1. Identify your reporting boundaries
2. Select your facilities based on your boundaries
3. Organize and collect data on emission sources
4. Quantify and report emissions
5. Verify by independent third-party
Step 1: Identify your reporting boundaries

Where do your emissions occur spatially? North America? Globally?

Which emissions do you include in your inventory? Financial and/or operational control?

Which greenhouse gases and scopes are included in your inventory?
Step 2: Determine specific facilities based on your boundaries

**Stationary** – warehouse, retail store, manufacturing plant, office building

**Mobile** – passenger cars, train fleet, tractors, marine vessels, aircraft, “special facilities” including oil and gas wells, pipelines, electricity transmission and distribution systems, and water conveyance systems
Step 3: Organize and collect data on emission sources

- **Scope 1 emissions**
  - ✓ mobile combustion from vehicles
  - ✓ fuel usage logs or annual mileage records

- **Scope 2 emissions**
  - ✓ purchased electricity and/or steam; heating or cooling
  - ✓ accounting records or obtain data from utility provider

- **Scope 3 emissions**
  - ✓ employee commuting or business travel
  - ✓ employee reimbursement forms and/or receipts
Step 4: Quantify and report emissions

**Activity Data:** the amount of fuel or material that, when used, causes GHGs

**Emission Factor (EF):** converts activity data into GHGs

**Global Warming Potential (GWP):** converts non-CO$_2$ emissions into CO$_2$e
Step 4: Quantify and report emissions
Step 5: Verify by independent third party

- Optional, but highly encouraged
- Ensures conformance with:
  - Reporting requirements
  - Principles (completeness, transparency, and accuracy)
  - Minimum quality standard
- Places credible data in the public domain
- TCR’s verification program is unique, robust, and requires verifiers to be accredited by ANSI (American National Standards Institute).
Water-Energy GHG Protocol

Source: http://words.usask.ca/sustainability/
Protocol Development Process

1. Research topic area & existing data
2. Relate to existing MRV best practices in GHG accounting
3. Propose MRV process for protocol
4. Open, consensus driven stakeholder process
5. Operationalize protocol in CRIS
Step 1: Research topic area & existing data

What unit of measurement?

What data is available?

How to account for water loss?

Source: http://www.iwawaterwiki.org/xwiki/bin/view/Articles/WaterSupplyNetwork
Step 2. Relate data to existing MRV best practices in GHG accounting

Organizational boundary?

Emission Factors?

Verification?

Source: Pacific Institute
Step 3. Propose MRV process for protocol

- Follow TCR’s GRP to develop a GHG Inventory
- Collect additional data
- Calculate water-energy inventory (Scope 3 emissions relevant to water)
- Calculate intensity metrics
- Enter data into CRIS
- Verify GHG data
Step 4: Open, consensus driven stakeholder process

Step 5: Operationalize protocol in CRIS

Source: www.ridgehead.com & www.clipart.com
Conclusion

Information: carbon data related to water conveyance and use in North America

Timeframe: 2016-17, WEG protocol will be updated periodically as new data and policy emerges.

Collaborate: share potential of available data and participate in stakeholder process