

What We've Learned

About Water Conservation, Efficiency and Productivity Sector Planning

October 30, 2009

Purpose of this Report

This *What We've Learned* report has been prepared by the Sector Planning for Water Conservation, Efficiency and Productivity Project Team (SP for CEP Team) to inform and update the Alberta Water Council and the public on progress toward developing and implementing water conservation, efficiency, and productivity (CEP) planning. It also highlights the challenges and issues that have arisen during the CEP planning process and the conversations happening at the project team table to address them. This report is divided into three sections. The first section provides some background information on previous CEP planning work and the role of the current SP for CEP Team. The second section provides a brief progress update from each sector currently developing a CEP Plan. The third section provides a description of challenges, issues, or areas requiring further guidance that the SP for CEP Project Team has been working to address. The team expects that additional “chapters” will be added to the third section of this document as their work progresses. The content, solutions, examples and obstacles contained within each “chapter” may also be updated over time.

I. Background

Water for Life has been the over-arching strategy for managing Alberta's water resources since 2003. It recognizes that our environment, our communities and our economic well-being are dependent on having healthy and sustainable water supplies. To this end, the strategy aims to achieve three goals:

- Safe, secure drinking water,
- Reliable, quality water supplies for a sustainable economy, and
- Healthy aquatic ecosystems.

The original *Water for Life* strategy (2003) states that “Albertans will be leaders in conservation by using water efficiently and effectively” and highlights conservation as a key direction by which the three goals of the strategy will be achieved. *Water for Life* also identifies a number of specific actions to advance water conservation in Alberta; two of which are directly relevant here. They are:

- Prepare water conservation and productivity plans for all water using sectors. (Medium term, to be completed by 2010), and
- Establish an on-going monitoring program to ensure all sectors are achieving water conservation and productivity objectives (Long-term, to be completed by 2014).

The Government of Alberta released *Water for Life: a Renewal* in November 2008 as an update of the original strategy. The renewed strategy maintains the original *Water for Life* strategy's focus on water conservation; one of the two key actions identified in the renewed strategy to advance water conservation is to "[e]ncourage all sectors to develop and implement sector plans for water conservation, efficiency and productivity." Therefore, work towards developing, implementing and monitoring water conservation, efficiency and productivity planning remains a priority and a meaningful way to advance *Water for Life* goals.

The Alberta Water Council has focused on advancing water conservation, efficiency and productivity sector planning (CEP planning) since 2006. To date, three different Council project teams have examined this topic, each building upon the others' work to advance water conservation, efficiency and productivity. They are:

The Water Conservation, Efficiency and Productivity Definitions Project Team

The Council's first team to examine the topic focused their work on defining the terms *conservation*, *efficiency* and *productivity* and identifying potential measures for each of them. Their work culminated in a final report titled, *Water Conservation, Efficiency and Productivity: Principles, Definitions, Performance Measures and Environmental Indicators*, which was completed and released to the public in January 2007. This work was intended to ensure that sectors shared a common understanding when discussing this topic and provided a solid foundation for future work toward CEP planning. The report can be found online at http://www.awchome.ca/Portals/0/pdfs/CEP_Definitions_Final_Report.pdf.

The Water Conservation, Efficiency and Productivity Sector Planning Project Team

The work of the Council's CEP Sector Planning Project Team focused on two key tasks: (1) developing an Annotated Table of Contents to guide the content of CEP sector plans, and (2) building a Framework for completing those plans. This team's final report, titled *Recommendations for Water Conservation, Efficiency and Productivity Sector Planning*, outlines the process for completing sector plans, recommends mechanisms for reviewing and reporting on the plans, and guides the content of CEP plans. The project team had representatives from seven key water using sectors who voluntarily committed to develop CEP plans for their sectors. This team also engaged two sectors to "test" their CEP Framework and Annotated Table of Contents. The irrigation sector and the urban municipal sector began work in mid-2008 toward completing their CEP plans. Since that time, the five remaining key water using sectors have started work on their CEP plans. This team's final report can be found online at <http://www.awchome.ca/Portals/0/pdfs/CEP%20Sector%20Plan%20Final%20Report.pdf>.

The Sector Planning for Water Conservation, Efficiency and Productivity Project Team

One of the actions put forward in the report *Recommendations for Water Conservation, Efficiency and Productivity Sector Planning* was for the Alberta Water Council to create a project team to support the development of CEP Plans. The Sector Planning for Water Conservation, Efficiency and Productivity Project Team (SP for CEP team) was created in March 2008 to fulfill this role. This project team is intended to serve as a forum for sectors to exchange ideas, experiences and challenges in developing their plans and provide them with a venue to get multi-stakeholder advice regarding how to address those challenges. The team is also tasked with providing progress reports to the Alberta Water Council and evaluating whether the CEP Framework or Annotated Table of Contents should be adjusted so that

participation or other aspects of the process could be improved. It should be noted that the work of this project team will not include an overall evaluation of the effectiveness of the CEP planning process in achieving the goals of the *Water for Life* strategy, nor will it evaluate the specific content of any individual CEP Plan. Work to evaluate the effectiveness of CEP planning in achieving *Water for Life* goals will be undertaken by a fourth Alberta Water Council project team, to be established in 2012. Once complete, all CEP sector plans will be presented to the Alberta Water Council.

II. CEP Sector Planning Updates (Updated 09/09/24)

Irrigation

The Alberta Irrigation Projects Association (AIPA) is leading the development of a CEP plan for the irrigation sector. The irrigation sector has completed a final draft of their plan, reviewed the draft with their board, and provided time for final feedback from their board members. Although this report was originally scheduled for approval at the AIPA's September board meeting, on-going concerns surrounding the recommended targets are still being addressed. Revisions to the report based on AIPA board feedback are underway. A final document is tentatively expected early in the new year. In the meantime, the Irrigation Districts have been invited to start work on strategies for each district describing how they can contribute to implementing their sector's CEP plan.

A key learning for the AIPA in completing their plan was the need for early and in-depth engagement of sector representatives to ensure issues and interests are identified and addressed as early in the process as possible. The time required to complete the plan to date is well over 250 person-days, and counting.

Urban Municipalities

The Alberta Urban Municipalities Association (AUMA) is leading the development of a CEP plan for the urban municipal sector. The AUMA has completed their draft plan, which was released for comment and review by their members in April 2009. An updated version of the plan with their members' feedback incorporated was released in September 2009. The draft plan and its targets are based on input AUMA received from members who attended their November 2008 Water Conservation Workshop. Their targets focus on: (1) increasing water use reporting, (2) estimating a municipal infrastructure leak index, (3) getting municipal CEP plans in place (that is, plans for individual cities, towns and villages), and (4) implementing incentives or disincentives to promote water-efficient fixtures. The AUMA is also encouraging their members to adopt targets in line with those suggested by the Canadian Water and Wastewater Association.

The AUMA has developed a water microsite to assist urban municipalities in implementing the plan by providing information, resources and a member discussion forum online. The microsite is now available at <http://water.auma.ca/>. Resources (either completed or upcoming) include a model bylaw, a model motion, tools to estimate municipal infrastructure leakage, and information on water-efficient fixture rebate programs and guidance on municipal CEP planning based on those already in place in Alberta.

The AUMA's Draft CEP Plan will only be considered final once it has been adopted by AUMA members at their upcoming Annual Convention, in November 2009. Due to the extensive length of the full report, a shorter policy paper will be put forward for approval at Convention. Approving the policy means the

longer report will also be accepted. The AUMA tentatively expects to present their final CEP plan to the Alberta Water Council at their first meeting in 2010.

Power Generation

ATCO Power, EPCOR, and the TransAlta Generation Partnership have agreed to work together to develop a CEP sector plan for the power sector. They have agreed to develop a single plan and with a common baseline for all three companies. They are currently working on gathering and sharing data, and are considering whether to use consumed water or water “run through” in their measurements (much of the water used in this sector is recycled multiple times before it is either consumed or released as return flow). Initial discussions between the companies identified some issues that may prevent them from using Option A (a multi-stakeholder team) for stakeholder input as outlined in the CEP Framework. Other issues they are facing include considering how water conservation, efficiency and productivity may be affected by other environmental initiatives (such as clean-coal and SO_x technology).

Oil & Gas / Oil Sands Mining

The Oil and Gas Sector has established their CEP planning committee as a sub-group of CAPP’s Water Task Group, plus an additional member from the Alberta Chamber of Resources, representing the Oil Sands Mining Sector. They have decided to complete a single plan for both sectors and have been working on the first three chapters of their CEP plan, which are expected to be complete in September 2009. Data collection is nearly complete and includes information about both water licence volumes and actual water use. They are organizing their CEP plan by watershed and production type (in-situ, conventional oil & gas, oil sands).

In line with Recommendation 13, to focus on the largest water users first, the committee has decided to focus their sector plan on 35 key companies that represent over 80% of the sector’s oil and gas production and the great majority of the sector’s water use. These 35 companies will also be the key internal stakeholders for developing the plan.

Chemical and Petrochemical

The Council’s *Chemical and Petrochemical* sector contains two umbrella organizations: the Canadian Chemical Producers’ Association, which represents chemical companies; and the Canadian Petroleum Products Institute, which represents petroleum refineries and marketers. Because of their differing water use and umbrella organizations, the two sub-sectors have agreed to create their plans independently of one another.

Downstream Petroleum Products

This sector represents petroleum refiners and marketers. Their umbrella organization, the Canadian Petroleum Products Institute (CPPI) is leading the development of this sub-sector’s CEP plan. The CPPI collects water-use data at the national level, which can then be broken down by province. Work to collect baseline water use data is now complete and they are working to format their dataset to align with federal Statistics Canada guidelines so it can be used in both federal and provincial initiatives. They have noticed that the accuracy of the data may not be as high as they would like. Discussion around the specific content of each section of the CEP plan has also been

initiated. A key consideration for this sector moving forward is how they can devise an approach that is as administratively efficient as possible, so as not to make CEP plans cumbersome for operators to complete and implement.

Chemical Producers

This sector, represented by the Canadian Chemical Producers Association (CCPA), contains a handful of members that operate in Alberta. In general terms, they take methane and ethylene and convert them into a variety of derivatives such as polyvinyl chloride and polyethylene, which can then be manufactured into other goods, such as PVC pipes, film, rubber, latex and light plastics, among many other things. This sector has formed a committee to develop their plan and has been working on data collection. A challenge for this sector has been defining their membership. Many of these companies operate in “clusters” to maximize efficiencies; however, not all companies operating in each cluster are part of the CCPA. The sector is working to resolve this issue.

Forestry

The development of a CEP plan for this sector is being coordinated by the Alberta Forest Products Association (AFPA). The forestry sector has established their committee and completed their data collection. They are now working on converting all of the data into the same format and collecting a list of water-related BMPs for both mechanical and craft mills. Sector engagement has been strong, although staff turnover has been a challenge for advancing the project in recent months. The AFPA is continuing to work to include some members of the forestry industry that are not members of their umbrella organization. They also plan to post progress toward their CEP plan on the AFPA’s website, www.albertaforestproducts.ca.

Rural Municipalities

The rural municipal sector, although not initially identified as a priority for CEP planning within the “municipal” group of sectors, is considering developing a CEP plan for their sector. They are in the preliminary stages of work, focusing on identifying the necessary resources to complete the plan and considering how and when they could begin work. Where possible and appropriate, they may build on and adapt the work of the urban municipal sector’s CEP plan. This sector is represented by the Alberta Association of Municipal Districts and Counties.

III. Issues under Team Consideration

The Definition of a Sector (Updated 09-09-24)

When the seven key water using sectors committed to developing sector plans, these commitments were made by the sectors which are represented on the Alberta Water Council. There are some gaps within these sectors and overlaps between others that have resulted in some uncertainty regarding the scope of sector plans and their associated sector-membership. To understand this issue, it is useful to understand how sector participation in the Alberta Water Council works.

The Alberta Water Council's membership is organized to reflect all those with an interest in water. Therefore, the Council categorized those parts of society that have an interest in water management into various *sectors*, or groups of organizations and individuals with similar interests. For example, the Alberta Water Council has grouped various types of industry into the following *sectors*:

- Chemical & Petrochemical
- Forestry
- Irrigation
- Livestock
- Mining
- Oil & Gas
- Power Generation

This organizational structure is not without flaws. At first glance, the Council's sectors may appear to be clear, discrete groupings; but there are complexities where the various sectors overlap or have gaps. This results in difficulties when trying to develop anything that is organized along Alberta Water Council sector lines, including CEP plans. When the Water Conservation, Efficiency and Productivity Sector Planning Project Team recommended that seven key water using sectors develop CEP plans, their decision was based on the quantity of water that was used by the sector, as represented at the Alberta Water Council. That is, they followed Recommendation 16, which says that CEP planning should focus on engaging the biggest water users first. At that early stage of CEP planning, there was limited clarity around who would be included in these sectors and how subsectors that are not represented on the Alberta Water Council would be involved.

In some sectors, companies and organizations are members of an umbrella organization that works to advance their collective interests. These types of umbrella organizations are most common in the Council's industry and municipal government sectors, which represent all seven of the key water using sectors that were identified, and volunteered, to complete CEP plans. This organizational structure creates some sector-definition challenges, some of examples of which are described below:

- **Oil & Gas / Oil Sands Mining.** The Oil & Gas sector is represented on the Council by the Canadian Association of Petroleum Producers. The Mining sector is represented by the Alberta Chamber of Resources. Oil sands mining companies are members of both organizations, and even further, some individual companies are involved in both conventional oil and gas and oil sands mining activities. In developing a sector CEP plan, the Oil and Gas and Oil Sands Mining sectors have agreed to work together and develop a single plan, which will be organized both by basin and by production type (conventional, in-situ, oil sands, *etc.*)
- **Power Generation / Oil Sands Mining.** Some power generation companies work with companies in other sectors to provide power or steam to their operations. The power generation companies may not hold the water licences or registrations issued in accordance with the *Water Act* for these operations. Which sector plan these types of arrangements would fall under has not yet been decided.
- **Chemical Producers.** The Chemical sector tends to operate in industrial "clusters," where several different companies, each producing different products, are located near one another in order to maximize operational efficiency. Not all of the companies in these "clusters" are members of the Canadian Chemical Producers' Association. In the North Saskatchewan River watershed, specifically in the Fort Saskatchewan area, industrial water use, including quantity and quality, has been studied extensively based on these clusters of companies. Where possible, other

water users found in these clusters may be included in the CCPA's sector plan because of their association with one of these clusters.

- **Large Urban, Small Urban and Rural Municipalities.** Three different municipal government sectors are represented on the Alberta Water Council. They are: (1) large urban (the cities of Edmonton and Calgary), (2) small urban (represented by the AUMA), and (3) rural (represented by the Alberta Association of Municipal Districts and Counties – AAMD&C). There is some overlap between these sectors, as some municipalities are members of both AAMDC and AUMA, such as Strathcona County. The large and small urban sectors also overlap, as the cities of Edmonton and Calgary are members of the AUMA, even though they are recognized as a unique sector on the Alberta Water Council. The Council recommended that a CEP plan be completed by the “municipal” sector. After some discussion around the project team table, they clarified that this recommendation was directed to the “urban municipal” sector, which includes AUMA, Edmonton, and Calgary, but not those rural municipalities that are only members of the AAMDC. This follows Recommendation 16; that the largest water users are engaged first.
- **Forestry.** The Alberta Forest Products Association (AFPA) represents the forestry sector on the Alberta Water Council and is developing the CEP sector plan for the forestry industry. The AFPA is working to try and include companies which are not members of the AFPA in their plan.

Moving Forward

The project team has been discussing and providing advice on these sector definition issues as they have arisen. They have advised that sectors can only address the things they directly control, so some operations may need to be included in a different sector than originally envisioned.

The project team has also revisited Recommendation 16 that says, “the initial focus of sector planning [should] be on capturing the largest individual water users within a sector or on users representing most of the water use in a sector. A subsequent focus will be on getting all members engaged in CEP activities.” Where it is not possible to immediately engage all sector-members in CEP planning, sectors should proceed with developing plans on behalf of the majority of water users in their sector. A subsequent focus of CEP planning would be on engaging the remaining sector-members.

Municipal Infrastructure Grants and CEP Planning (Updated 09/09/22)

The *Recommendations for Water Conservation, Efficiency and Productivity Sector Planning* report advises that “[t]he Government of Alberta [should] explore opportunities for incenting CEP activities as part of provincial grants for wastewater treatment, water supply and other water related infrastructure improvements, and report to the Council’s new multi-stakeholder team mid-2009” (Recommendation 13).

As previously explained, the Alberta Water Council has broken municipalities into three sectors: the *large urban* sector is represented by only the cities of Edmonton and Calgary, the *small urban* sector is represented by AUMA, and the *rural* sector is represented by AAMDC. These sectors are not mutually exclusive. For example, Edmonton and Calgary are members of AUMA. Some members of the AAMDC, such as Strathcona County, are also members of AUMA.

The “municipal” sector plan was one of the two plans originally selected to test the Annotated Table of Contents and CEP Framework. This plan applies to only the *large urban* and *small urban* municipal sectors on the Alberta Water Council and not the *rural* municipal sector. The second CEP team provided

direction to all sectors that the initial focus of sector planning was to be on capturing the largest individual water users within a sector or on users representing most of the water use in a sector. With this direction, the AUMA developed a plan targeting its members. Rural municipalities, as smaller municipal water users, were identified as outside of the scope of this plan and were not consulted in its development. The current SP for CEP Team has agreed that this decision is in line with the second CEP team's recommendation.

However, this odd "sector definition" has the potential to affect the rural sector. Rural municipalities and medium-to-smaller-sized urban municipalities all apply to the same, competitive, municipal water and wastewater infrastructure granting process run by Alberta Transportation. (The largest cities do not use this particular granting process.) Therefore, for the purposes of administering these infrastructure grants, the rural sector is competing with mid- and small- urban sectors that will likely have CEP plans in place very soon. There is a perceived potential for unfairness here, because CEP activities are considered in determining which municipalities receive grants. Because the rural sector was identified as a small water user within the "municipal" sectors, they were not an initial priority for developing and implementing CEP plans and may be at a disadvantage in this granting process.

The rural sector is unclear how much work a CEP plan would be or what sorts of actions would be associated with one, and are therefore unsure how they wish to proceed. There is a concern that the requirement for CEP planning may place an unduly large burden on small municipalities. Small municipalities – both urban and rural – represent a very small proportion of treated water distribution. However, if granting is tied to CEP planning, the work associated with that requirement may be disproportionate to the benefit realized in actual water conservation, efficiency and productivity. Because of these concerns, the AAMDC wrote a letter to the Alberta Water Council and to the Minister of Transportation to express their concerns about the potential impacts of Recommendation 13 on their sector.

Moving Forward

The CEP team suggested that the AUMA should continue with its *urban municipal* CEP plan and it would be up to rural municipalities to decide how they would like to proceed. The *urban municipal* plan will apply to all members of the AUMA. They noted that the previous CEP Team developed their recommendations to focus on cities and urban centers first, with recognition that some of the activities they identified would also be applicable to rural municipalities. This is iterated in recommendation 16 of the CEP report which states "That the initial focus of sector planning be on capturing the largest individual water users within a sector or on users representing most of the water use in a sector. A subsequent focus would be on getting all members engaged in CEP activities."

The team has also advised that every organization that deals with water should be working to advance water conservation, efficiency and productivity. To that end, the team has encouraged the AAMDC to consider developing their own CEP plan and building on the work of the urban municipal sector, and possibly the irrigation sector, to do that. The benefit for a small municipality is that they can "cherry pick" things that fit into their model without requiring all the resources to develop a sector plan from scratch.

Finally, the team recognizes that Recommendation 13 specifically asks the Government of Alberta to *explore opportunities* to incent CEP through its granting process and *report back to the SP for CEP project team* what those options are. The AAMDC has agreed that this issue is important to them, and has therefore asked to participate on the project team to be part of this process. A revised terms of reference was presented at the June 4th Alberta Water Council board meeting to add the Rural sector to the team. The revised terms of reference was subsequently approved and the rural sector has joined the project team and is trying to secure resources to begin the development of a rural municipal CEP plan.

Lessons Learned in CEP Planning (NEW)

A few practicalities of completing CEP plans have come to light over the course of the past six months as the Irrigation and Urban Municipal CEP plans are nearing completion and the 5 other sectors are entering the middle phases of their work. They include:

- **Time commitment.** Both the Irrigation and Urban Municipal sectors have noted that upwards of 3000 hours of volunteer time has been required to develop their plans. Although it is hoped that future plans will require less time to complete because other sectors can build on the work that has occurred before them, the amount of time required to engage members, create buy-in, and develop and approve the plans is substantial – particularly where there is a large sector membership.
- **Report length.** Both the Irrigation and Urban Municipal sector plans are over 60 pages in length. Because of the detail contained in reports of this length, focused communication to ensure members understand the intent, goals and targets of the plan is required.
- **Sector engagement.** Communication with members during the development of a CEP plan is critical. In order to create support for the plan, key sector-members must understand what the plan is trying to achieve, what the various options for achieving the goals are, and why the final targets were selected. In sectors with large memberships, workshops were found to be very useful in building this understanding. Websites and SharePoint sites have also been suggested as a way for sector-members to access the information and engage in the process of sector planning, however they were noted to be less useful than workshops. Engagement in the plan-development phase is critical to ensuring engagement during the implementation phase. Sector-members will generally resist implementing plans to which they have not had meaningful input.
- **Approving a plan.** Like most reports and documents with broad input, adopting or approving a CEP Plan can be challenging during the final phases. Last-minute input, ‘tweaking’ of goals and targets, and finalizing the text and rationale that accompanies a CEP report can be frustrating in getting a report approved. Sectors developing plans are encouraged to address as many issues and concerns as early in the process as possible and be prepared for a flurry of activity at the end of their process.

Data, Measurement and CEP Planning (NEW)

Several items related to data, measurement, and CEP planning have been discussed by the team, including baseline information, data accuracy and alignment with other initiatives.

The team considered baseline information extensively, and discussed whether the recommended baseline in the Framework for CEP planning was working well. Most sectors felt that the average of any three years between 2000 and 2005 was appropriate and were using this baseline in developing their plans. A few exceptions were noted, however. They include:

- Where a sector's water use is heavily influenced by variations in precipitation, such as in the irrigation sector, a three year average is not long enough to account for several consecutive unusually dry or wet years. In order to address this, a longer timeframe to calculate average water use was felt to be appropriate in order to account for climate considerations.
- Data may not be available in the recommended baseline years. For example, in order for the municipal sector to determine their per capita water use accurately, they need to know both the amount of water used and the number of residents in their community. Accurately determining the number of residents is best done in a census year, which occurs only every fourth year. The most recent one was completed in 2006.
- Small sectors, which have only a few sites operating within their sector may need to shift their baseline in order to account for a plant closing, opening or shutting down for maintenance, *etc.* since these anomalies can change the average significantly and may not reflect a truly 'average' year to compare progress against.

Overall, the team felt that where it was appropriate, sectors should continue to use the recommended baseline. However, if there were valid reasons for using a different baseline, this was reasonable as long as a clear justification and explanation of the alternative was provided.

A second data-related consideration is the quality of available data. Sectors around the table noted that in some cases the available water data is very accurate, but in other cases it is less so, to varying degrees. The team suggested that if data quality is an issue, the data's variance or a +/- % accuracy be included with the information so readers can understand the data's reliability. A target related to the improvement of data accuracy in the future may also be appropriate if it is a substantial concern.

Finally, industrial and municipal operators have various reporting channels within their sectors that may be international, federal, provincial, or industry-specific and may be mandatory or voluntary. In developing and implementing CEP plans, efforts are being made to ensure CEP measurement and reporting aligns with other initiatives. For example, the AUMA is encouraging their members to adopt targets in line with those suggested by the Canadian Water and Wastewater Association, and the CPPI's plan is working to follow Statistics Canada's data guidelines. Sectors are aware of challenges related to multiple levels of reporting and are making efforts to address them.

CEP Reporting & AENV's Water Use Reporting System (NEW)

A challenge has arisen between the Provincial Government's water use reporting system and the Alberta Water Council's Sector Planning process. The issue concerns whether the water use reporting system could better support the CEP planning process' information needs by (1) allowing sectors to retrieve information from the system, and (2) clarifying the differences between the sectors used in CEP Planning and the licences classes used in water use reporting to improve their compatibility.

In regulating water use, the Provincial Government relies on two databases: (1) the Environmental Management System database (EMS), and (2) The Water Use Reporting System database (WURS). The

EMS database contains information on licences, approvals, permits, *etc.* for all types of activities, including water licences and approvals. The EMS database is available online to the public at <http://environment.alberta.ca/1057.html>. The other database (WURS) contains water use data only. This data is submitted regularly by water licence holders via an online portal. The data are not available online but are provided by Alberta Environment upon request. Currently, only a small number of all water licence holders are required to report their water use data via the online WURS system as a condition of their water licence; all others are being asked to voluntarily submit their information to the system. The Province is currently working towards increasing the number of water licence holders who report their water use information through the online WURS system.

Both the WURS and EMS databases are aligned, in that they use a 5-category classification system based on the purpose for which a water licence was issued. The Province's five categories are: (1) agricultural (including irrigation and other types of agriculture), (2) commercial (water used for cooling purposes, also includes golf courses), (3) industrial (mainly oil and gas and other industrial purposes), (4) municipal, and (5) other (including habitat enhancement, WCO licences, and recreation). There are some subcategories within these categories.

The Council's previous CEP team considered Alberta Environment's WURS database in their conversations, and made two recommendations around its use in their final report, *Recommendations for Water Conservation, Efficiency and Productivity Sector Planning*. They were:

- *Recommendation 17: That the seven priority sectors outline in their CEP plan how they will encourage their members to report on their water use (i.e. through sector initiatives and/or Alberta Environment's electronic water use reporting system).*
- *Recommendation 18: That Alberta Environment improve participation in electronic water use reporting to ensure that needed information is available to sectors for CEP planning. Alberta Environment should consider mandatory reporting for larger water users as a means to improve participation.*

Sectors recognize that improving water use reporting is a critical step in improving the management of Alberta's water resources and intend to follow Recommendation 17, to figure out how they can encourage their members to report water use. They also recognize that the online water use reporting system is a good tool for the Province, since it aligns very closely with their licencing processes. However, questions have arisen at the project team table regarding whether there is a way that the water use reporting system could better support CEP planning, and if this system could be at least partially used to track improvements in CEP across sectors. An opportunity exists for both sectors and Alberta Environment to benefit from the increased use of, and access to, the online water use reporting system. However, before the WURS tool can be helpful to sectors in CEP planning, a number of challenges need to be addressed. These include:

- (1) The retrieval of sector-based data from the WURS system. Although it is planned, at this time information in the WURS database is not easily available to the public or sectors (i.e. a request needs to be made to Alberta Environment and someone from Alberta Environment needs to retrieve the data), which makes it difficult for sectors to utilize information contained in the database.

- (2) The categories of water licences used by the Province do not align well with the sectors used by the Alberta Water Council for CEP planning. The purposes used by the Province in issuing water licences are broader than the sector-based divisions the Alberta Water Council is using in developing CEP plans. Any data entered in the WURS would need to have some additional information included so it can be further classified to determine progress towards CEP by the Council's sectors.
- (3) The categories of water licences used by the Province are not perfectly clear and have shifted over time. Therefore, some confusion exists regarding how some sectors are classified within the current WURS. For example, golf courses could be under an "other like" licence or a commercial purpose, depending on when they applied for their water licence. An additional complication exists with the 'municipal' purpose because these licences include residential, commercial and industrial activities occurring within their municipal boundaries. Teasing out residential vs. industrial use will be challenging for industry sector-members who operate using a municipal water licence, within municipal boundaries. Issues around overlap and gaps of water use reporting are of concern if sectors are to encourage their members to report their water use.

Moving Forward

The team is still considering how useful the WURS system will be for CEP planning. Right now, a number of challenges represent significant barriers to sector use of the WURS system for tracking purposes. Significant gains are possible if these challenges can be addressed, since it will provide an additional incentive for voluntary water use reporting and provide useful information for sectors in tracking their CEP progress. It may also provide some ability to measure the cumulative impact of implementing CEP planning in Alberta. Team members recognize that the WURS system may not be able to measure improvements in efficiency and productivity, or those actions in a CEP plan that are included solely because they are beneficial to the environment. Consideration of how these improvements can be measured and reported is still occurring at the team table. At a minimum, using the WURS to help track reductions in water diversions or improvements in return flows could be helpful and could reduce some administrative burden, as well as improve water use reporting response rates. Further consideration of the challenges identified above will likely occur at the project team table.

Appendix A. Project Team Members

Name	Sector
Giselle Beaudry	Alberta Environment
Rachel Bocock	Small Urban Municipalities
Lisa Maria Fox	Environmental
James Guthrie	Power Generation
Scott Hillier	Oil and Gas
Kate Hovland	Rural Municipalities
Melissa Logan	Lake Habitat Conservation
Ron McMullin	Irrigation
Kate Murray	Large Urban Municipalities
Jennifer Nitschelm	Alberta Agriculture and Rural Development
Jeff Shipton	Forestry
Al Schultz	Chemical and Petrochemical
John Skowronski	Chemical and Petrochemical