at some of the project's tax implications. During the construction, I've  
40  
41 estimated the amount of state and local tax revenue that will be generated from  
42  
43 various business and personal taxes that are in affect for Washington State. I've  
44  
45 estimated that these taxes will total \$995,000 during the construction period.  
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1 During the operations phase, I've estimated that annual state and local taxes plus fees  
2 paid to the DNR will total more than \$1.8 million annually. This includes  
3 approximately \$1.2 million in property taxes that are estimated by Central  
4 Washington University for the Desert Claim project.  
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10 **Q. Does that conclude your testimony at this point?**

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12 **A. Yes.**  
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