

1 A. I am currently Director of Clean Washington Center.
2 Clean Washington Center is the state's lead agency for
3 developing markets for recyclable materials collected
4 throughout the state through the curbside recycling
5 program. As Director of Clean Washington Center, I am
6 responsible for developing commercially valuable uses
7 for the recycled materials being collected. A copy of
8 my biographical information is attached. See Exhibit
9 ____ (DAD 1).

10
11 Q. ARE YOU FAMILIAR WITH THE SUBJECT MATTER OF WUTC DOCKET
12 NO. TG-940411?

13 A. Yes. I have reviewed information provided to me by the
14 King County Solid Waste Division, including King
15 County's Complaint in Docket No. TG-940411, its Petition
16 for Reconsideration of Docket No. TG-931585, and the
17 Market Price Report 1992-1994 prepared by the City of
18 Seattle Solid Waste Utility staff.

19
20 Q. WOULD YOU PLEASE SUMMARIZE YOUR TESTIMONY?

21 A. I will address the findings and conclusions of the Clean
22 Washington Center study on The Economics of Recycling
23 and Recycled Materials, which was completed in 1993.
24 That study concluded that for the period 1992, total
25 recycling costs in Seattle, without any revenues from

1 material sales, was approximately the same cost per ton
2 as disposal costs, and for the same period, the study
3 concluded that Seattle's net recycling costs, after
4 revenue from material sales, was significantly less than
5 the cost per ton of disposal. I find no reason to
6 believe that the conclusions of that study would change
7 in light of 1993 market price data for recyclable
8 materials compiled by the City of Seattle for recycled
9 materials. I will also testify that the results of the
10 study should be generally applicable to conditions in
11 King County.

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13 Q. PLEASE DESCRIBE CLEAN WASHINGTON CENTER'S STUDY ON THE
14 ECONOMICS OF RECYCLING AND RECYCLED MATERIALS.

15 A. Part I of the study (Chapters 2 and 3) examined
16 recycling and disposal systems in cities with
17 established curbside residential collection service.
18 Cities were selected to give a range of sizes,
19 geographic locations in the state and system types.
20 Cities studied were Seattle, Spokane, Bellingham and
21 Vancouver, Washington.

22
23 Costs of recycling and disposal were compared side by
24 side for 1992 for each city. Costs were presented from
25 the City's perspective; i.e., what it costs the

1 municipality rather than its contractors' costs or what
2 citizens paid in utility bills. Net costs were
3 determined by adding to the cities' costs any "credits"
4 given by contractors for market revenues for materials
5 or energy sales.

6
7 Recycling costs included collection, processing, tipping
8 fees, administrative costs, and revenues or credits
9 generated from material sales. Disposal costs included
10 collection costs, transfer station costs, administrative
11 costs, and whatever long-haul costs, landfill tipping
12 fees or incinerator tipping fees applied. In addition,
13 Part II of the study (Chapters 4 and 5) looked at the
14 costs of using five recycled materials in manufacturing
15 or composting compared with their common substitutes. A
16 copy of The Economics of Recycling and Recycled
17 Materials is attached as Exhibit ___ (DAD 2).

18
19 Q. DID THE STUDY EXAMINE DATA REGARDING THE KING COUNTY SOLID
20 WASTE?

21 A. No.

22
23 Q. ARE THE RESULTS OF THE STUDY APPLICABLE TO KING COUNTY
24 AND THE KING COUNTY SOLID WASTE DIVISION?

1 A. Yes. Because Seattle and King County are situated in
2 the same geographic area, the results of the study
3 regarding the City of Seattle should be generally
4 applicable to King County.

5
6 Q. WHAT CONCLUSIONS REGARDING THE CITY OF SEATTLE ARE DRAWN
7 IN THE STUDY?

8 A. The data produced demonstrates that for the period of
9 the study, 1992, in Seattle total recycling costs,
10 without any revenues from material sales were
11 approximately the same cost per ton as disposal costs.

12
13 Q. ON WHAT DID THE STUDY BASE THESE CONCLUSIONS?

14 A. The most detailed information was available for Seattle,
15 as opposed to the other cities in the study. Seattle's
16 Solid Waste Utility and its north-end recycling
17 contractor, Recycle America (a Waste Management
18 subsidiary), provided cost and price data on recycling.
19 The south-end recycling contractor, Recycle Seattle (a
20 Rabanco subsidiary), declined to provide data. Data on
21 disposal costs was provided by the city for its
22 operations and from its contracts with garbage haulers,
23 U.S. Disposal (a Rabanco subsidiary) and General
24 Disposal, and the long-haul service contractor,

25

1 Washington Waste Systems (a Waste Management
2 subsidiary).

3
4 Costs and revenues are tracked for recycling as a
5 program and disposal as a program, but not by material.
6 Since the disposal program currently collects many other
7 materials in addition to the same type of materials
8 collected in the recycling program, comparable disposal
9 costs (i.e., for types of materials in the recycling
10 program) had to be determined by allocation. Disposal
11 costs were determined in the study using two different
12 bases, weight and volume. The cost per ton differed by
13 \$11.00 per ton between the two methods or less than ten
14 percent.

15
16 Specific costs were found to be:

17 Using Weight-based Allocation of Disposal Cost

18	Recycling Cost	\$131 per ton
19	Disposal Cost	<u>\$137</u> per ton
20	Difference	-\$ 6 per ton

21
22 Using Volume-based Allocation of Disposal Cost

23	Recycling Cost	\$131 per ton
24	Disposal Cost	<u>\$126</u> per ton
25	Difference	\$ 5 per ton

1 Q. WERE ANY OTHER CONCLUSIONS REGARDING THE CITY OF SEATTLE
2 DRAWN IN THE STUDY?

3 A. Yes.

4
5 Q. PLEASE ELABORATE ON THOSE CONCLUSIONS.

6 A. The data produced for the City of Seattle, demonstrates
7 that for the period studied, 1992, Seattle's net
8 recycling costs, after revenue from materials sales, was
9 significantly less (two thirds) than the cost per ton of
10 disposal, and material sales revenues significantly
11 reduced recycling costs.

12
13 Market revenues generated by Recycle America contributed
14 \$41 per ton toward offsetting costs of recycling. This
15 resulted in a net cost for recycling for Seattle's
16 north-end program of \$90.

17
18 Specific costs were found to be:

19 Using Weight-based Allocation of Disposal Costs

20 Recycling Cost \$ 90 per ton
21 Disposal Cost \$137 per ton
22 Difference -\$47 per ton

23
24 Using Volume-based Allocation of Disposal Costs

25 Recycling Cost \$ 90

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Disposal Cost \$126 per ton
Difference -\$36 per ton

Q. THE PERIOD STUDIED WAS 1992, HAS THE CENTER UPDATED THE RESULTS OR CONCLUSIONS SINCE THEN?

A. The Center has no reason to believe that the results or conclusions from 1992 would have changed substantially in 1993; however, the Center has not invested in contracting to do research and analysis to replicate the work for 1993.

Q. BASED ON INFORMATION AVAILABLE TO YOU AND YOUR KNOWLEDGE OF HOW THE STUDY WAS DONE, CAN YOU MAKE ANY STATEMENTS ABOUT WHAT AN UP-DATE WOULD SHOW?

A. Yes. The total cost data for Seattle should not have changed significantly from 1992 to 1993. For example, the study's 1992 data was prepared using the 1993 contract terms. Therefore, the fact that the City and Recycle America renegotiated the recycling service contract for 1993 does not change the information or conclusions contained in this report. This was done in recognition of the fact that both the City and its contractor, Recycle America, believed the new contract to fairly represent the costs associated with recycling in Seattle.

1 I do not know of any significant other changes that
2 Seattle has made in its residential curbside recycling
3 or disposal practices between 1992 and 1993.
4

5 Although the Center has not made the investment to
6 replicate the study using 1993 data, I have had the
7 opportunity to review a Market Price Report 1992-1994
8 prepared by the City of Seattle, which reflects prices
9 for various recyclable materials as reported to the city
10 by Waste Management, as well as various price indicators
11 tracked by the city. See Exhibit ___ (DAD 3).
12

13 The market price data shows a normal range of price
14 fluctuations except in plastic where an industry subsidy
15 was terminated. Plastic comprises a minor portion of
16 the recycling stream in Seattle, at present, so the
17 impact of this on overall net cost would not be
18 significant.
19

20 Based on the foregoing, I have no reason to believe that
21 an up-date for 1993 would change the conclusions that
22 total recycling costs were approximately the same per
23 ton as total disposal costs in Seattle, and that after
24 market revenues were taken into account, the net cost to
25 the City for recycling was less than for disposal.

1 Without up-dating the study, I cannot say how much less.

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4 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

5 A. Yes.

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