



Washington State Department of Ecology

Electronic Product Recycling Program

Small Business Economic Impact Statement for Amendments to Chapter 173-900 WAC

*Prepared for
Ecology's Solid Waste and Financial Assistance Program*

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Small Business Economic Impact Statement – WAC 173-900

Conclusion

Based on research and analysis required by the Regulatory Fairness Act (RCW 19.85.011), Ecology has determined that the proposed amendments to WAC 173-900 have a disproportionate impact on small business. Therefore, we must include cost-minimizing features in the rule where it is legal and feasible to do so.

Note to readers: This proposed rule is unusual in that it transfers the cost of disposal from Washington citizens, businesses, and government bodies to manufactures of TVs, Computers, and Monitors. There is a net income effect for Washington businesses.

Purpose of this analysis

The Washington State Department of Ecology (Ecology) is proposing to amend the Electronic Product Recycling Program rule, Chapter 173-900 WAC. The Regulatory Fairness Act (RCW 19.85.011) requires Ecology to show we have considered the impacts of the rule on small businesses in comparison to large businesses. This report provides the results of these analyses and shows the potential impacts associated with the proposed rule.

Background

2004 Recommendations to Legislature

At the request of Washington lawmakers in 2004, Ecology and the Solid Waste Advisory Committee (SWAC) developed recommendations for how the State can implement and finance a program to collect, recycle, and reuse electronic products. Ecology and the SWAC worked with the representatives below:

- Electronic product manufacturers
- Electronic product retailers and waste haulers
- Electronics recyclers
- Charities, cities, counties, environmental organizations, public interest organizations, and other interested parties

2006 Electronic product recycling law

Based on the 2004 recommendations from Ecology and the SWAC, Washington lawmakers approved a new law - RCW 70.95N, Electronic Product Recycling - that became effective July 1, 2006.

This new law requires computer and television manufacturers to provide consumer-convenient recycling of their covered electronic products throughout our state.

The rule defines covered electronic products (CEPs) as

- Computers (including portable or laptop computers)
- Televisions
- Computer monitors

used by households, charities, school districts, small businesses, or small governments, located in Washington.

Manufacturers must make these services available to these groups by January 1, 2009.

Reason for this rule proposal

There are toxic substances in CEPs that can come out of them when they are thrown away in a landfill. Because of this, many landfills and transfer stations across the state have started to reject CEPs to prevent the contamination. This has caused a rapid increase in the number of CEPs coming into recyclers to over 22 million pounds¹ per year.

Ecology estimates that between 2003 and 2010 the number of obsolete CEPs in Washington State will be:

- 4.5 million personal computers,
- 3.5 million cathode ray tube monitors, and
- 1.5 million flat panel monitors.

Ecology expects the amount of recycled CEPs to increase to 56.5 million pounds after we implement the proposed rule.² This rule proposal will also allow recyclers to treat CEPs that come from households (small quantities) separate from those that come from businesses (large quantities).

Without this rule, recyclers would have to merge the waste streams and they would be required, under the dangerous waste rule, to treat all of them as dangerous waste.

This rule proposal will also take advantage of a federal exemption for cathode ray tubes (CRTs) allowed to the states and will allow recycling of CRTs to continue and increase.

Without this rule, recycling will be an increased financial burden on Washington citizens and landfills. This rule implements the law and the law transfers the cost of recycling CEPs to the companies that manufacturer the CEPs. .

The law and the rule provide a net savings for Washington.

Scope of analysis

This analysis covers the first 20 years of program costs including the costs of Phase 1 and Phase 2 of this rule-making process. The analysis covers both capital and annual costs. Capital costs are annualized on a 20-year basis.

¹ Reported recycling total tonnage for CEPs in Washington. Survey data June 2007.

² It is unclear at this time what the relative share of CEPs from business vs. residences will be. Given that a larger share of the TVs may come from homes, Ecology believes at least 45% of the pounds will be residential. However, the share for residences could be much higher.

Comparison of the current and proposed rules

Current rule requirements

Ecology is writing the rule in two phases. For phase 1 of the rule making Ecology adopted rules that:

- Require manufacturers, collectors, and transporters of CEPs to register with Ecology.
- Sets a fee structure and payment schedule for manufacturers.
- Require mandatory brand labeling of all CEPs.

Description of proposed changes

For Phase 2 of the rule making Ecology is proposing to adopt the rest of the requirements of the new law. This includes:

- Recycling plan submittal
- Plan review and content
- Program implementation
- Return share and equivalent share calculations
- Direct processor registration and standards
- Registration and performance standards for collectors and transporters
- Exemption from the Dangerous Waste Rule for recycled cathode ray tubes

Baseline for Analysis

The law, RCW 70.95N, Electronic Product Recycling, and the existing electronic product recycling rule (WAC 173-900) and the existing Dangerous Waste Rule (WAC 173-303) form the baseline for this analysis. Existing federal and state laws and rules regarding disposal of solid waste, dangerous waste, and electronics also forms part of the baseline.

Law – RCW 70.95N, Electronic Product Recycling

The law includes many detailed requirements. Most of the rule is drawn word for word from the law.

Existing rule – WAC 173-900

The existing rule outlines the

- Definitions for words within the rule.
 - Registration process for manufacturers, transporters, and collectors.
 - Administrative fees.

Existing dangerous waste rule – WAC 173-303

The current dangerous waste rule would require generators to designate CEPs as dangerous waste if they are large quantity generators.

Analysis of Compliance Costs for Business

This SBEIS is atypical in that the total costs to all the affected sectors are going to be borne by the Plans and the manufactures who are members of the plans. Therefore, for each major requirement in the proposed rule the total costs are calculated. The plans will be responsible for paying for their total return share. Therefore this SBEIS uses the return shares for each manufacturer multiplied by the total cost to estimate the cost per employee for small and large business. A more typical measure is provided for one small company that is no longer going to continue processing.

Costs for collectors

Ecology analyzed the cost for collectors based on the assumption that there are 88 collection sites throughout Washington State. The law requires there must be at least one service in each county of the state as well as in cities with a population of greater than ten thousand.

Collection facilities reported they would need the plans to pay them at the rate of \$0.26 per pound for their collections. It is not clear what rates the plans will negotiate with their collectors.

This rule proposal will not allow collection facilities to charge for drop offs or to disassemble the CEPs for recycling. This will be lost revenue for these facilities. Therefore, collection facilities also reported how much revenue they currently get from the:

- Fees for taking the CEPs (\$4.6 million)
- Sales of parts and recyclable materials (\$630,000).

This means they are actually requesting an increase of \$10.1 million from the plans over what they currently receive to offset this loss (see below).

Staffing Collection Site During Operating Hours: Only one collection site reported they had an honor system for dropping off CEPs. All other facilities staff their collection sites during operating hours. However, this one facility recently decreased its hours of operation instead of adding more staff. They therefore meet the requirement with out added costs. .

Storage Facilities: Ecology requires every collection site to have enclosed storage areas that are protected from the weather and have impervious floors or they must place the CEPs in a container designed to reduce the risk of contamination from glass and other fine solids from the CEPs. Currently, about 7% of collection sites do not have this type of storage area. Ecology estimates it will cost those facilities a total of \$31,000 to install the proper type of storage.

Annual Registration: Ecology estimates it will cost collectors about \$95 each to submit their annual registration using the electronic registration process. This is a total of about \$8,000 for all facilities.

Registration Updates: The rule requires collectors to notify Ecology within fourteen days when there is a change to the information provided with their registration. Ecology estimates, on average, that each collector will have about 5 registration updates each year. If Ecology assumes a cost of \$50 per hour³ and 30 minutes to submit these changes, Ecology estimates a total of \$9,400 a year for collector registration updates.

Documentation of CEPs: Ecology requires that the plans must collect data on what county each CEP comes from and then provide this information to Ecology. For this analysis Ecology assumes this cost will accrue to the plans via activity undertaken at the collection sites. Ecology expects it will cost an average of \$9,000 per site and a total cost of \$795,000 for all facilities to meet this requirement.

Posting Information at Collection Sites: Recycling plans are required to provide information to collectors for them to post in a visible location at their sites. This is to inform covered entities of how and where CEPs received into the program are recycled. The cost of this is minimal.

Lost Revenue from Charges to drop off CEPs: When Ecology implements this rule, collection sites will no longer be allowed to charge consumers for dropping off unwanted CEPs. This will affect 88% of the collectors that currently charge to take CEPs. Prices now range from:

- \$5.00-\$19.00 or \$0.35-\$1.00/lb for monitors and \$0.40/lb for laptops.
- \$20 and up for televisions.

This is a loss of \$56,500 per year, per facility, and total of \$4.6 million.

Lost Revenue from Foregone Sales of Recycled Components: This rule will require collectors to stop stripping components from CEPs for recycling to participate in the program. 40% of these collectors currently do this. Ecology estimates a \$20,000 loss for each of these collectors and a total of about \$630,000. The income is not lost to Washington because the rule transfers this income from the collectors to the processors.

Plan Participation: The plans will hire and pay the collectors to do their collections for them. Thus, a cost to the collectors will become a cost to the plan. Collection sites will be reimbursed to participate in a plan; the respondents estimated that they want to be reimbursed \$0.26/lb. With an estimate of 1 million units weighing 56.5 million pounds to be collected in the first year, ecology expects the total reimbursement the collectors will ask for, including the income transfer, will be \$14.6 million.

Note that it is unlikely that the collectors will be able to extract this much from the plans. The plans will be unwilling to pay over \$.50 per pound for collection, transport, and processing because that is all they would have to pay if they collect too little. Thus the collectors will have to share the \$.50 per pound with the transporters and processors. Further, once a plan has collected and processed its share of CEPs they will be unwilling

³ The mean wage in Washington for first line supervisors/managers is \$22.29/hr. We assume employer cost for benefits, management: \$13.43/hr for a total of \$35.72/hr. This is rounded up to \$50 to account for collection site overhead. This estimate may be high however in a setting where an office may be under utilized overhead per hour that the office is used can be higher than usual.

to pay more than \$.45 because that is all that they will be reimbursed by the other plans. In practice what this limit means is that this estimated \$14.6 million cost will have to come down to under \$11.5 million in order to meet the maximum rate that the plans will be willing to pay. Since this is the maximum that the plans would be willing to pay, given the lowest possible costs of transport and recycling, Ecology assumes that this will be the cost.

Costs for transporters

The plans will hire transporters to move CEPs from collection sites to processing. Therefore, costs to the transporters will become costs to the plans. Ecology surveyed transporters and found that very few companies plan on transporting electronics. Additionally, those that were planning on this type of transport found it hard to estimate how much per pound they would have to be reimbursed to participate in a plan.

In another approach, the Washington Utilities and Transportation Commission estimated that it would cost between \$70 and \$83 per hour to transport electronics, an average of \$76.50/hour and therefore \$1.28/minute.

Ecology then estimated the distance from each of the 88 mandatory collection sites to the closest of 8 cities with known processors; this was then doubled to account for a roundtrip. The average roundtrip distance from a collection site to the nearest processor was 114 miles, or 138 minutes.⁴ Multiplying the 138 minutes/roundtrip by \$1.28/minute gave an average cost of \$176.50/trip.

According to the three surveys Ecology did receive, the respondents estimated an average load of 11,833 pounds per truck load. Dividing the average per trip (\$176.50) by the average weight per trip (11,833 pounds) gave a reimbursement of \$0.02 per pound for transporting electronics. Ecology estimates that transporters will transport over 1 million units weighing 56.5 million pounds, for a total cost of \$1.1 million.

Costs for processors

The plans will hire processors to recycle materials for them. Therefore costs to the processors will become costs to the plans.

Ecology surveyed processors. Most processors currently working in Washington do more than simple processing. They offer collection or transportation services, too.

There are 3 sets of costs which require analysis.

- The first is the cost of continuing the processing operation as they have in the past.
- The second is the incremental added costs of meeting requirements that are new for the processor.
- The third is foregone revenue for activities that the processor may be giving up if they do not get a contract with a plan.

⁴ http://ops.fhwa.dot.gov/freight/freight_analysis/perform_meas/fpmtraveltime/index.htm average truck speed on I-5

Ecology estimated the cost of continuing operations based on current charges. Survey results⁵ indicate a wide range of charges for processing. The reported costs range from \$0.43 per pound for one company that collects, transports, and processes down to \$0.16 per pound for another company that only does partial processing but will not continue to process under the proposed rule.

Facilities that collect and process have a different cost for collection than most collectors. If you subtract the collector costs above from their collection and processing costs, the cost runs into negative territory. They are open for business for other reasons such as repair, reuse, refurbishing, or sales of new items. Therefore, their marginal cost per unit of collection is lower and there are no costs for transportation. This makes it difficult to decide what portion of their costs to attribute to the processing activity alone. Because of this, Ecology took their cost for collection and processing and subtracted out the \$0.02 per pound for transportation and then divided the remainder of the costs for these facilities in half, arbitrarily splitting the remaining cost between collection and processing. This produced a range from \$0.11 to \$0.22 per pound and an average cost of \$0.207 per pound for processing.

The potential for export of CEPs to China provides the cap on costs against which most of these companies compete. The estimated cost for transporting to, and processing in, China is about \$0.23 per pound. The existing costs above are just within this limit.

Most processors already do most of the items required in the proposed rule. However, the rule does add new requirements for direct processors and some of these requirements were not included in the above costs for some of the processors.

For each processor the potential compliance cost is different. The items of concern included costs for:

- Registration.
- Reporting.
- Sampling.
- Environmental health and safety management systems.
- Buying scales.
- More space to operate their business.

These costs did not apply to every processor but produced a range of added costs from \$0.018 to \$0.05 per pound with an average cost of \$0.019. When we add this to the \$0.207 above, the cost rises to \$0.226 per pound.

There is a limit to what the processors can charge the plans. This cost comes close to matching the cost of transporting to, and processing in, China. Given this some plans may ship to China. Thus, not all the new or existing flow of business will come to the American processors. This does not affect the cost of the program here in Washington but may affect the unquantified cost of contamination affecting China.

⁵ Only one known processor declined to respond.

Existing processors report 22 million pounds of recycled CEPs. Ecology has extrapolated from the pounds reported by the smaller processors to an estimated 5 additional collector/processors that may exist in repair shops. This would bring the total pounds currently being processed to 23 million. The current cost of processing these pounds is about \$5.3 million (\$.226/lb). Ecology believes this is less than half of the total pounds of CEPs that will be processed under the rule. The estimated total pounds of recycling under the rule are expected to be 56.5 million. The cost of processing these pounds is about \$12.8 million.

These costs are comparable to costs reported by other states.⁶

Table 1

Cost Data from Other States				
State	Collectors	Transporters	Recyclers	All
California	\$0.20		\$0.28	\$0.48
Maine	\$0.12	\$0.06	\$0.19	\$0.37
Minnesota	\$0.17	\$0.05	\$0.04	\$0.27
Maryland: computers only			\$0.05	

One processor does not expect to be able to comply with one of the components of the processor standards. They will therefore be unable to obtain a contract and this will cause a loss of approximately \$50,000.

Costs for sampling

RCW 70.95N.110 requires statistically significant sampling to determine the percentage return share by brand name. The plans are required to do the sampling with an independent third party or an Ecology staff member. The proposed rule includes the following:

- Ecology will develop a quarterly schedule for when sampling is done at the facilities of direct processors used by plans.
- Plans will incur costs for sampling and they must make sure that the processor’s staff or their own supplemental staff are available to perform sampling with minimal disruption to normal operations.
- A third party, selected from an Ecology-approved list, will observe sampling.

Sample allocation and days

The total necessary number of samples per year to get a 95% confidence interval and a 0.005 significance level is 10,070 units. Ecology assumes that 4 plans will be conducting sampling, and that 6 processors may handle material for plans.⁷ Based on the proposed

⁶ California data from Form 220A, <http://www.ciwmb.ca.gov/Rulemaking/EWaste/Regs061127.doc>, and <http://www.ciwmb.ca.gov/Electronics/Act2003/Retailer/Fee/>. Maine data from Consolodator data and contract information for regions 1 through 4. Minnesota data from <http://www.pca.state.mn.us/oea/plugin/ElectronicsReport.pdf>

⁷ Based on the plans of current processors responding to the survey.

sampling method the total required days of sampling to get the sample size will be 108 days each year.

Staff labor costs

Ecology assumes a sampling crew of 5 members will be required for each sampling day, including 1 manager and 4 staff.

Mean wage in Washington for first line supervisors/managers: \$22.29/hr⁸
Employer cost for benefits, management: \$13.43/hr
Total: \$35.72/hr

Mean wage in Washington for material movers, hand: \$12.39/hr⁹
Employer cost for benefits, material moving: \$7.31/hr
Total: \$19.70/hr

Total crew cost is \$114.60 per hour. Thus the total labor cost per 8-hour sampling day is \$916.80 per day. The cost of 108 sampling days is \$99,014.40 annually.

Third party labor costs

Plans will also need to employ one third party observer per sampling day. Ecology expects the plans will compensate this person similarly to a professional statistician.

Mean wage in Washington for statisticians: \$31.55/hr¹⁰
Employer cost for benefits, professional: \$13.43/hr
Total: \$44.98/hr

The total labor cost per sampling day for third party observers is \$359.84 per day. The cost of 108 sampling days is \$38,862.72 per year.

Equipment costs

Conducting sampling will require specialized equipment, including:

- Scale (registered with Department of Licensing, 400 pound capacity) - \$1500
- Dollies or other appropriate equipment for moving units - \$500
- Programmable (wireless) bar code readers, printers, stickers – \$1000
- Computer capable of running a sampling database program provided by Ecology - \$700
- Digital camera for photographing unidentifiable units - \$200
- Maintenance and replacement costs after the first year – 10% per year

Each plan will be required to supply equipment. Since these are sunk costs for each contractor, Ecology will estimate total costs assuming 4 plans must purchase and maintain equipment. Total annualized¹¹ equipment costs are \$875 each year per plan, or a total of \$3500 each year.

8 Bureau of Labor Statistics

9 Bureau of Labor Statistics

10 Bureau of Labor Statistics

11 Equipment cost is annualized based on a real discount rate of 2.1% and a return on capital of 8%.

Total sampling costs: \$141,000 per year.

Costs for CEP recycling plans

The rule requires that manufacturers participate in a plan and sets up a Standard Plan.

The proposed rule will allow manufacturers to opt out of the Standard Plan if they receive Ecology approval to use an Independent Plan. Ecology assumes that manufacturers will only use an independent plan if it costs less. Therefore, the cost of the Standard Plan would be the highest cost option.

The plans must cover the cost of collection, transportation, processing, recycling and sampling for their manufacturers. These costs are included in the sections above. Plans must also submit a plan, pay a fee for review of the plan, do record keeping, participate in public outreach, and submit reports.

At the time of this writing work on the Standard Plan has not begun. The costs of the plan, plan review fee, record keeping, public outreach, and reports will be included in a revised SBEIS if they are larger than the place holder estimate below. The plans may have other costs, however these are not required by the rule. As a place holder Ecology assumes these requirements will cost \$100,000 per year.

Registration costs

Ecology has tried to develop a simple registration process for the transporters, collectors, direct processors, and manufactures. Ecology estimates it will take between five minutes and two hours, for each company to fill out the registration form. If Ecology assumes a cost of \$50 per hour, then it will cost between \$4 and \$200 for transporters, collectors, direct processors, and manufactures to register. Manufacturers who have many brands and collectors running more than one site will need more time to fill out the form. If 200 companies require \$75 worth of time to fill out the forms this will cost \$15,000.

Uncertainty and analysis results

Ecology Requests Comments on these Costs.

The following variables probably generate costs that this analysis does not address.

1. Cost of CEP recycling plan

The cost of collection, transportation, processing and recycling dominates all other costs. The cost is highly dependent on the number of pounds and on how competition affects the rates the collectors, transporter, and processors charge.

For the first 5 years, under the law, the maximum cost that the manufactures will pay to the collectors, transporters and processors is \$.45 per pound because this is the reimbursement rate in the law for plans that don't collect their Equivalent Share. If the rates they are offered by their collectors, transporters, and processors totals more than \$0.50, then they won't collect or process very many CEPs. The range of costs reported by each component of recycling is large. Costs will shift as the market adjusts. The market should be competitive if there are sufficient processors and costs could fall over the first few years. They will also pay \$.05 per pound for each pound

that they under collecting administrative fees. Given that this will be an 11% increase in their recycling costs, Ecology assumes the plans will try to meet their equivalent shares.

2. Cost of Travel for Sampling

It is unclear where the Third Party Observers will be traveling to observe sampling activities so we did not estimate this cost.

Qualitative costs

Ecology Requests Comments on these Costs.

The qualitative costs of the rule include the need for many collectors and recyclers to reorganize how they do business. This is an expensive process in terms of both time and effort. For some companies their primary business is to collect and reuse parts and products. These companies also do some of the activities that constitute recycling. A few of these companies will decide to drop the recycling activity and become collectors while the rest will pay for the added requirements in the rule and will become registered direct processors. They are deciding between the added revenue from the plans for collection coupled with the loss of sales of parts for metals extraction versus the additional revenue from plan payments for recycling coupled with the cost of complying with the direct processor requirements.

Two companies are trying to figure out what new niche they can fill because they don't expect the plan payments to cover their current costs and they expect they will not be able to continue to dismantle computers in order to sell parts for recycling. One of these companies has decided they will not continue processing but the other is still considering its options.

In the case of computers, more than one processor has indicated they can sell them for recycling in China for more than they receive for recycling in Washington. Some may choose to do this. As stated earlier, the downstream cost of contaminant releases in China is not known.

Retailers will have some costs because they need to look at the Ecology web site before ordering CEPs to make sure the brand name is listed. At one time, Ecology expected there would be some costs because some companies would not list their brands. However, compliance has been good. Retailers with new brands, who previously sold white box CEPs, will be in the program as manufacturers.

Quantification of Costs and Ratios

The cost of the proposed rule will be covered by manufacturers who are members of plans. The plans may find ways to reduce the costs listed above. Ecology does not know how the plans will bill their members. The costs below assume the plans will bill their manufacturers based on each manufacturers return share. The ratio of cost per employee was calculated based on public data in Appendix 1.

<i>Comparison of Small and Large Business Costs of the Recycling Program</i>	<i>Cost per Employee</i>	
	<i>Small Business Costs</i>	<i>Large Business Costs</i>
Costs to Plan Members	\$715.84	\$ 0.01
Processors dropping out	\$16,700	

Actions Taken to Reduce the Impact of the Proposed rule on Small Business

Ecology considered a variety of approaches and ended with a proposed rule that sticks very closely to the requirements in the law. Most of the costs of this proposed rule are actually a transfer of costs from individuals, landfills, collectors, transporters, and processors to manufacturers. The legislature chose to require the manufacturers to internalize the costs of the recycling program in their overall costs of doing business because it would have the least impact on in-state retailers and their customers. Ecology has provided cost minimizing features.

(a) Reducing, modifying, or eliminating substantive regulatory requirements:

- Processor standards evaluated early in the proposed rule development process were very costly. These have been abandoned because most plans would probably have opted to export the waste to the third world for recycling. This could have caused bankruptcies in Washington. The processor standards have been taken from the requirements in the EPA's Responsible Recycling Practices for Electronics Recyclers Facilitator Draft Strawproposal. This proposed rule is the first performance standards for electronic product processors being considered for adoption by rule in the country. By using the EPA voluntary standards we anticipate that other states that follow in Washington's footsteps will adopt similar standards. This will allow Washington's processors to compete in the national market.
- The primary locations for sampling have been shifted from collection sites to processing sites.
- The transporter standards had several costly options, which were considered. As proposed the rule does not add any additional requirements.
- Televisions and monitors would normally designate as dangerous waste. This proposed rule will allow an exemption for processors that dismantle TVs and monitors. These are granted using a federal exclusion and language from 40 CFR 261.4A, 261.39A, 261.40, 261.41, and 260.10.

(b) Simplifying, reducing, or eliminating record keeping and reporting requirements:

- The forms for the application process have been simplified. The forms minimize the requirements of duplicate information.
- The companies only have to submit additional information if they are requesting placement in a different Tier.
- The tier re-assignment process for most small manufacturers is much less stringent than for large businesses. Manufacturers who request to be reassigned

from Tier 3 or 4 do not have to provide statistically valid market share data validated by a certified public accountant.

- Ecology has attempted to minimize time and expense for all businesses by striving to allow manufacturers, collectors and transporters to register via the internet and e-mail.

(c) Reducing the frequency of inspections:

- There is no inspection frequency specified in the proposed rule. The primary activity prescribed in the proposed rule is third party review of sampling that sets the return share. This activity actually protects smaller companies from entities with sufficient market share to bias the data. Ecology will select third party sampling contractors, from which the plans can choose. The third party will become accustomed to the logos and this should speed up the sampling if questions arise. One major potential cost of the proposed rule is the possibility of moving costs from one plan to other plans by manipulating the sampling. If any plan controls more than 40% of the return share the potential gain to that plan and cost to its competitors could be over \$1 million per year. Thus the integrity of sampling is critical. The sampling portion of the proposed rule gives the plans and processors only 24 hours notice. This should reduce the ability of the individual who controls throughput to the processor to game the system by manipulating the sample which arrives at the plant.

(d) Delaying compliance timetables:

- This would not help the companies. They need to be listed as manufacturers in order to market their product.

(e) Reducing or modifying fine schedules for noncompliance:

- Fine schedules are in the RCW. No modification is possible.

(f) Any other mitigation techniques:

- The tiered fee structure that allows companies that manufacture fewer units to contribute less for the administrative costs of this proposed rule.

The primary possible cost of this proposed rule for those who are required to comply derives from the \$0.45 cents per pound, which is in the law, and which must be transferred from plans that do not meet their equivalent share to plans that over meet their equivalent share. It is unlikely that the actual cost of collection, transport, and processing will be this high. Therefore the transfer payment has the potential to substantially raise the cost of the proposed rule to plans that under perform. By getting the data in immediately after samples are taken adjustments can be made by the plans to assure they meet their targets.

The Involvement of Small Business in the Development of the Proposed Rule Amendments

Ecology and the Solid Waste Advisory Committee consulted with stakeholders to gather information about the possibility of implementing and financing a electronic product collection, recycling, and reuse program.. These stakeholders included small and large business that represented covered electronic product manufacturers, covered electronic product retailers, waste haulers, electronics recyclers, and charities. Other stakeholders included cities, counties, environmental organizations, public interest organizations, and other interested parties that have a role or interest in the collection, reuse, and recycling of covered electronic products.

Ecology has encouraged the participation of all entities in considering the impacts and outcomes of the proposed rules throughout the rule-making process for phase 1 and phase 2. Small businesses were represented on the advisory panel that helped to develop this proposed rule. This public process was open to both small and large businesses. Small businesses presented information to the committee. Further input will be encouraged during the public comment period for the proposed rule.

Ecology requests comments on this SBEIS and any new information that may be of value in decision making.

The NAICS Codes of Impacted Industries

This table lists the NAICS codes affected by the proposed rule. A more detailed listing by company is in Appendix 1.

NAICS Codes of Affected Companies

333293	33411	3343	335110	423410	45211	541511	517110	811212
333313	334111	334310	33993	423430	452112	541512	518210	811310
333315	334113	334413	339932	423620	452910	541519	522298	
	334119	334419	339999	423990	453310	541618	54511	
	334210	334613		443112		541840	5614999	
	334220			443120				

Labor Impacts

This proposed rule is unusual in that it transfers the cost of disposal from Washington citizens, businesses, and government bodies to manufactures of TVs, Computers, and Monitors. There is a net income effect for Washington households, governments, and businesses.

Ecology used the 1997 OFM input output table to estimate labor impacts.¹² The share of the savings from not having to pay for recycling was allocated to each sector based on the share of total output. The share for education was based on the remainder of savings available. Net cost impacts for the proposed rule were included for the additional costs created by the proposed rule. The savings effect combined with the net cost impacts for specific sectors creates a net increase of approximately 343 jobs within Washington. It is

¹² <http://www.ofm.wa.gov/economy/io/default.asp>

likely that this effect is offset elsewhere by losses outside of Washington. This does not include any injection impact from cash flowing to Washington from outside Washington for recycling work done here because it is likely that the prices of electronics will have an offsetting increase over time.

Appendices

Appendix 1: Income and Employment data from Hoovers.com

Company	Sales (mil.)	Employment	Income (mil.)	SIC Code	NAICS Code
3M Touch Systems	\$91.0	845		3577	334119
4th Dimension Computer	\$0.1	1		7373	541512
A-1 Best Computer	\$0.3	4		7378	811212
Abacus Office Machines	\$0.6	5		5734	443120
ABS Computer Technologies Inc	\$20.1	120		2571	334111
ACC Tech		3		5045	423430
Acer America Corp	\$0.1	1		7389	5614999
Alden Associates Redmond		20		5734	443120
America Action Inc	\$5.6	20		5064	423620
Aopen America Inc	\$15.4	70		5045	423430
APH USA, Inc.	\$9.1	30		5064	423620
APH USA, Inc.	\$0.4	3		5065	423690
Apple	\$19,315.0	16,820	\$1,989.0	3571	334111
Asus Computer International	\$30.1	130		5045	423430
AT&T Corporation	\$63,055.0	302,000	\$7,356.0	4813	517110
Audiovox Corp. c/o Levy Stopol & Camelo	\$456.7	750	\$2.9	3651	334310
Averatec Inc	\$1.4	45		5045	423430
BenQ America Corp	\$5,389.6	19,765	\$159.3	3663	334220
Best Buy	\$35,934.0	140,000	\$1,377.0	5722	443112
Broksonic c/o Hatzlachh Supply Inc	\$2.3	14		5043	423410
Brother International Corporation	\$1,425.0	1,500		5044	333313
Casio, Inc	\$13.8	350		3931	339992
Charisma Productions	\$0.2	4		8748	541618
Circuit City Stores Inc	\$12,429.8	43,011	\$8.3	5731	443112
Coby Electronics Corp	\$20.5	90		5099	423990
CommWise Inc	\$0.3	3		7379	541519
Compucare	\$19.9	87		5734	443120
CompUSA Inc				5734	443120
Computer 5 Inc	\$6.1	35		7373	541512
Computer Nut Hut	\$0.2	2		5734	443120
Computer Stop	\$0.6	5		5734	443120
Computer Technology Link	\$23.8	120		3577	334119
Computer Technology Link	\$23.8	120		3577	334119
Computers & Applications	\$0.2	3		7371	541511
Custom Computer Sales & Svc	\$0.8	6		5734	443120
CTX Technology	\$2.7	15		5045	423430
Daewoo Electronics America Inc	\$24.0	65		5064	423620
Deer Park Computer Sales &	\$0.1	1		7379	541512

Company	Sales (mil.)	Employment	Income (mil.)	SIC Code	NAICS Code
Service					
Dell Computer Corp	\$55,908.0	66,100	\$3,572.0	3571	334111
Dex Computers & Things,LLC	\$0.2	2		5734	443120
DPI Inc	\$0.1	2		7371	541511
Eager Beaver Computers	\$0.3	2		5734	443120
Elo TouchSystems	\$32.4	300		3679	334419
Emerson Radio Corp	\$233.8	115	\$16.6	3651	334310
Envision Peripherals Inc	\$200.0	50		5045	423430
Envision Peripherals Inc	\$200.0	50		5045	423430
Epson America Inc	\$2,645.4	832	\$107.1	3577	333315
Equus Computer Systems Inc.	\$42.9	350		3571	334111
First International Computer				3571	334111
Fourstar Group	\$4.2	25		5099	423990
Fujitsu Computer Systems Corporation				3571	334111
Fujitsu General America Inc	\$3.9	43		3663	334220
Funai Corporation, Inc.	\$1,507.4	53		5064	423620
Gateway Manufacturing LLC	\$3,980.8	1,700	\$9.6	3571	334111
General Electric Co	\$163,391.0	319,000	\$20,829.0	6159	522298
HANNspree California Inc	\$80.0	60		5064	423620
Hard Drives Northwest	\$12.9	65		5734	443120
Hewlett Packard	\$1,811.4	1,400		3571	334111
Hitachi Home Electronics America Inc	\$75.3	676		3651	334310
Hyundai Imagequest America	\$52.0	12		5065	423690
IBM	\$91,424.0	355,766	\$9,492.0	7379	541512
iiyama North America Inc	\$1.2	10		3575	334113
Imation Corp	\$1,584.7	2,070	\$76.4	3695	334613
Infotech Systems Inc	\$1.0	12		7371	54511
Initial Technology Inc	\$97.0	39		5064	423620
Itronix Corp	\$13.6	90		3571	334111
J.C. Penney Corporation Inc	\$19,903.0	155,000	\$1,153.0	5311	45211
JVC America Corp	\$25.9	980		7622	811310
Konka America Inc	\$7.0	8		7313	541840
KTV USA Inc	\$1.4	7		5064	423620
Last Stop Computers	\$0.4	2		7378	811212
Lenovo	\$365.1	19,500	\$143.6	3571	33411
LG Electronics USA Inc	\$6,448.8	2,500		5064	423620
Lux Entertainment LLC	\$53.9	431	\$1.6	3679	334419
Main Business Systems	\$0.2	2		5734	443120
Mattel, Inc.	\$5,650.2	32,000	\$592.9	3944	339932
Medion AG	\$2,992.3	1,551	\$10,895.6	3571	334111
MGA Entertainment	\$6.7	60		3942	33993
Micron Technology	\$5,272.0	18,800	\$408.0	3674	334413
Microsel Inc	\$0.1	2		7374	518210
Mirus Innovations, LLC	\$5.0	9		3571	334111

Company	Sales (mil.)	Employment	Income (mil.)	SIC Code	NAICS Code
Mitsubishi Digital Electronics America	\$271.0	2,400		3651	334310
Motorola Inc	\$42,879.0	66,000	\$3,661.0	3663	334220
MPC Computers	\$285.0	680	\$58.7	3571	334111
MSI Computer	\$2,205.9	1,829		3577	334111
Ncc National Computer	\$1.0	7		5045	423430
NCR Corporation	\$6,142.0	28,900	\$382.0	3577	33411
NEC Display Solutions	\$600.0	150		3577	33411
No Nonsense Computers	\$0.1	1		7379	541512
Norcent Technology, Inc	\$160.0	35		5064	423620
Orion America Inc	\$53.9	163		5064	423620
Osram Sylvania	\$746.7	11,200		3641	335110
Panasonic Corporation of North America	\$316.4	2,800		3679	334419
Pc Gamers Tech Inc	\$0.5	4		5734	443120
PC Recycle	\$0.1	2		7379	541512
Petters Group Worldwide	\$2,200.0	3,200		5099	339999
Philips Electronics	\$11,686.6	391,948	\$762.1	3651	334310
Pioneer Electronics (USA), Inc.	\$166.9	500		3651	334310
Planar Systems Inc	\$212.7	391	\$6.3	3577	334119
Polycom Inc	\$682.4	1,727	\$71.9	3661	334210
Port Townsend Computers, Inc	\$0.2	2		7371	541511
Premio Inc				3571	334111
Prima Technology	\$0.2	3		5731	443112
Princeton Digital (USA) Corp	\$1.2	12		3577	334119
Proview Technology Inc	\$14.1	58		5045	423430
Puget Sound Systems Inc.	\$3.0	15		5734	443120
Pyramid Distributing	\$0.3	2		5045	423430
Quality Computers & Svc	\$0.2	2		3571	334111
RadioShack Corp	\$4,777.5	40,000	\$73.4	5731	443112
Regent USA	\$2.0	5		5045	423430
Re-Pc Recycled Computers		1		5932	453310
Richman Poorman Computers	\$0.8	7		7373	541512
Ritzville Computer & Internet		2		5734	443120
Runco International	\$53.0	104		3651	3343
Samsung Electronics Co	\$78,992.7	128,000	\$7,485.0	3674	334413
SANYO Manufacturing Corp (SMC)	\$21,804.7	106,389	\$1,757.8	3651	334310
Savvy Computers	\$0.1	1		5734	443120
Sceptre, Inc.	\$14.2	100		3577	334119
Sceptre, Inc.	\$14.2	100		3577	334119
Sears Roebuck & Co	\$30,030.0	249,000		5311	45211
Sharp Electronics Corporation	\$23,786.6	46,872	\$754.1	3679	334419
Silicon Graphics Inc, SGI	\$518.8	2,423	\$146.2	3571	334111
Softline Computers & Svc	\$4.9	19		5045	423430
Sony Electronics Inc	\$2,147.5	26,000		3651	334310

Company	Sales (mil.)	Employment	Income (mil.)	SIC Code	NAICS Code
Summit Computers	\$10.0	21		7379	541519
Sun Microsystems	\$13,068.0	38,000	\$864.0	3571	334111
SuperView Technology Inc	\$0.1	1		7379	541512
Syntax-Brilliant Corporation	\$193.0		\$18.9	3679	334419
Systemax Manufacturing Inc	\$18.0	100		5045	423430
Target Corporation	\$59,490.0	352,000	\$2,787.0	5311	452112
Tatung Science & Technology, Inc.	\$11.7	52		5045	423430
Tech-101 Arcus Inc	\$4.0	25		5045	423430
TLC Computer Care	\$0.2	2		5734	443120
TLCO Inc	\$0.3	2		7373	541512
Toshiba America Inc	\$133.5	2,300		3674	334413
Twinhead Corp	\$190.3	330		3571	334111
Unisys Direct	\$5,757.2	31,500	\$278.7	7373	541512
US Micro PC Inc	\$6.0	13		5734	443120
ViewSonic Corp World HQ	\$1,200.2	647	\$8.3	3577	334119
Wacom Technology	\$6.4	50		3577	334119
Wal-Mart Stores Inc	\$348,650.0	1,900,000	\$11,284.0	5331	452910
West End Computers	\$0.1	1		5734	443120
Westinghouse Digital Electronics LLC	\$4.8	30		5065	423690
Wyse Technology	\$0.2	2		5734	443120
Xerox Corporation	\$15,895.0	53,700	\$1,210.0	3577	333293
Yamaha Corp of America	\$806.3	1,000		3931	339992
ZT Group International Inc	\$25.8	100		3571	33411

Electronic Recycling Rates

2006 Rates	Locations	Monitors	Computers (Desktop PC's)	Laptops	TV's
King County website Appendix 2: Current					
Trashbusters	Seattle	\$13.00	\$10.50	\$13.00	\$27.50
3RTech, LLC		\$15.00	\$3.00	\$0.00	\$15.00
Computer Bank Charity		\$10.00	\$2.00	\$10.00	
Computer Equipment Resources	Carnation	\$10.00			
Computer Giveaway Project		\$5.00	\$9.10		
George Electronix	Bellevue	\$7.50	\$10.00	\$0.00	\$37.50
Happy Hauler	Seattle	\$12.00	\$7.80		\$21.50
InterConnection	Seattle	\$10.00	\$5.00		
Micro-Recycle		\$10.00	\$10.00		

2006 Rates	Locations	Monitors	Computers (Desktop PC's)	Laptops	TV's
PC-Recycle	Bellevue	\$10.00	\$1.00	\$40.00	
PC-Salvage	Tacoma	\$10.00	\$9.10		\$14.70
Philip Services Corp	Seattle, Tacoma	\$12.40	\$10.40		\$19.60
Rabanco	Seattle	\$15.00			\$35.00
Re-PC	Seattle	\$10.00	\$2.50		\$30.00
Staples	Seattle, Tacoma, Bellevue, Bothell, Issaquah, Redmond, Burien, Kent	\$12.00	\$8.00	\$8.00	
Total Reclaim	Seattle	\$10.00	\$9.10	\$2.80	\$14.70
Snohomish County website					
County Recycling and Transfer Stations		\$14.00	\$10.00	\$10.00	\$23.50
City of Tacoma website					
Centerforce		\$10.00	\$10.00		
Philip Services Corp	Tacoma	\$12.40	\$10.40		\$19.60
PC Salvage	Tacoma	\$10.00	\$5.00	\$5.00	\$10.00
Staples	Tacoma	\$12.00	\$8.00	\$8.00	
Spokane					
Earthworks Recycling	Spokane	\$15.00	\$10.40	\$3.20	\$34.00
Thurston County website					
Thurston County Recycling Days	Thurston County	\$10.00	\$10.00	\$10.00	\$10.00
Thurston County Waste and Recovery Center	Thurston County	\$15.64	\$15.64	\$15.64	\$15.64
Clark County					
CREAM Recycling Program	Vancouver, Washougal	\$0.00	\$0.00	\$0.00	\$0.00
Nationwide					
Apple Computers			\$30.00		
Dell			\$15.00		
HP			\$23.50		
IBM			\$29.99		
Average		\$10.84	\$10.20	\$8.97	\$20.52

Note: Landfills and transfer stations charge less on average.

2007 - Average charges at landfills and transfer stations¹³ to take CEPs

Type of CEP	Average cost	\$ per pound
Computers	\$7.67	\$0.64
TVs	\$13.81	\$0.25
Monitors	\$8.79	\$0.44

Note: This is a preliminary document.

Problems with assumptions:

- The \$/lb depend on assumptions regarding weight. There is a trend to weight through time. Thus the static numbers in the literature may be inaccurate for forecasting into the future. Ecology requests information on the average weight of CEPs by type and on the trend.
- The lifespan of CEPs is changing over time. This affects the rate of returns. Ecology requests information on the trends in the life spans of CEPs.

13 Purdy, South Prairie, Tacoma, Puyallup, Snohomish, Thurston.

Appendix 3: References

This includes references for Phase 1 and Phase 2 of the rule.

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