

DATE: 7 - 20 - 2008

PROPOSAL TITLE: A Sustainable Product Design Center

What is the problem?

Manufactured products can be made much greener whether they are simple household products or sophisticated ones, like electronics. Such products can be designed to use less material when they are made AND can be designed to be reused OR recycled. Reusing materials or recycling them and also reducing the material used to make them in the first place provides measurable environmental and climate benefits. For every single ton of discarded product that is “destroyed” by consumer disposal; about 71 tons of “up-stream” waste was also generated and wasted (in raw-material extraction and manufacturing discards). The stage of the production process where decisions are made about the materials to-be-used in making products is the “industrial product design” effort. This can be a crucial stage for climate change solutions in the overall production and consumption process because it can significantly affect “cradle-to-grave” considerations for products. These private manufacturers then move past this design stage and produce these products Then they are distributed to all of us for consumption.

Washington state has some very sophisticated manufacturers of both commodity products and value-added products The leading companies are beginning to design their products to be more environmentally sustainable, along with designing other advances and innovations into them (like reductions in toxic materials), but they need support from the public-sector to broaden and accelerate this trend. A Sustainable Product Design Center can provide such support and catalytic action to develop and disseminate Best Practices for Sustainable Product Design. Such tools will enable Washington manufacturers to design, make, and sell more sustainable/green products. The results will help to BOTH reduce waste and to increase re-use AND recycling of these products once they reach the discard point. AW-3 sets an overall 15% waste reduction goal and a goal to increase the recycling of discards up to 50% of the remaining waste from household, business, industrial, agricultural, and construction waste streams.

See articles:

<http://www.plasticsnews.com/subscriber/headlines2.phtml?cat=1&id=1214946954&q=Green+Design+Initiative>

http://seattletimes.nwsourc.com/html/business/2008061623_farngreen200.html

http://seattlepi.nwsourc.com/business/371124_greenair17.html

<http://corpintel.wordpress.com/2008/07/16/rubbermaid-innovation/>

What are the target materials? (i.e. carpet, packaging, paper, food, organics, etc.)

Products with a high environmental footprint and for which we have a significant manufacturing sector in Washington state. The exact products to be focused on would be determined in a stakeholder development process

Target materials would likely be paper and packaging for the pulp and paper industry AND/OR metals, plastics, and composites for the electronics or aerospace industries.

What is the potential for reduction in green house gas emissions (tons)?

Source reduction can be achieved by designed products to use less-material for the same product use (de-materialized improvements) - NOTE this solution applies to consumer products; Or by also making the product durable, re-usable, or remanufacturable (NOTE all types of improvement apply to durable goods. Assume a source reduction of 3% for consumer goods (paper) and 3-10 % for durable goods like electronics or aerospace products.

	<u>Source Reduction Rate</u>	<u>GHG Reductions</u>
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High Grade Paper	3 %	xx %
Newspaper	3%	y %
Cardboard	3%	z %
Mixed Waste Paper	3%	p %

	<u>Source Reduction Rate</u>	<u>GHG Reductions</u>
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Electronics	3 - 10 %	?
Aerospace	3 – 10 % ?	?

Recycling and re-use of products can be increased by designing products to have more recycled content and by designing them to be more recyclable. This applies to both consumer and durable goods. This strategy would help move us toward the AW-3 recycling goals. The causal % and timeframe for this approach is unknown.

	<u>Present Recycling Rate</u>	<u>Recycling Goal</u>	<u>GHG Reductions</u>
High Grade Paper	44%	60%	298,473
Newspaper	56%	80%	360,163
Cardboard	61%	80%	1,465,542
Mixed Waste Paper	28%	60%	780,934

	<u>Present Recycling-Remanufacturing Rate</u>	<u>Recycling Goal</u>	<u>GHG Reductions</u>
Electronics	2-5% ??	?	?
Aerospace	5-10% ?	?	?

What action is needed (specifically)?

Flesh out interest and involvement by other potential participating parties:

Key industry sectors: Pulp and Paper manufacturers: Electronics and/or Aerospace manufacturers

Service Providers: *Washington Manufacturing Services* (WMS) www.wamfg.org

Society for the Advancement of Material & Process Engineering: www.seattlesampe.org

Washington State Technology Center (WSTC) : www.watechcenter.org

Involved trade associations: IDSA (Industrial Design Society of America) www.idsa.org : especially their EcoDesign division

NW Pulp and Paper Assoc. Aerospace association

State agencies: CTED and DOE

Determine a funding source and its availability. A Budget Proviso would be required from the 2009 legislature

What mechanism should be used to put the action in place (legislation, executive order, regulations, policies, etc.)?

This proposal would have to be fully vetted with potential stakeholders and the program would have to be developed much along the lines of the statewide electronics recycling program to insure effectiveness and buy-in. Public funding sources and co-commitments for private sector funding sponsorship or in-kind participation will have to be determined.

This could be piggy backed on top of the existing proposed legislation proposed **HB2813** (2008 session) in which the climate change benefits would be introduced along side of the existing toxics-reduction and resource-conservation benefits which are touted in the OWRSP Center aspects of that bill.

<http://dlr.leg.wa.gov/billsummary/default.aspx?Bill=2818&year=2007>

With this approach the program could be introduced in 2009.

If state-wide legislation and buy-in must be developed from scratch that effort must begin now and will not be ready until the 2010 Legislative session at the earliest.

Is the proposal ready to proceed? (i.e. can the deliverable be delivered Sept 1? What is the current stage of development)?

This proposal could be ready by November 1, 2008 if it were piggybacked on top of HB 2813 and were fully fleshed out in the next three months. This would require intense effort in these three months by all the stakeholders above.

If an original piece of legislation were required, it would take a year to develop it and it would be ready for introduction in the 2010 legislative session. It remains to be determined if this development effort could stand alone. It more likely would be packaged with other proposals for material resource conservation, toxics reduction, and creating competiive industries in Washington state.

Affected parties and likely positions: How feasible is it in terms of support/opposition?

There will be fiscal opposition as well as claims that this service is redundant and unnecessary. This proposal would have to be carefully structured to insure that its services were catalytic and crucially needed. Further it would have to be buttressed by well-developed assurances that private manufacturers would buy into the Center and effectively utilize the services.

If this proposal is adopted and is implemented:

Who will be responsible to implement?

Once the Center is fully developed and funded it would likely be implemented by *Washington Manufacturing Services* or by the *Washington State Technology Center*

How will it be implemented?

Design services would be provided to manufacturers, especially small and mid-sized ones by both the Center and by advanced manufacturers-to-other-manufacturers. The idea would be to disseminate and multiply the dissemination of best design practices throughout the industry.

The specific design services provided could include:

1. product design,
2. prototype development and testing
3. field testing
4. development of industry-wide best practices
5. dissemination and training on best practices
6. patent-advise and assistance

When will it be implemented?

Services could be offered by 2010 at the earliest.