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**A Brief History  
of  
Pollution Prevention  
June 12, 2000**

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**Our Mission is . . .**

. . . to make the prevention of pollution *truly* the environmental management tool of *first* choice for environmental regulatory agencies, regulated and non-regulated companies and citizens in Colorado!




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**We hold these truths . . .**

- Command & control is the foundation.
- Pollution prevention works & pays.
- Voluntary performance is superior.
- People & organizations want to do the right thing.
- Compliance is the floor, not the ceiling.
- Compliance + Growth = Degradation.




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**Pollution Prevention**

- . . . means source reduction, and other practices that reduce or eliminate the creation of pollutants through increased efficiency in the use of raw materials, energy, water, or other resources and protection of natural resources by conservation



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## Definition continued . .

- Pollution prevention includes on-site closed loop or process-related recycling/reuse, and does not include off-site or non-process related recycling, incineration, treatment, or pollution control.

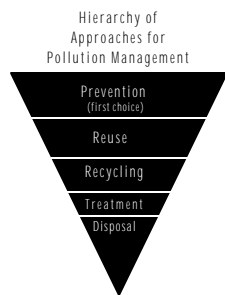


## Pollution Prevention Policy

- ⇒ National 1990 P2 Act: "Pollution should be prevented or reduced at the source whenever feasible."
- ⇒ Colorado 1992 P2 Act: "The state policy of Colorado shall be that pollution prevention is the environmental management tool of first choice."



## Waste Management Hierarchy



## Pollution Prevention Policy

- ⇒ CDPHE 1993 Policy: " Support pollution prevention as the environmental management tool of first choice."



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## P2 Evolving - Barriers

- ⇒ Legal
- ⇒ Financial
- ⇒ Organizational
- ⇒ Behavioral



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## P2 Evolving . . .

- ⇒ Materials Efficiency / Productivity
- ⇒ Environmental Management Systems
- ⇒ Quality
- ⇒ Business System Integration
- ⇒ Offsite Impacts



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## P2 Evolving - Successes

- ⇒ The Performance Partnership Agreement:  
P2 = A Cross Cutting Theme
- ⇒ Job Descriptions of Senior Management
- ⇒ The "P2 Link"
- ⇒ Compliance Assistance includes P2
- ⇒ P2 in SEPS
- ⇒ Champions emerging



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## P2 Evolving

- ⇒ Design for Environment / Life Cycle
- ⇒ Non-point, non-manufacturing
- ⇒ Industrial Ecology
- ⇒ Sustainability
- ⇒ Natural Capitalism
- ⇒ . . . . .



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## Hallmarks of Colorado P2

- ⇒ Prevention
- ⇒ Multi-media
- ⇒ Partnerships
- ⇒ Incentives
- ⇒ Voluntary



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## The CDPHE P2 Program

- ⇒ Partnering -- supporting external initiatives
- ⇒ Incentives -- Governor's Challenge



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## The CDPHE P2 Program

- ⇒ Regulatory Integration - making every interaction with a facility an opportunity to transfer & promote P2 practices
- ⇒ Technical Assistance -- by phone, on site
- ⇒ Grants Program -- to seed pervasive change in local communities, trade associations, schools and non-profits



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## Regulatory Integration

- ⇒ P2 Link
- ⇒ Performance Partnership Agreement
- ⇒ The SPRINT Project
- ⇒ The Compass Project



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## SPRINT

- ⇒ State Pollution prevention Regulatory **INT**egration Initiative
- ⇒ Tellus Institute - Boston
- ⇒ Funding from Heinz Endowments, Pew Charitable Trusts, States
- ⇒ Phase I - Best Practice Case Study Compendium, 1997-1998, \$150,000



## GOALS OF SPRINT

- To truly integrate prevention into CDPHE by making it:
  - ⇒ Systemic
  - ⇒ Comprehensive
  - ⇒ Quantifiable



## SPRINT

- ⇒ Phase II of Tellus Institute Project 1999-2001 ~ \$550,000/2 yrs
- ⇒ Colorado - one of four participating states: Ohio, Pennsylvania, Florida



## The COMPASS Project

- ⇒ Two-year project to develop a *system* to measure environmental results of *all* compliance activities
- ⇒ Funded by HQ EPA: \$322,940; Colorado match: \$107,646
- ⇒ Staffed by multi-media CDPHE team with EPA personnel loan



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## Goals of COMPASS

- ⇒ More holistic, systematic evaluation of all environmental programs
- ⇒ Provide executive, senior, and program management as well as staff and external stakeholders with information to measure effectiveness, manage resources



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## Technical Assistance: Research Inquiries

- ⇒ Literature
- ⇒ Websites
- ⇒ Listserves



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## Technical Assistance: Customers

- ⇒ Colorado Companies
- ⇒ CDPHE Staff
- ⇒ Other State Agencies
- ⇒ Local Governments



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## Technical Assistance: Workshops

- ⇒ Total Quality Management & the Environment
- ⇒ Total Cost Accounting
- ⇒ Material Productivity
- ⇒ Vehicle Maintenance
- ⇒ Metal Finishing



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## Technical Assistance: On-site Assessments

- ⇒ Non-enforcement
- ⇒ Confidential
- ⇒ Research
- ⇒ Assessment Report
- ⇒ Follow-up



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## Technical Assistance: Key Topics Addressed

- ⇒ Material Efficiency / Productivity
- ⇒ Toxic Use Reduction
- ⇒ Energy Efficiency
- ⇒ Water Efficiency



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## Technical Assistance: Key Topics Addressed

- ⇒ Management Support
- ⇒ Employee Involvement
- ⇒ Environmental Management Systems
- ⇒ Quality Program - Process Analysis
- ⇒ Environmental Cost Accounting



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## Technical Assistance: Networking

- ⇒ P3
- ⇒ Governor's Challenge
- ⇒ Environmental Leadership Program
- ⇒ Trade Associations
- ⇒ EPA Programs (Climatewise, Wastewise)
- ⇒ Local Programs (Pace - Boulder)



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## P2 Grants Program

- ⇒ ~\$95,000/yr collected from facilities that report under SARA Title III
- ⇒ Eligible projects = technical assistance and outreach, education
- ⇒ Eligible recipients = just about everyone



## P2 Grants Program: The Process

- ⇒ Fee data entry - P2 staff
- ⇒ Fee computation & collection - P2 staff
- ⇒ RFP development - P2 staff, CDPHE Purchasing & PPAB
- ⇒ RFP Notification & Distribution - P2 staff, CDPHE Purchasing



## P2 Grants Program: 1993-1999

- ⇒ 159 Proposals Reviewed
- ⇒ 47 grants awarded (30%)
- ⇒ \$425,320 awarded (23%)
- ⇒ diversity
- ⇒ statewide



## P2 Grants Program: The Process

- ⇒ Manage bid process - P2 Staff, CDPHE Purchasing
- ⇒ Select grant recipients - PPAB
- ⇒ Develop/Administer Contracts - P2 Staff
- ⇒ Project Oversight - P2 Staff





## P2 Partners

- ⇒ Pollution Prevention Partnership
- ⇒ Northeast Metro P2 Alliance
- ⇒ CO Environmental Business Alliance
- ⇒ League of Women Voters
- ⇒ Environmental Management Model for the Ski Industry



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## Governor's P2 Challenge Program

- ⇒ Since 1993
- ⇒ Invitations to the top 40 TRI and Biennial Hazardous Waste Reporters
- ⇒ Requesting voluntary stretch commitments to pollution reductions through P2



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## P2 Partners: Local Government

- |                         |   |
|-------------------------|---|
| ■ Boulder County        | ■ Mesa County   |
| ■ City of Boulder       | ■ Northeast Colorado  |
| ■ City/County of Denver | ■ Pueblo  |
| ■ Ft. Collins           | ■ Tri-County  |
| ■ El Paso County        | ■ Weld  |
| ■ Jefferson County      | ■ Municipal Waste Water - Broomfield, Denver Metro, Greeley, Longmont |
| ■ Larimer County        |   |



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## Governor's P2 Challenge Program

- ⇒ No thresholds
- ⇒ Today: 25-30 participants



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## Governor's P2 Challenge Program

### What we give:

- ⇒ technical assistance
- ⇒ facilitated peer exchange
- ⇒ workshops
- ⇒ recognition



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## Governor's P2 Challenge Program

- ⇒ 3 companies saved 139,500,000 gallons/year of water
- ⇒ 4 companies saved 1,840,000 BTU's



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## Governor's P2 Challenge Program

### What We Get:

- ⇒ 8 companies reduced TRI releases by 1,780,000 lbs/year.
- ⇒ 12 companies reduced hazardous waste generation by 6,250,000 lbs/year
- ⇒ 7 companies reduced disposal of 225,447,000/yr lbs of solid waste



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## Governor's P2 Challenge Program

### \$\$ What Participants Get \$\$:

- ⇒ 8 companies reported savings of \$1.5 million, averaging \$125,000 per year
- ⇒ 1 company reported annual savings of \$10.5 million
- ⇒ 4 companies reported energy savings worth \$8.7 million/year



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## P2 Program: The Facts

- ⇒ 5.35 FTE
- ⇒ Located in Executive Director's Office
- ⇒ Reports to Director, Environmental Programs
- ⇒ includes SARA & COMPASS
- ⇒ \$581,311 total budget, includes SARA & contracts for special projects



## Annual Budget = FY2000 \$581,311

- ⇒ PPIS = \$107,167
- ⇒ PPG (P2) = \$82,546
- ⇒ PPG (SARA) = \$81,912
- ⇒ Ski Grant = \$58,216
- ⇒ Compass = \$ 161,470
- ⇒ Fees for grants = ~\$90,000

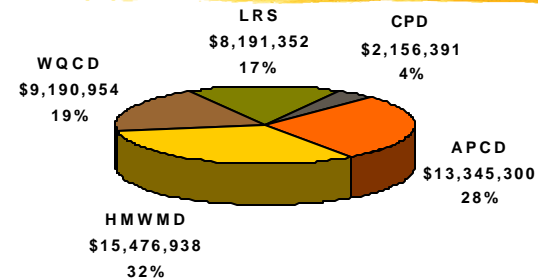


## Staffing = 5.35 FTE

- ⇒ Parry Burnap, Manager (.8)
- ⇒ Kirk Mills, Engineer, SARA Coordinator (1)
- ⇒ Neil Kolwey, Engineer (.75)
- ⇒ Kathy Dale, Grants Specialist (1)
- ⇒ Ann Lee, Administrative Support, SARA Data Entry (1)
- ⇒ Judy Heckman Prouty, COMPASS (1)



## Environmental Divisions FY 99-00 Appropriated Funding (all sources)



**Total Appropriations  
\$48,360,935**



## The Role of the PPAB

- Overall policy guidance, coordination, & advice to CDPHE on P2 activities
  - ⇒ P2 Stakeholder for the development of the performance Partnership Agreement with the EPA
  - ⇒ Advisor on Development of Environmental Leadership Legislation
  - ⇒ Funding Strategies



## The Role of the PPAB

- ⇒ Community Leadership
- ⇒ Promotion of P2 Within Represented Organizations



## The Role of the PPAB

- Grants Program Direction
  - ⇒ RFP Development/Prioritization
  - ⇒ Project Selection



## Future Challenges

- ⇒ Measurement
- ⇒ Funding
- ⇒ Keeping pace with advancements in environmental management
- ⇒ Intergovernmental coordination & harmony
- ⇒ Intra-agency coordination & harmony



## The SARA Program

- ⇒ Superfund Amendments & Reauthorization Act (SARA)
- ⇒ 40 CFR Parts 350-372
- ⇒ Also Known As: "Emergency Planning & Community Right-to-know Act" (EPCRA)



## The SARA Program: Tier II Reporting

- ⇒ Chemical Inventories Above Certain Thresholds Are Reported
- ⇒ Reports Submitted to CDPHE, Local Emergency Planning Committee's (LEPC's) And Fire Departments
- ⇒ Entered Into Sara Database For P2 Fees And Report to LEPC's



## SARA Program Activities

- ⇒ Assistance and Information to Regulated Facilities, Emergency Response Community, Citizens and Internal/External Government Agencies
- ⇒ Oversight of P2 Fee Computation & Collection
- ⇒ Data Analysis and Program Evaluation



## The SARA Program: Toxic Release Inventory (TRI)

- ⇒ If Manufacture or Use Certain Chemicals Above Thresholds, Report Wastes And Releases to CDPHE And USEPA
- ⇒ Data Also Entered Into SARA Database For P2 Fees
- ⇒ Used to Target Resources & Programs, e.g. (Governor's Challenge)

