

**GLRPPR Measurement Task Force
January 20, 2004**

Measures by Program or Tool

EPA Office of P2 Metrics (Per Terry Grogran)

1. Pounds of Pollution Prevented
 - a. Solid Waste
 - b. Hazardous Waste
 - c. Air Pollution
 - d. Water Pollution
2. Energy Conserved
3. Water Conserved
4. \$ Saved

NEWMOA Pollution Prevention Metrics

1. Output (activity level) measures (e.g., number of onsite assistance visits, workshops, assistance tools developed, awards presented, partnerships formed, grants issued).
2. Environmental Outcomes (e.g., number of pounds of pollution reduced).
3. Economic Outcomes (e.g., number of dollars saved).

PPRC (CURRENT*) Agglomeration Tool

- | | | |
|-----|-----------------------------------|-------------------------------|
| 1. | Reduced Operating Costs | |
| 2. | Reduced Hazardous Waste Generated | Pounds, Gallons |
| 3. | Reduced Toxic Material Use | Pounds, Gallons |
| 4. | Electricity Saved | KWh |
| 5. | Natural Gas Saved | Therms |
| 6. | Gasoline Saved | Gallons Diesel, Gallons Other |
| 7. | Water Saved | Gallons |
| 8. | Solid Waste Reduced | Pounds |
| 9. | CO2 Emissions Eliminated | Tons |
| 10. | Vehicle Miles Avoided | Miles |
| 11. | Renewable Energy Generated | KWh |

* Subject to change based on feedback from regional P2Rx partners, etc. – per KC meeting in December 2003.

Examples of Activity Measures

- # TA calls/emails
- # site visits
- # events (workshops, booths, presentations, etc)
- # of people attended event
- # interns placed, # of companies interns placed
- # material exchange calls
- # successful exchanges
- # web usage
 - user sessions
 - page views
 - visitors 10 or more times
- # resources developed/revised

Another interesting measure used by several states is "implementation rate". This came up on the national P2 Results conference call. This one kind of falls between activities and outcomes. For example, out of 10 TA recommendations given, 5 were implemented. Typically, we have a 30% implementation rate, which we would like to improve on.

NPPR January 2003 Report – A Decade of Pollution Prevention Results 1990 – 2000

This information is taken directly from the original report.

Barriers to P2

1. Lack of man-hours to devote to P2 implementation
2. Perceived high cost of P2 implementation
3. Low priority among business owners.
4. Lack of awareness and interest of P2 success and programs in general.
5. Lack of regulatory enforcement.
6. Lack of strategic direction and organizational structure to help implement P2.

Quantitative Data

Summary –

1998 – 2000 Thirteen (13) P2 programs, with an average budget of \$1.9 million annually, reported total cost savings equal to \$404 million.

During the period of 1990 – 2000, survey respondents claimed a joint total savings of \$652 million.

Much of the cost savings came as a result of decreased utility bills (“Water Conservation”). Four billions gallons of water saved over 10 years.

The 167 billion pounds of total avoided pollution cited on the cover of the report includes data from the air, water, waste, and combined columns as well as the electricity column. This also includes 192 million pounds of combined waste from TNRCC during 1993 – 1996. Electricity savings was factored by multiplying the kilowatt hours reduced, by the average pounds of SOx, NOx, and CO2 emitted for each kilowatt hour produced in the U.S.

Year	Pollution Prevented (Pounds)				Energy Conserved	Water Conservation	Total Cost Savings	Impact on Economy
	Air	Water	Waste	Combined	KWh	Gallons	\$	\$
1990	/	/	/	4900000	/	/	700338	/
1991	/	/	57212749	1500000	/	/	498450	/
1992	/	/	56819001	1800000	/	228000	2148622	108700
1993	73000	6086000	70504845	4300000	9950700	3503107	6553680	112300
1994	13465495	13128035	170028741	2000000	150700	30600000	3850173	858191
1995	858043	7166726	107966076	50000	332500	117004500	2626176	1411250
1996	3.7E10	229019655	30384E10	3000000	14368300	382857318	128913123	901400
1997	1.1E10	1259966957	2405E10	200838662	7446500	1244234855	97193109	2429011
1998	1.67E10	1.266E10	1.428E10	329526411	84510560	366466200	256976968	112376335
1999	25595600	5417635672	893995152	157000251	72770924	893647984	50949572	8997300
2000	122011189	488483448	4521112448	87385857	25787663	1078826263	112913997	17088953
TOTAL	6.486E10	2.008E10	8.043E10	1228138181	215317847	4117368227	666324208	144283440