An overview of Canada’s NPRI program as a pollution control policy tool

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Analysis Flow

1. Review of Pollution Control Policy in Canada
2. Review of Pollution Control Public Disclosure Theory
3. Qualitative Review of Canada’s NPRI Policy Objectives
4. Evaluating NPRI as an Effective Pollution Reduction Policy Tool
5. Is NPRI Effective at Pollution Reduction?
6. Does NPRI yield high quality data?
7. Does NPRI inform stakeholders?
Stated policy goals

1. **Identifying** pollution prevention **priorities**
2. **Supporting** assessment & **risk management** of chemical and air modelling
3. Developing **targeted regulations** to reduce pollutant releases
4. **Encouraging actions** to reduce release of pollutants
5. Improving **public understanding**
PRTR themes

• Are all enabled under ‘right-to-know’ legislation
  • Meant to address environmental and social concerns

• Shared pollution prevention mentality (reduce, minimize)

• Data reliability and accessibility necessary for proper use; data pertinence allows for dialogue and decision-making

• Empowerment of non-government stakeholders by creating greater awareness and participation

• Data should be transparent, accessible, easily interpretable
Idealized policy goals

1. Reduce overall negative environmental and social outcomes of toxic or hazardous substances
2. Provide high-quality data in a user-friendly manner to stakeholders
3. Act as a right-to-know tool to inform stakeholders, thereby serving as a vector for development and formation of strong policy
Pollution reduction

• Quantitative Reductions:
  • 27% between 1993 and 1999 (1)
  • 15% between 1993 and 2003 (2)
  • Have plateaued over last decade (3)

• However this has been increasing average toxicity levels (1, 2)

• Mass releases are only a ‘coarse indicator’ of actual effects, do not represent risk trends

• Contravenes policy goals 2 (risk management) and 5 (public understanding)
Measuring outcomes

• Toxicity consideration
• NPRI excludes high-volume and low-toxicity pollutants (1)
• Pollution prevention targets the efficiency of a process
• Pollution control aims to treat waste of the source (i.e. end-of-pipe)

• Proposal: Shift in governing philosophy from pollution prevention to pollution reduction outcomes
Data quality

• Data reliability is comprised of data completeness and accuracy
  • Current manner of reporting is rife with issues (4,5,6,7)

• Completeness: Program emission data collected vs. actual emission data
  • Expansion of coverage requirements
  • Removal of reporting exemptions

• PRTRs mature, they cover a wider range and breadth of both chemicals and facilities, while thresholds are lowered
Data quality

• Accuracy: Data points within the dataset
  • Validation: assures regulation mechanisms are working as intended
  • Verifiction: assures regulation mechanisms are properly designed

• NPRI asks facilities to ‘best available’ methods
  • Changes are permitted over temporal and spatial scales

• Non-standardized self-reported methods limit direct comparisons across regions and industries (7,8,9).
  • Changes in estimation methods at the facility-level can make comparisons across sources and years impossible (10)
Data quality

• NPRI has no stated policy goal specific to the quality of information collected
  • NPRI procedures are very rarely verified (11)
• Conclusion: Data collection methods at the facility-level can pose challenges for government policy design due to inconsistency
• Proposal: Inclusion of uncertainty metric in reported data
• Proposal: Greater focus on verification through monitoring and enforcement
Informing stakeholders

• PRTRs are designed to promote public right-to-know
  • Need to extend past the industry & government, involve multiple stakeholder groups

• Knowledge and awareness of NPRI is low and proper use of data is even lower (4,11,12)

• Current form of NPRI fails to improve public understanding

• Proposal: Need for greater ease of access to data, this would address policy goal 4 (encouraging action) and 5 (public understanding)
Stakeholder pressures

• Pressures for changing environmental performance can be both bottom-up and top-down
  • Bottom-up: Environmentally-concious consumers are more likely to exert pressures on facilities
  • Top-down: Boards of Directors (or other management) giving directives to improve performance

• Conclusion: Despite NPRI being a environmental and social policy tool, economic factors drive adoption of higher environmental performance
Return to data quality

• Policy formation depending on targeting pollution prevention

• Those familiar with using the data have noted issues – e.g. data is not model-ready (5)

• Development of targeted regulation mechanisms requires patterns of pollutant releases and the data to be publicly available
Conclusions

• NPRI has a role to play as a very important public policy tool
• Literature suggests multiple ways for NPRI to address data reliability
• PRTRs work best paired with command-and-control regulations
• Economic factors are biggest pressures for the adoption of higher environmental performance by firms
• Rating releases by mass instead of toxicity creates a disconnect between understanding and actual effects
• Need for change in governing philosophy from pollution prevention to outcome-based decision making
Sources


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