An overview of Canada's NPRI program as a polution control policy tool

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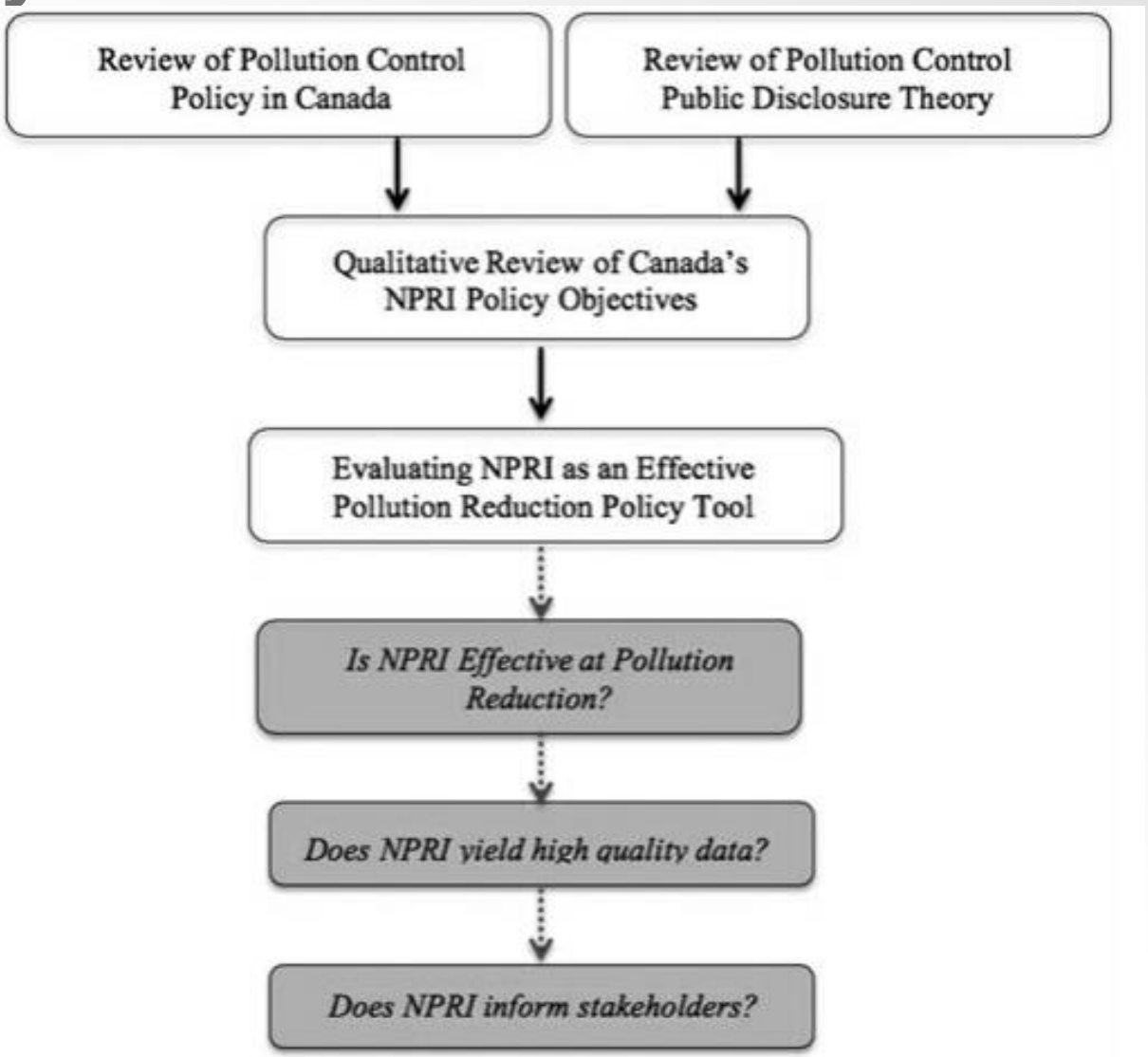
Analysis Flow



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 reliabilty and accessibility neccesary for proper use; data pertinance 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 permited over temporial and spatial scales
- Non-standardized self-reported methods limit direct comparisions 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 exend 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

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