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23 August 2002

TO: Jim Luce, Director, Washington State Energy Facility Siting Evaluation Council
Stephany Watson
Justin Long

FM: Blair Henry JD, President, NWCCC
Member, US National Assessment of the Consequences of Climate Change
Lind VerNooy, Global Warming Action

RE: Proposed Greenhouse Gas Mitigation Standard

Per your request, we've enclosed our joint proposal for the mitigation of greenhouse gases from new fossil fuel power plants. We'd appreciate EFSEC seriously considering this proposal and sharing this with the other interested participants.

Thank you

1.0 Summary

This proposal requires all new, fossil fuel, power plants in Washington State to mitigate or offset all of their new greenhouse emissions at the actual market cost.

2.0 Factual Premises

2.1 Global Science - Global warming simply can not and will not be stopped without reducing greenhouse gas emissions.

2.2 Emissions from One Plant - Fossil fuel gas power plants are enormous new greenhouse gas polluters. One medium sized plant alone, Sumas 2 at 660MW, *increases* the state's greenhouse gases 2.4 million tons a year. That's a world class *increase* of 3% statewide *from one plant alone*¹- a growth rate greater than China or India. In less than two years, the new emissions from that one plant alone will more than offset every gain *ever made* in reducing *greenhouse gases in Washington and Oregon combined...and* at least fifteen new plants are proposed.

2.3 Emissions from all New Plants - The total for the 15 plants listed belowⁱⁱ is 31,400,000 new tons of CO2. That increases the entire statewide total of emissions from all sources by 41%. This is the equivalent of 5,400,000 cars which doubles the statewide emissions from passenger cars.

2.4 The "Oregon Standard" of Mitigation - The Oregon Standard of mitigation recommended by EFSEC in Order 768 for the new Sumas 2 plant, is a miniscule and misleading standard which in reality only requires the mitigation of 3% of the pollution. Further, the Oregon method of calculation has had the effect of misleading policymakers and the public into believing greenhouse gases are actually being reduced, when in fact, the gases are increasing dramatically. For example, with Sumas 2, the EFSEC proposal to mitigate 70,000

1 tons a yearⁱⁱⁱ of the 2.4 million new tons of pollution, leaves a **net gain of more than 2.3**
2 **million tons** a year - the equivalent of almost 400,000 new cars^{iv}. Adding million and millions
3 of tons of new pollution simply does **not** reduce pollution and meets no known definition of
4 environmental protection.

5 **2.5 The Northwest Energy Coalition Proposal** - The mitigation standard proposed by
6 the Northwest Energy Coalition, while much better than the Oregon Standard, also fails to
7 reduce net greenhouse emissions. Our research indicates the average actual market cost of
8 permanent (non-forestry) mitigation is \$5 per ton. At that true market value, the NWECC
9 standard only requires the mitigation of 17% of the emissions - leaving 83% of the emissions
10 unchecked and unregulated. ^v Those remaining authorized emissions from just the Sumas 2
11 plant alone - 1.3 million tons a year - more than offset all greenhouse gas reductions gains
12 made in Oregon and Washington combined - in about three years.

13 **2.6 The Cost of Complete, Market Cost, Permanent Mitigation** - A commercial plant
14 operator paying the cost of cleaning up all the greenhouse gases at actual market cost
15 creating in producing electricity from fossil fuels (in this case natural gas) is .002¢ or 1.73
16

17 **4.0 Proposal**

18 **4.1 Definitions**

19 (1) The "Washington Climate and Rural Energy Development Center" was established
20 by the Washington State Legislature, ESHB 2326, signed into law by the Governor, March 29,
21 2002. The Center is located at the Washington State University Energy Program.

22 (2) "Emissions" means the release of greenhouse gases into the atmosphere.

23 (3) "Emitter" means the entity releasing the greenhouse gases.

24 (4) "Greenhouse gases" refers to carbon dioxide (CO₂) resulting from the combustion
25 of fossil fuels as well as any leakage into the atmosphere of methane or natural gas (CH₄)
26 used in the making of electricity.

27 (5) "Mitigate" or "mitigation" shall mean the permanent avoidance or removal of
28 greenhouse gases. Forestry and any other projects not specifically designed to remove carbon
29 from the atmosphere for a period of more than three hundred years shall not be considered
30 permanent and are therefore not mitigation under this chapter.

31 (6) "Most cost-effective" means obtaining the greatest reductions in greenhouse gases
32 per dollar spent.
33

34 **4.2 Duty to Mitigate** - All emitters of greenhouse gases created from the production
35 of electricity in Washington State shall mitigate all of their greenhouse gas emissions at actual
36 market cost.
37

38 **4.3 Schedule** - The duty to mitigate greenhouse gases shall be phased in gradually,
39 and assessed annually, to encourage, promote and reward the continual use of the most
40 efficient, up-to-date, and least polluting equipment and technologies as follows.
41

42 **(1) New Emissions** - In lieu of immediately mitigating all new emissions, defined
43 here as those quantities of greenhouse gases not being emitted as of July 1, 2002, the emitter
44 may remit funds to the Washington Climate and Rural Energy Development Center to purchase
45 the most cost-effective mitigation on behalf of the emitter as follows:

46 (a) \$1 per US ton for all gases emitted in 2003 - or the actual market cost of
47 mitigation, whichever is less

48 (b) \$2 per US ton for all gases emitted in 2004 - or the actual market cost of
49 mitigation, whichever is less

50 (c) \$3 per US ton for all gases emitted in 2005 - or the actual market cost of
51 mitigation, whichever is less

1 (d) \$4 per US ton for all gases emitted in 2006 - or the actual market cost of
2 mitigation, whichever is less

3 (e) the actual market cost of mitigation beginning in 2007

4
5 **(2) Pre-Existing Emissions** - To provide additional time for compliance to pre-
6 existing emitters, in lieu of immediately mitigating all pre-existing emissions, defined here as
7 those quantities of greenhouse gases being emitted prior to July 1, 2002, the emitter may
8 remit funds to the Washington Climate and Rural Energy Development Center to purchase the
9 most cost-effective mitigation on behalf of the emitter as follows:

10 (a) \$0.57 per US ton for all gases emitted in 2003 - or the actual market cost
11 of mitigation, whichever is lower

12 (b) \$1 per US ton for all gases emitted in 2004 - or the actual market cost of
13 mitigation, whichever is lower

14 (c) \$1.50 per US ton for all gases emitted in 2005 - or the actual market cost
15 of mitigation, whichever is lower

16 (d) \$2 per US ton for all gases emitted in 2006 - or the actual market cost of
17 permanent mitigation, whichever is lower

18 (e) beginning in 2007, and continuing every year thereafter, the actual
19 market cost of permanent mitigation as determined by the Washington Climate and Rural
20 Energy Development Center

21 22 **4.4 Payment**

23 Each emitter shall remit payment by January 30 of the calendar year following the emissions.

24 25 **4.5 Estimating the Cost**

26 To provide emitters with the most reliable, accurate data to assist them with planning, the
27 Washington Climate and Rural Energy Development Center, by June 30 of every year, shall
28 research the actual market cost of mitigation market and publish the estimated cost of actual
29 mitigation for the following calendar year. That published amount, while an estimate before
30 the fact, shall be considered to be "actual market cost" for the purposes of this chapter.

31 32 **4.6 Credits**

33 The emitter shall be entitled to any credits or other value earned as a result of mitigating its
34 greenhouse gas emissions.

35 36 **4.7 Cost of Administration**

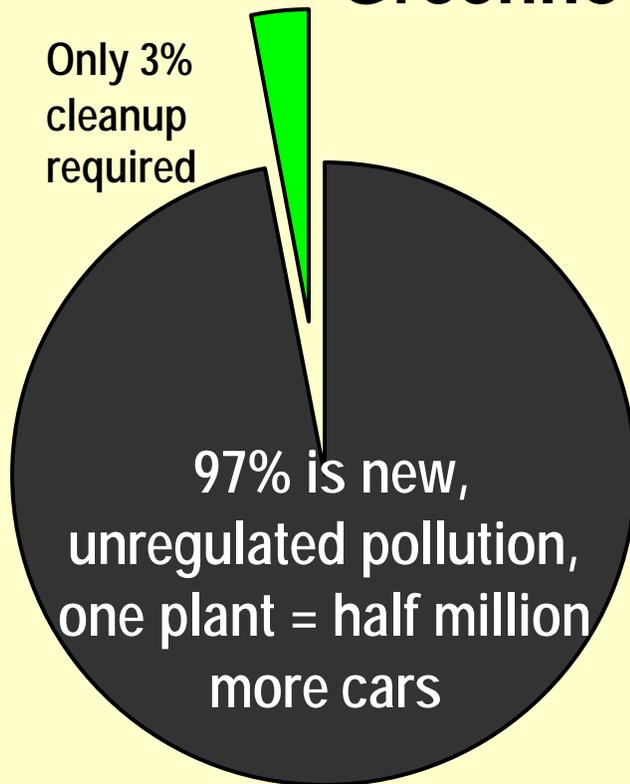
37 An amount equal to five percent (5%) of the cost of any mitigation, whether accomplished by
38 the emitter itself, or by the Washington Climate and Rural Energy Development Center on
39 behalf of the emitter, shall be remitted to the Washington Climate and Rural Energy
40 Development Center to cover the costs of verifying and monitoring projects and
41 administration.

42 43 **Comparison of Proposals**

44 Example - Sumas 2, 660 MW natural gas power plant emitting 2.4 million tons of CO2 a year.

	Oregon/EFSEC Std	NWEC Proposal	NWCCC
48 Initial mitigation standard	22%	40-46%	100%
49 Payment in lieu of mitigation	57¢/ton (11% actual cost)	\$2 ton(40% actual cost)	gradual to 100% act.cost
50 Actual Paid Mitigation(est. \$5/ton)	3%	17%	gradual to 100%
51 Payments	one	est. 5	each operating year
52 Amount	max \$9.2M	\$62.5M	\$336M

State Proposes Enormous New Greenhouse Gases



New greenhouse gases from *one typical power plant*:

2,400,000 tons year
 -70,000 mitigated (3%)
 = 2,330,000 tons new gases each year

The new gases from one plant alone – more than offset all the greenhouse gas savings in Oregon and Washington to date *combined!!*. . . and 15 plants are proposed

Source: EFSEC Order 768, www.efsec.wa.gov

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ⁱ 2.4 million tons divided by 76 million tons: EFSEC statistics

ii GREENHOUSE GAS EMISSIONS
NATURAL GAS POWER PLANTS - PROPOSED FOR WASHINGTON STATE
 The Northwest Council on Climate Change - www.nwclimate.org - (Rev. 8/19/02)

All "suspended" projects are expected to be re-activated when the price of electricity increases.

City/ County	Facility Name	Capacity	Greenhouse Gas Emissions ⁱⁱ - equivalent number of cars ⁱⁱ	Developer/ Owner	Status
Wallula/ Walla Walla	Wallula	1300 MW	4,800,000 tons/yr = 821,000 cars/yr	Newport Northwest	in EFSEC permitting process
Starbuck	Starbuck	1100 MW	4,000,000 tons/yr = 695,000 cars/yr	NW Power Enterprises	currently suspended
Benton County	Mercer Ranch	850 MW	3,100,000 tons/yr = 540,000 cars/yr	Cogentrix	currently suspended
Creston	NW Regional Power Facility	838 MW	3,100,000 tons/yr = 530,000 cars/yr	NW Power Enterprises	permitted but not constructed
Sumas	Sumas Energy 2	660 MW	2,400,000 tons/yr = 417,000 cars/yr	NESCO/Sumas Energy 2	EFSEC approves before Governor Locke
Grays Harbor	Satsop Phase 1	650 MW	2,400,000 tons/yr= 410,000 cars/yr	Duke Power	construction suspended
Grays Harbor	Satsop Phase 2 Project	650 MW	2,400,000 tons/yr= 410,000 cars/yr	Energy NW & Duke Power	Expedited processing by EFS
Chehalis	Chehalis	520 MW	1,900,000 tons/yr= 328,000 cars/yr	Tractebel	Approved - under construction
Longview	Cowlitz Cogeneration Project	405 MW	1,500,000 tons/yr = 260,000 cars/yr	Weyerhaeuser	Permitted but not constructed
Centralia Lewis County	TransAlta	349 MW	1,300,000 tons/yr= 220,000 cars/yr	TransAlta	Approved and built
Longview	Longview Project	249 MW	906,000 tons/yr = 157,000 cars/yr	Enron	Permit applications filed
Frederickson	Frederickson Power	249 MW	906,000 tons/yr = 157,000 cars/yr	Frederickson Power (Westcoast Energy + EPCOR Power)	Permitted; expected on-line by mid-2002 (formerly Tenaska Washington II site)
Goldendale	Goldendale	248 MW	903,000 tons/yr = 157,000 cars/yr	Goldendale Aluminum/NESCO	Proposed
Longview	Mint Farm	~245 MW	903,000 tons/yr = 157,000 cars/yr	Avista	Proposed (started local negotiations)
Everett	Everett Delta	242 MW	880,000 tons/yr = 153,000 cars/yr	FPL	License granted; held for future development

Minimum of 15 plants totaling 31,400,000 new tons CO₂ (41% increase in entire statewide emissions-all sources) - Equivalent of 5,400,000 cars (doubles the amount statewide from cars)

Sources:

(1) Northwest Energy Coalition http://www.nwenergy.org/publications/report/00_nov/rp_0011_4.html

(2) Washington State University Energy Program, Oregon Energy Office, US Environmental Protection Agency

Exhibit C(3)(a)—Report to Jim Luce, Chair, Washington Energy Facility Site Evaluation Council

iii **The Oregon Standard of greenhouse gas mitigation, 17-23% mitigation, 57¢ tonne**

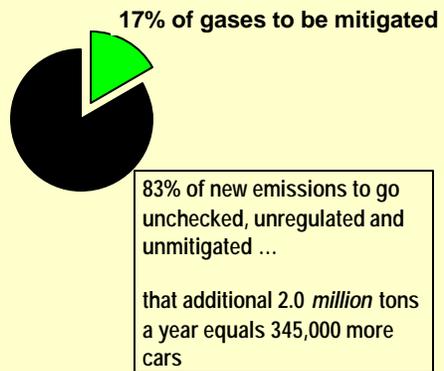
CO2 Emissions from Sumas 2 Plant		(approx-maximum)	
line 1	Plant Capacity	660	megawatts(MW)
line 2	Time of Operation (fulltime)	8760	hours/yr
line 3	Electricity Generated (line 1 x line 2)	5,781,600	megawatt hours/yr(mWh)
line 4	CO2 emitted (variable)	0.831	lbsCO2/kWh
line 5	CO2 emitted (variable)(line 11*1000/2000)	0.4155	tonsCO2/mWh
line 6	CO2 emitted each year (line 3 x line 5)	2,402,255	tons CO2 per year
line 7	CO2 emitted 30 yr lifetime (line 6 x 30)	72,067,644	tons CO2 - 30 yr lifetime
Mitigation Initially Required			
line 8	Percentage	22.5%	
line 9	CO2 to be mitigated-lbs/kWh(variable)	0.187	lbsCO2/kWh
Line10	CO2 to be mitigated-tons/mWh (variable)	0.0935	tonsCO2/mWh
Line11	Total CO2 to be mitigated (line 3 x line 10)	540,580	tons CO2 per year
Line12	Total CO2 to be mitigated (line 11 x 30)	16,217,388	tons CO2 - 30 yr lifetime
Payment In Lieu of Self-Mitigation			
line 13	Proposed charge per ton	\$0.57	per US ton
line 14	Actual Current Cost Permanent Mitigation(non-forestry)	\$5.00	per US ton
line 15	Percentage of Actual Cost (line13/line14)	11%	per US ton
line 16	Total Proposed Payment-Year (line 17/30)	\$308,130	per year
line 17	Total Proposed Payment-Lifetime (EFSEC Order 768)	\$9,243,911	per 30 yr lifetime
line 18	Minus Administrative Cost - 5% (line 17 x .05)	\$0	
line 19	Proposed Net Paid-Lifetime (line 17 - line 18)	\$9,243,911	
line 20	Act.Current Cost Perm.Mitigation-Lifetime(line7 x line 14)	\$360,338,220	
line 21	% EMISSIONS PERMANENTLY MITIGATED (line19/line 20)	3%	

iv 2.3 million tons divided by 5.8 tons per car per year (gasoline only) Car driving 12,000 miles per year at the national average of 20.4 mpg at 19.6 lbs CO2 per gallon of gasoline.

∨ The proposed Northwest Energy Coalition (NWECC) standard of greenhouse gas mitigation
40-46% mitigation, \$2 ton

CO2 Emissions from Sumas 2 Plant			
line 1	Plant Capacity	660	megawatts(MW)
line 2	Time of Operation (fulltime)	8760	hours/yr
line 3	Electricity Generated (line 1 x line 2)	5,781,600	megawatt hours/yr(mWh)
line 4	CO2 emitted (variable)	0.837	lbsCO2/kWh
line 5	CO2 emitted (variable)(line 11*1000/2000)	0.4185	tonsCO2/mWh
line 6	CO2 emitted each year (line 3 x line 5)	2,418,930	tons CO2 per year
line 7	CO2 emitted 30 yr lifetime (line 6 x 30)	72,567,900	tons CO2 - 30 yr lifetime
Mitigation Initially Required			
line 8	Percentage	45.3%	
line 9	CO2 to be mitigated (line 4 x line 16)	0.379	lbsCO2/kWh
line 10	CO2 to be mitigated (line 5 x line 16)	0.1895	tonsCO2/mWh
line 11	Total CO2 to be mitigated (line 3 x line 10)	1,095,613	tons CO2 per year
line 12	Total CO2 to be mitigated (line 11 x 30)	32,868,396	tons CO2 - 30 yr lifetime
Payment In Lieu of Self-Mitigation			
line 13	Actual Current Cost of Permanent Mitigation (non-forestry)	\$5.00	per US ton
line 14	Proposed charge per ton	\$2.00	per US ton
line 15	Percentage of Actual Cost (line14/line13)	40%	per US ton
line 16	Total Proposed Payment Each Year (line 6 x line 13)	\$2,191,226	per year
line 17	Total Proposed Payment - Lifetime (line 16 x 30)	\$65,736,792	per 30 yr lifetime
line 18	Minus Administrative Cost - 5% (line 17 x .05)	\$3,286,840	
line 19	Net Amount Paid - Lifetime (line 17 - line 18)	\$62,449,952	
line 20	% EMISSIONS PERMANENTLY MITIGATED (line 19/\$360,338,220)	17%	

**NWEC Proposal on New – Power
Plants**



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