



Canadian Centre  
for Pollution Prevention

*Leaders in Shaping the Future of Consumption and Production*

# Pollution Prevention Feasibility Study City of Edmonton

## ***Presented by:***

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# EDMONTON



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## Capital of Alberta



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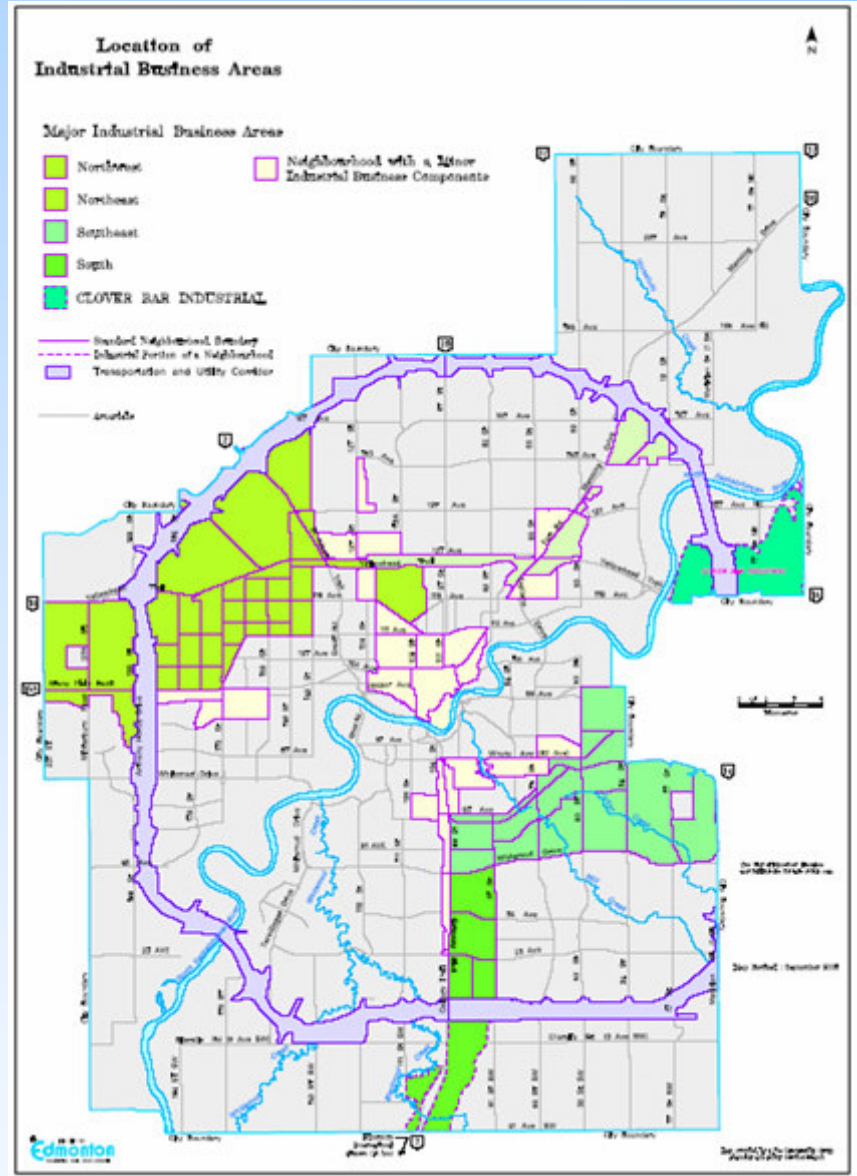
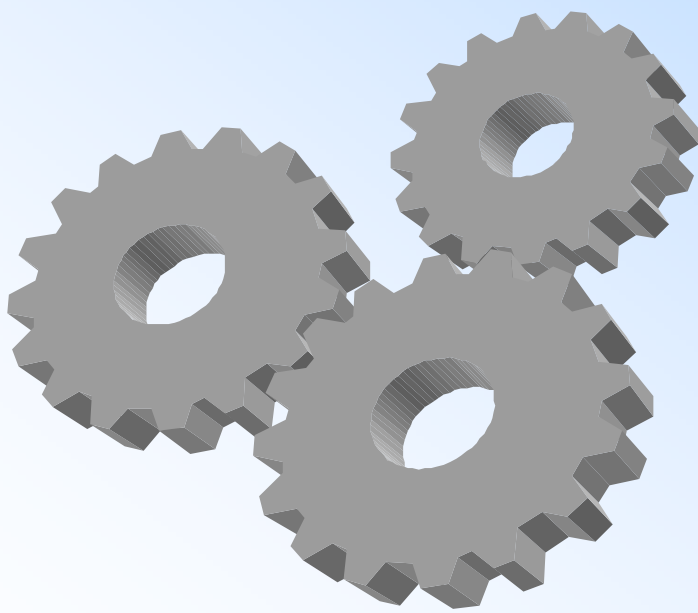
## Canada's Fifth Largest City

- Metro Population of 1,034,945 (2006)
- Greater Edmonton has led the nation in economic growth in the past five years.

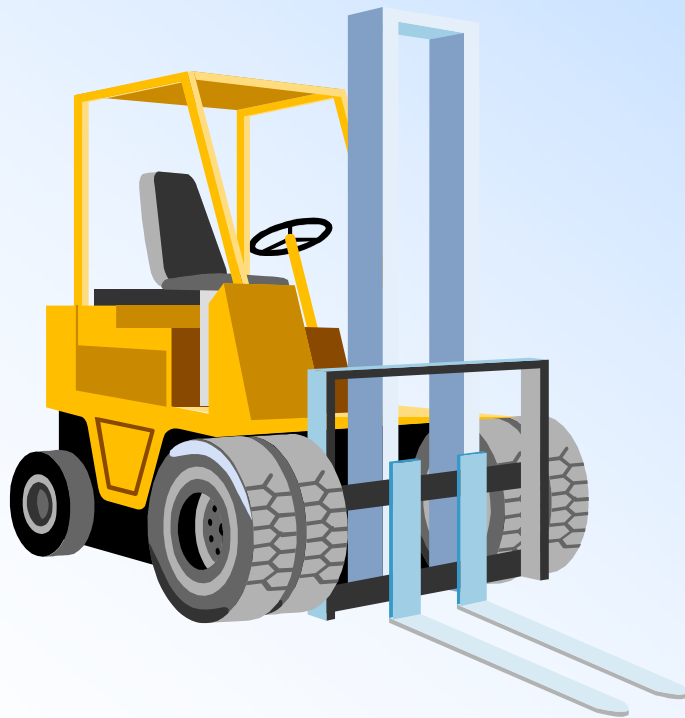


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## Industrial Areas



## Small Businesses Dominate



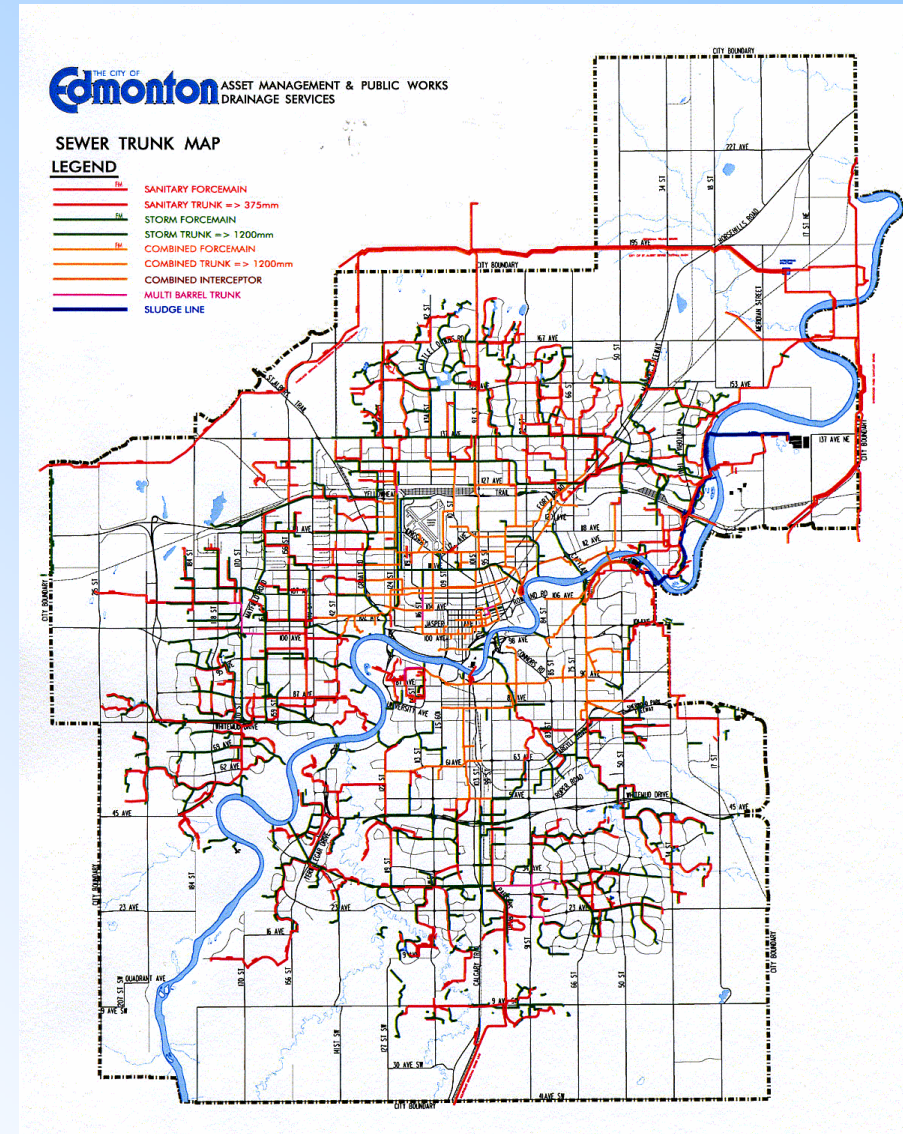
### By Employee Size Range and Year

Employee Size Range	2005
1-4 employees	22,208
5-9 employees	7,501
10-19 employees	5,404
20-49 employees	3,869
50-99 employees	1,425
100-199 employees	706
200-499 employees	338
500 + employees	127
<b>Grand Total</b>	<b>41,578</b>

Source: Statistics Canada, Canadian Business Patterns

## Drainage

- 4,900 km of sewers
- 61,355 manholes
- 49,549 catch basins
- 69 pump stations
- 1 advanced treatment plant



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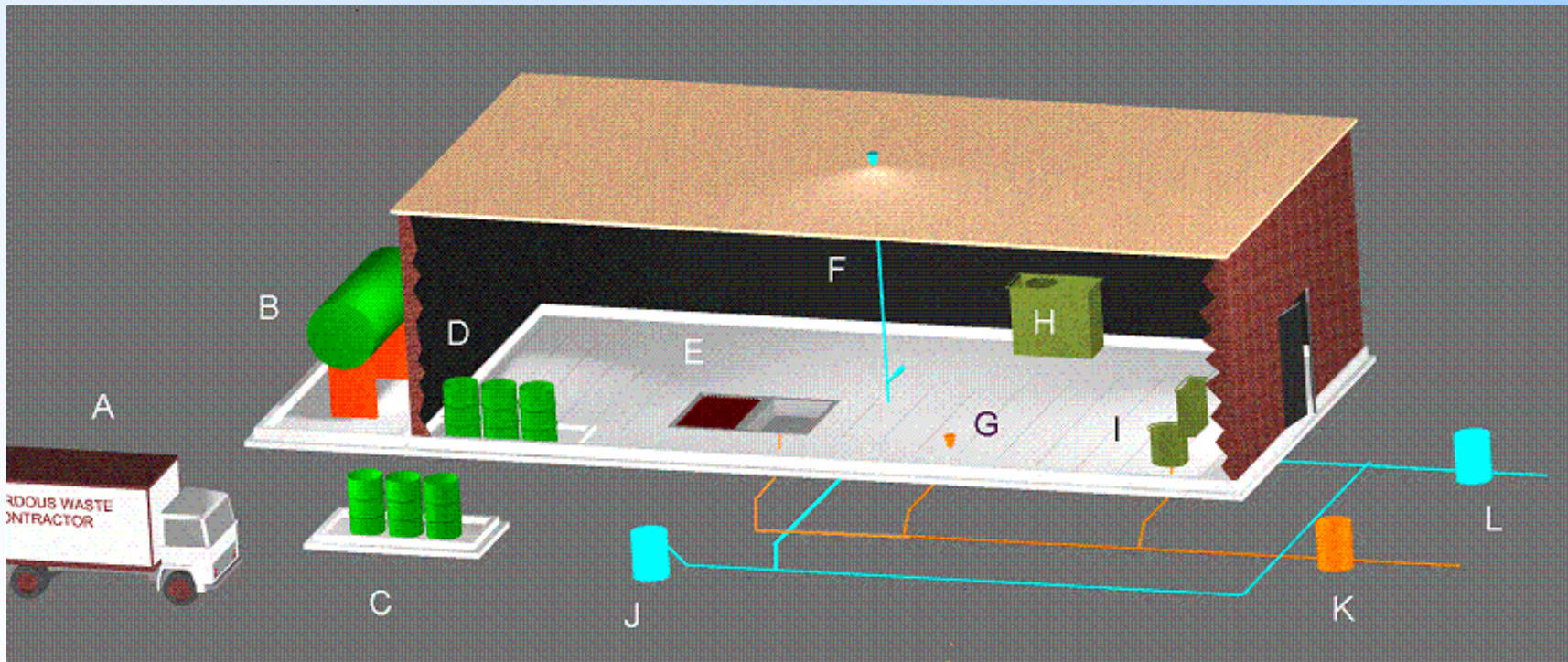
## **Storm Sewer Issues**



Mill Creek 2001



## Industrial Drainage



## Storm Drains



- Outside Drains
- Rain
- Snow Melt
- Spills
- Flows to River
- No Treatment

## Sanitary Sewer Issues

- Two Treatment Plant Upsets Due to Diesel Fuel Releases
- Large Solvent Release
- Odour Complaints
- Sewer Explosion
- Heavy Metal Concentrations



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# **Sewer Explosion**

## **Louisville 1981**



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## Plant Upsets



## Sanitary Drains

- Inside Drains
- Sinks
- Sumps
- Drain to Sanitary Sewer
- Treated at WWTP



## Solutions

- End-of-Pipe Treatment
- Sewers Use Bylaw Enforcement
- Public Education
- Technical Assistance



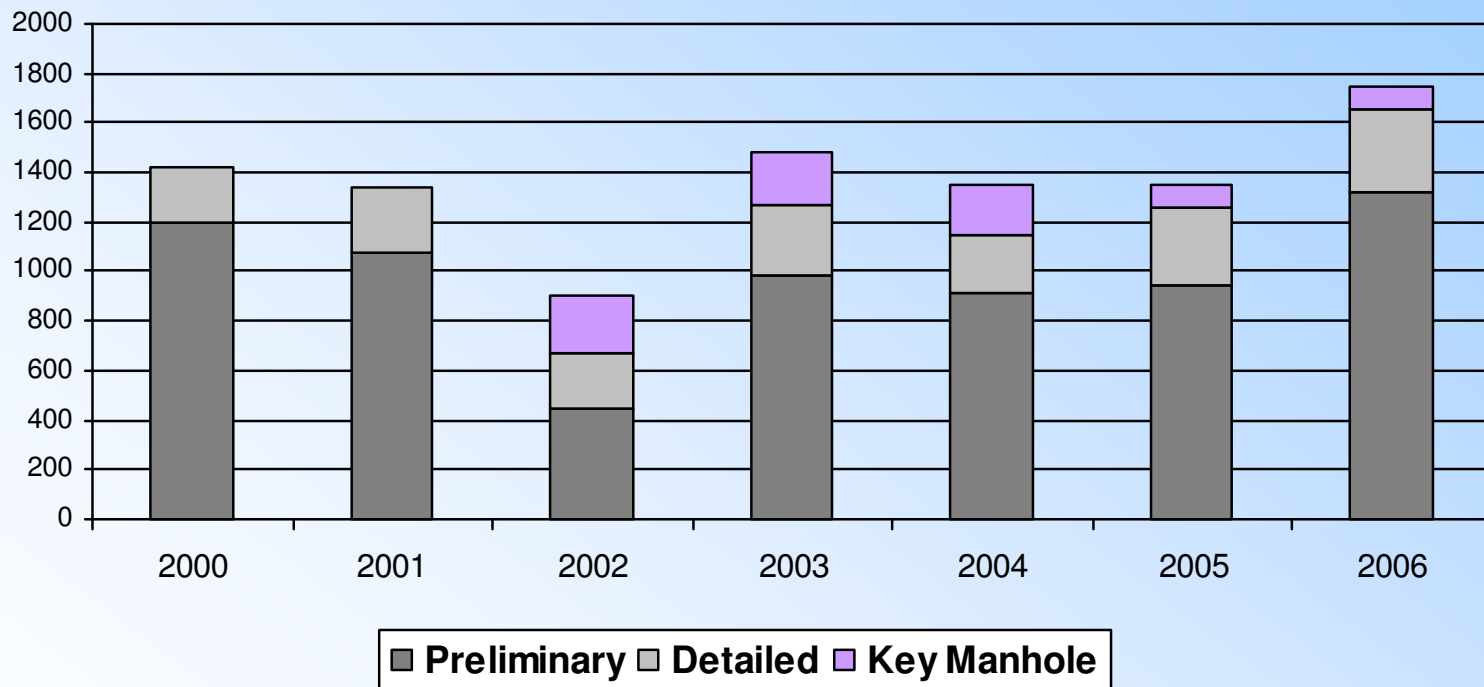
## Bylaw Enforcement

- Inspections
- Monitoring
- Violation Notices
- Fines up to \$10,000



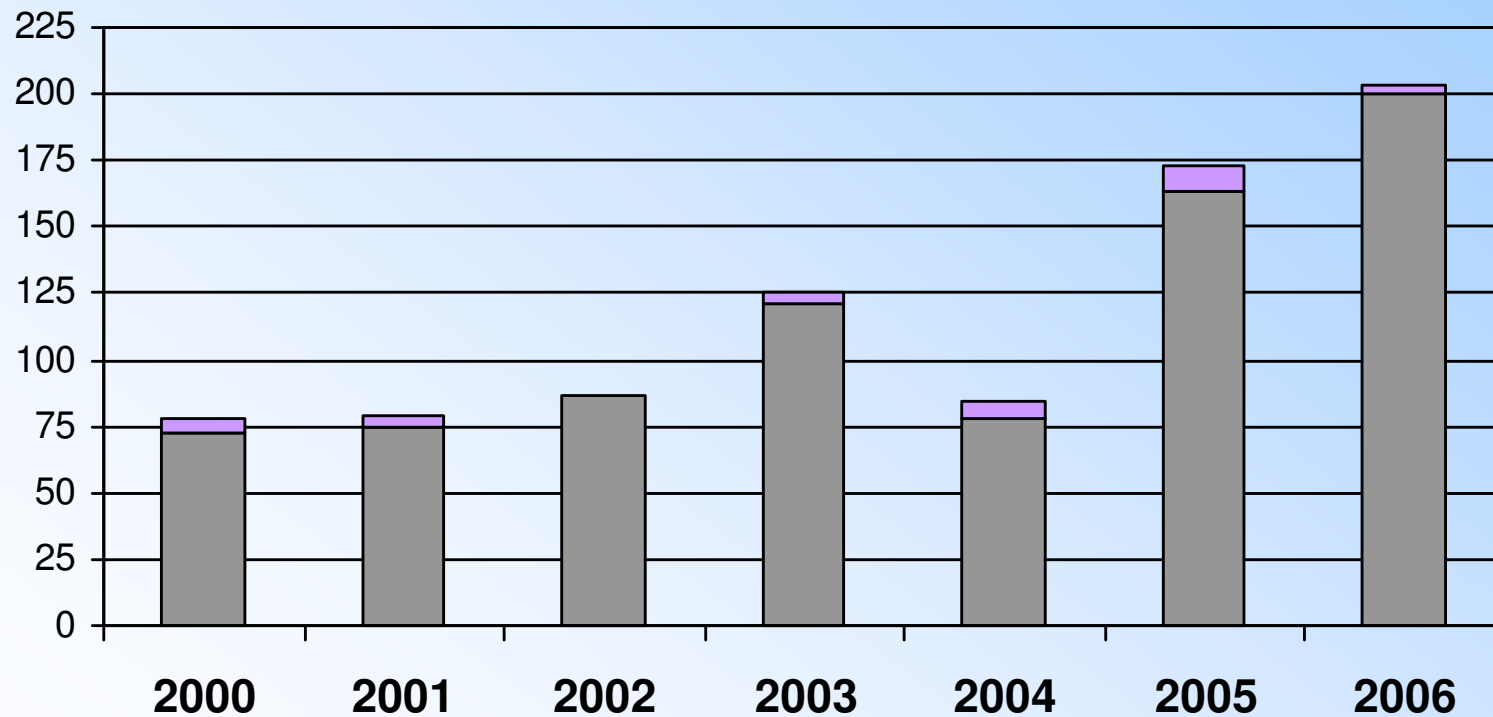
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## Inspections



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## Fines and Warnings



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## Education


- Site Visits
- Web Page
- Pamphlets
- Media Releases



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# **Technical Assistance**





What are the expected outcomes of a pollution prevention technical assistance program?

How can 'we' help SMEs implement P2?

# Areas Where Policies and Programs Can Help with P2 Implementation

Continual Improvement

Monitoring & Reporting

**Implementation**

Action Plan

Planning

Assessment

Internal Resources

Commitment

Knowledge

Awareness

# Areas Where Financial Incentives Can Help with P2 Implementation



# Feasibility Study Process

## **Characterization of SMEs in Southeast Edmonton:**

- Database to assess composition
- Survey to assess P2 information, training and technical assistance needs

## **Information Review:**

- SME programs in other jurisdictions
- Potential partners
- Potential services

## **Stakeholder Workshop:**

- Present results from characterization
- Present results from information review
- Facilitate discussion on options for promoting P2 amongst sewerage system users

## **Feasibility Study and Business Plan**



# Survey Findings

- SME composition
- Use of P2 practices
- Challenges to improving Environmental Performance
- Perceived value of P2 technical assistance
- Provider of P2 technical assistance



# Workshop Findings

- Reaching SMEs
- One Window Approach
- Delivery Agent for technical assistance program
- Collaboration with neighbouring municipalities
- Partnership opportunities:
  - Federal / Provincial / Local



# Discussion Topics

- **Type of Assistance Offered**

- Are there differences between what motivates a commercial SME versus what motivates an industrial SME to implement a P2 approach?



# Discussion Topics

## ■ **One Window Approach**

- Who owns the window?
- What services does the window provide?
- How much is needed to sustain the window?
- What role can the municipal inspector play?



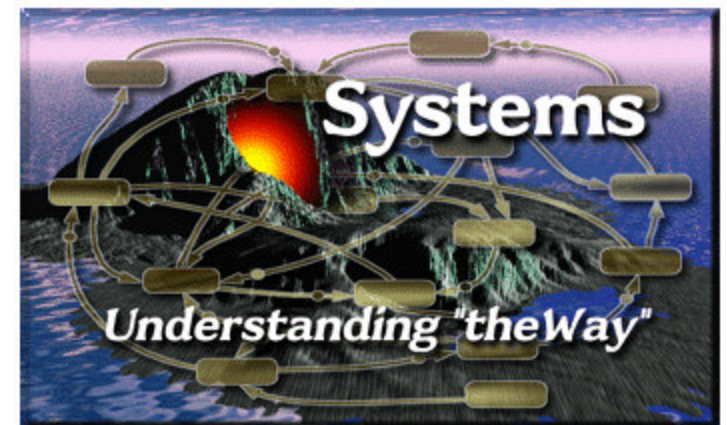
# Discussion Topics

## ■ Partnership opportunities

- What strategies are there for formulating multi-stakeholder partnerships that will serve to support a P2 program?
  - Short-term: pilot phase of the program
  - Long-term: full operational capacity and sustainment

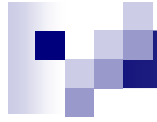
# Required Program Elements

- Incentives to Encourage SME Engagement
- Partnerships / Strategy for Sustaining Efforts
- Marketing Strategy
- P2 Information and Training to Address Needs
- Technical Assistance  
(Assessment/Implementation)
- Measurement
- Recognition





Thank-you!



# Extra Slides



# Survey Purpose and Design

- Purpose of Survey

- to assess the information, training and technical assistance needs of small and medium sized enterprises (SMEs) operating in Southeast Edmonton's industrial area to adopt pollution prevention practices

- Survey Design

- The survey comprised of 13 questions and was designed to be completed online by the respondents:

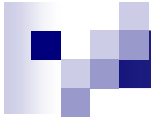
- Survey Response Rate

- 59 out of 284 = 21%



# Barriers to Implementation

- Lack information on P2 opportunities
- Don't understand current processes and possible savings and cost avoidance
- Don't recognize benefits of reduced business risk
- Not competitive with low resource/utility costs
- Lack time and human resources to explore site specific opportunities
- Lack initial capital for investment
- Customer specifications



**PUSH**



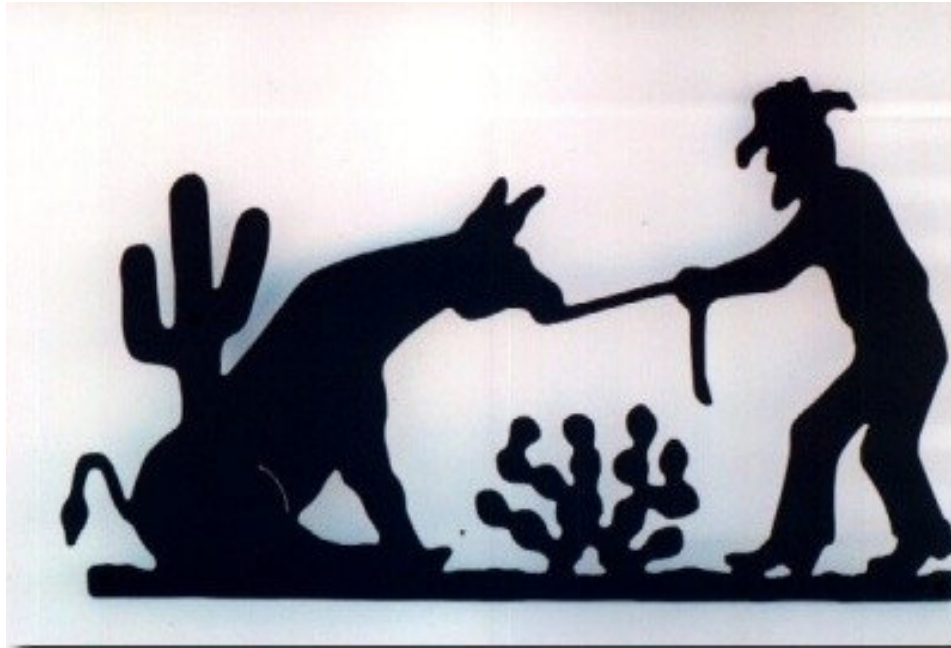
**PULL**

**Regulations**

**Monitoring &  
Reporting  
Requirements**

**Business Risk  
Reduction**

**Increasing costs of  
resources, utilities  
& waste management**



**Customer  
demands**

**Financial  
incentives**

**Cost  
savings**

**Positive  
Press**

**Environmental  
Improvements**