

PHC CWS Analytical Methods

Workshop II

November 18/02

Nisku, AB



Environment
Canada

Environnement
Canada

CCME = Canadian Council of Ministers of the Environment

- **Intergovernmental council**
- **14 ministers of environment**
- **Forum for joint discussion and action**
- **Issues of intergovernmental nature and national significance**
- **Consensus-based decision making**
- **Equal membership, Chair rotates**
- **Collective workplans**
- **historically, voluntary implementation of products**

Canada-wide Environmental Standards Sub-Agreement

Key features:

- departure from guidelines approach
 - greater public participation
 - sustainable development considerations
 - commitment to attain
 - public reporting
- integration with other processes
- implementation plans

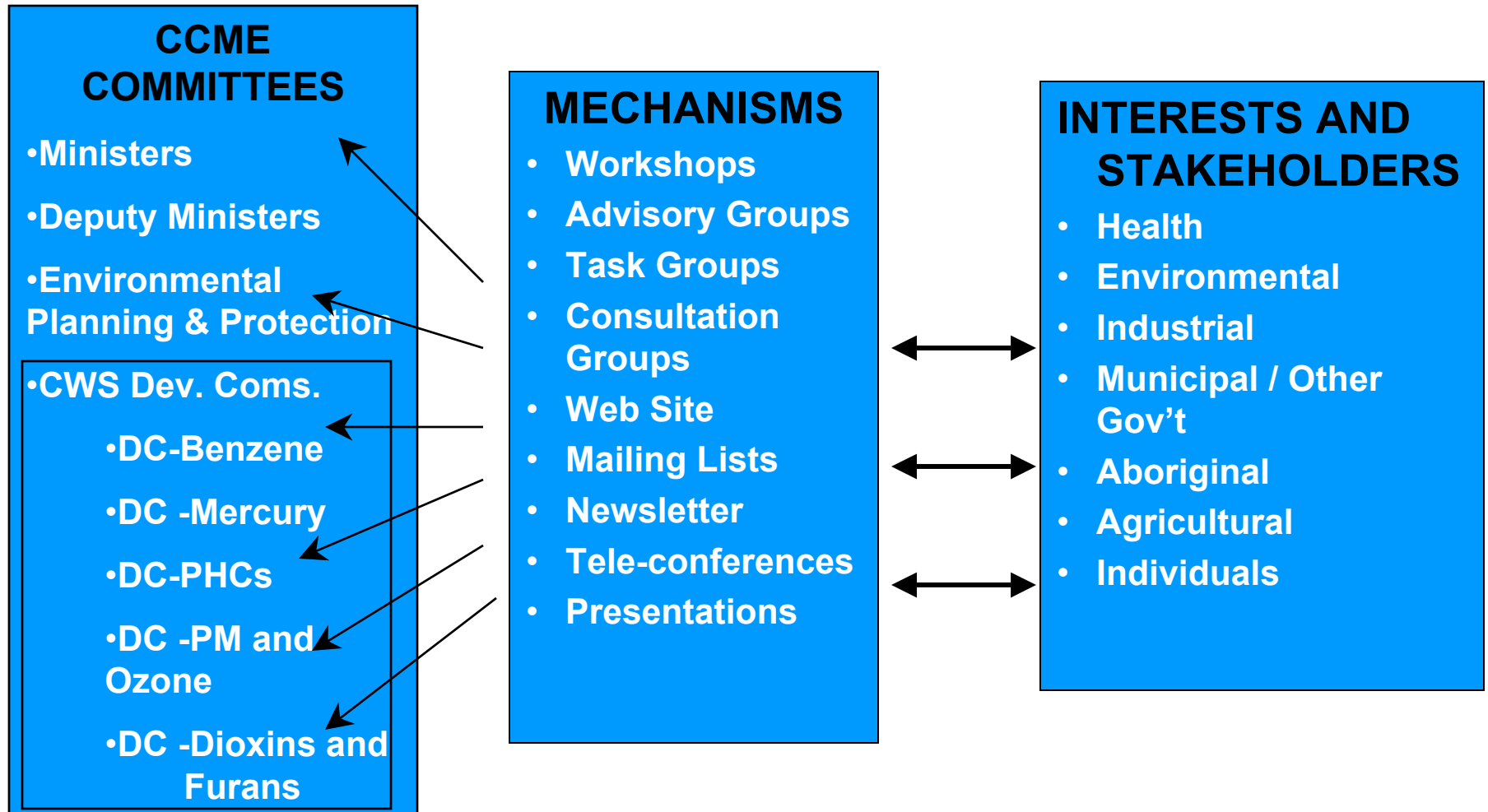
PHC: Environmental Concerns

- **fire/explosion hazard**
- **toxicity**
- **mobility**
 - within soil
 - to air, water
- **persistence**
 - particularly large, heavily branched and/or polyaromatic forms
- **aesthetics**
 - appearance, odour, feel of soil, water and air
- **soil degradation**
 - water retention and release

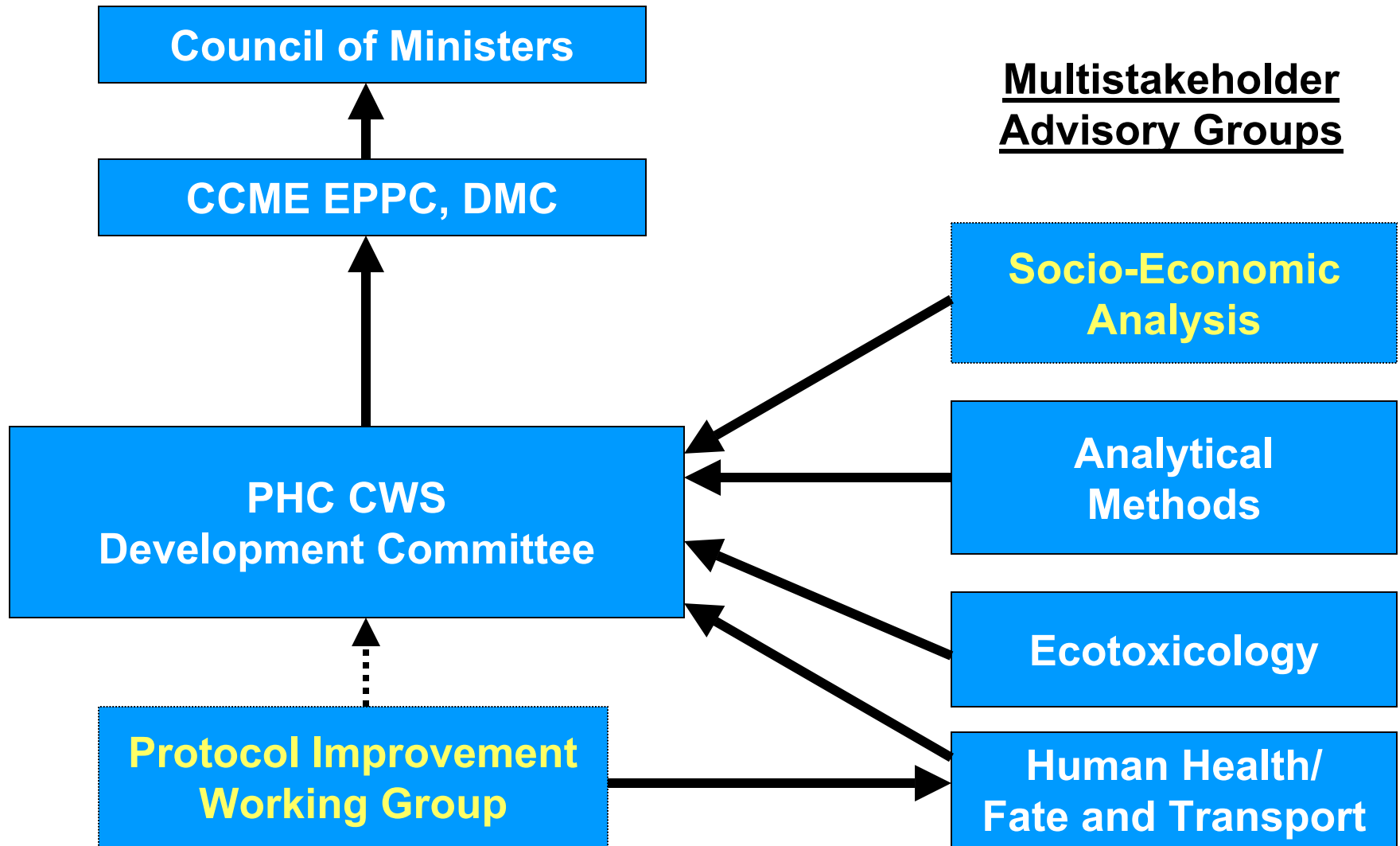
Why a CWS for PHC?

- **Prevalence, environmental risks, remedial costs**
- **Historically, little consistency among jurisdictions in:**
 - approach to assessment
 - management benchmarks
 - analytical methods
- **Resulting in:**
 - non-comparability of data
 - confusion for stakeholders
 - imprecise (under- and over-) management
- ***There is a need for greater consistency, predictability and reliability in PHC management across Canada***

CONSULTATION AND THE CCME



PHC CWS Development

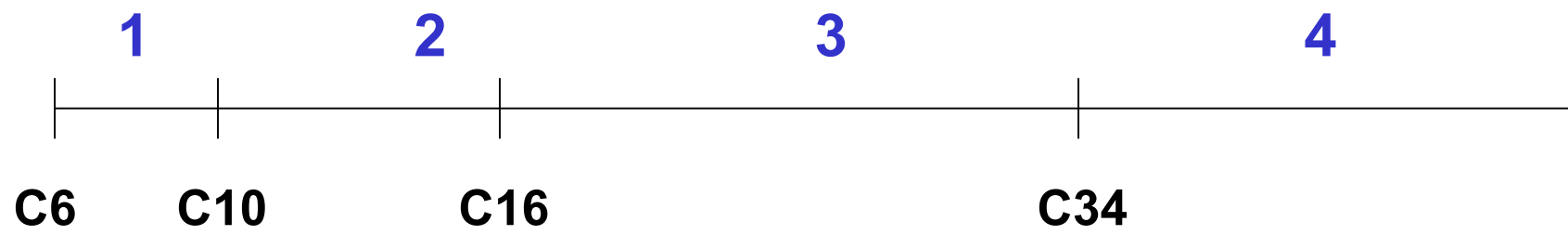


PHC CWS -- Features

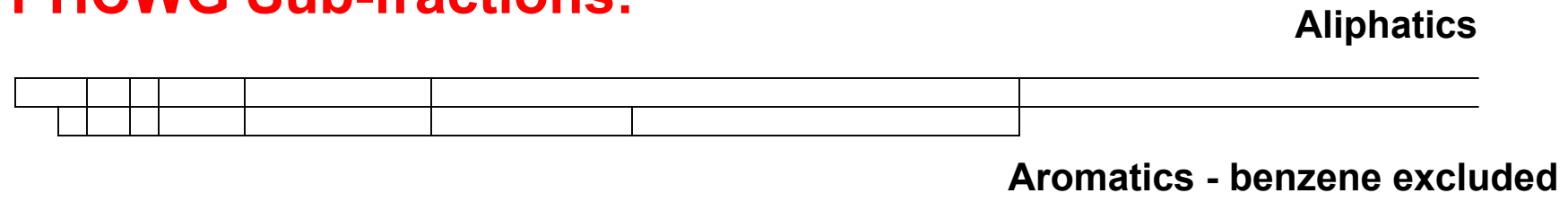
- **Risk-based remedial standard focused on approach and results**
 - jurisdictions address sites as they become priorities
- **Three tiers with consistent protection at all tiers**
- **Different numerical Tier 1 levels for different land uses and four petroleum hydrocarbon fractions**
- **Coarse, fine textures; soil and subsoil**
- **Jurisdictions must report to public and Ministers on specific implementation actions**

Grouping TPHCWG Sub-fractions

CCME Fractions:



TPHCWG Sub-fractions:



CCME Analytical Method

- **Prescriptive and performance based elements covering sample preservation through data reporting**
- **C6 - C50+ as appropriate -- C6-C10 MeOH extract, C10-C50+ hexane/acetone extract**
- **Chromatographic and gravimetric procedures**
- ***Extended, high temperature chromatography is an option***
- ***Background chromatographic correction is an option (alt. to silica gel)***

PHC CWS:

Benefits

- **Improved environmental and human health protection as a result of:**
 - **documented science-based approach**
 - **consistent analytical assessment**
 - **risk assessed on basis of fractions that correlate with environmental fate and behaviour**
- **Practical standard encourages remediation**
- **Tiered framework encourages incorporation of site-specific information**
- **Level playing field for responsible parties**

PHC CWS Implementation

- **Adoption/adaptation of analytical methodology**
- **Incorporation of CWS into regulatory tools and programs -- e.g., in Alberta:**
 - **Soil Monitoring in Approvals**
 - **Code of Practice for Land Treatment and Disposal of Soil Containing Hydrocarbons**
 - **Petroleum Storage Tank Guidelines**
 - **Reclamation/Remediation Guidance**
 - **some EUB guidelines (e.g., G50)**
- **Must track and report on implementation success**
 - **reporting to Ministers every 5 years beginning in 2003**

Workshop Objectives I

- **Review PHC CWS development, implementation, analytical features and Alberta response to date**
- **Examine design and results of recent CAEAL multilaboratory study of PHC CWS analytical method**
- **Share experience in working with the PHC CWS analytical method**

Workshop Objectives II

- **Describe and evaluate options for validation of performance-based procedures**
- **Identify and prioritize candidate performance-based procedures**
- **Consolidate output and develop recommendations**

Proposed Approach

- **Seek consensus**
- **Everyone has a right to be heard; all have a responsibility to listen**
- **Document outcomes in short proceedings**
– review by participants prior to release
- **AENV to consider recommendations in timely fashion**
- **On-going consultation/communication**
- **No hitting, gouging, kicking or spitting**