Council Northwest Power Planning Council QUARTERLY
Spring 2003
Striking a Balance Between Energy and the Environment in the Columbia River Basin

Amendments to the Fish and Wildlife Program Call for Tests of Alternative Dam Operations

Culminating a nearly two-year public process, the Northwest Power Planning Council amended its Columbia River Basin Fish and Wildlife Program in April with a description of river conditions and tests of dam operations intended to protect all fish and wildlife that utilize mainstem rivers as habitat.

The Council based its program amendments on river conditions and dam operations in the 2000 Biological Opinions issued by NOAA Fisheries and the U.S. Fish and Wildlife Service on behalf of threatened and endangered fish species. The Council's fish and wildlife program and the biological opinions are implemented by the federal agencies that operate and sell power from the system of federal dams in the Columbia basin.

"These amendments support the goal of our fish and wildlife program to benefit all fish and wildlife in the basin while keeping in mind the energy needs of the region," said Council Chair Judi Danielson, an Idaho member. "The conditions we describe can be achieved through dam operations and will benefit salmon and steelhead in the lower Columbia River as well as fish in the rivers and storage reservoirs of the upper basin in Washington, Idaho and Montana."

Danielson said the river conditions and tests described in the amendments are consistent with the Council's fish and wildlife program and state water laws, as well as with recommendations in the biological opinions.

The amendments describe tests and experiments of alternative river operations to better understand the benefits of various dam-operating strategies on fish and wildlife, including Endangered Species Act-listed and non-listed species. Some of these tests and experiments may require temporary departures from current dam operations

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Report: Conservation Achievements Since 1980 Could Be Repeated by 2025

Energy conservation increased the efficiency of electricity usage in the Pacific Northwest by the equivalent of more than two Seattles worth of power during the last 22 years, and the potential exists to acquire as much conservation, and more, by 2025, according to a Northwest Power Planning Council analysis.

Since 1980, when the Northwest Power Act made cost-effective energy conservation the highest priority for meeting new demand for electricity, the region's utilities and the federal Bonneville Power Administration have reduced demand for power by nearly 1,500 megawatts through investments in energy conservation in homes and buildings, industrial facilities and irrigated agriculture. The savings primarily are in energy-efficient water heaters, lighting, windows and equipment for heating, ventilation and air conditioning. In addition, new building codes that require energy-use efficiency saved 735 megawatts, and new energy efficiency standards for manufactured housing and major appliances

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What's Inside

Council Decisions

Subbasin Planning Contracts

February 2003

The Council authorized negotiation of subbasin planning contracts for the following subbasins and the listed contractors to do the work:

Wenatchee: Yakama Indian Nation, Chelan County, and the Washington Department of Fish and Wildlife.

Chelan: Chelan County, Washington Department of Fish and Wildlife.

Upper Middle Mainstem Columbia River: Douglas County, Washington Department of Fish and Wildlife.

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Mainstem Amendments

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while remaining consistent with the biological opinions.

Some of the tests and experiments would occur in the summer and fall. The NOAA Fisheries 2000 Biological Opinion mandates water releases from storage reservoirs in Montana — behind Hungry Horse and Libby dams — in July and August to boost flows in the lower Columbia River to help ESA-listed juvenile salmon and steelhead migrate to the ocean. The Council suggests an experiment to release a slightly smaller volume of water over a longer period of time — July through September — on the grounds that a longer, steadier release affords greater protection to upriver fish and wildlife in the rivers and reservoirs than the rapid flow fluctuations under the NOAA Fisheries biological opinion, and would continue to benefit salmon and steelhead downstream. The biological opinion has enough flexibility to allow this experiment.

In addition, the amended fish and wildlife program describes dam-operation tests and experiments to:

- Determine the relationship between fish survival and various levels of water spills at dams.
- Assess new spill technologies for fish passage such as removable spillway weirs.
- Determine optimum fish survival through turbines at dams.
- Evaluate the fish-survival benefits of augmenting flows.
- Measure the biological effects of steady outflows from Libby and Hungry Horse dams in Montana.
- Identify the effects of shifting summer flows to later in the summer.
- Assess impacts of predation and harvest on ESA-listed species in the mainstem rivers.
- Address other scientific uncertainties.

Responding to public comments, the Council decided not to recommend a change in spring operations of the dams. Fish and wildlife agencies and Indian tribes, among others, supported maintaining the spring operations called for in the biological opinions.

The amendments are posted on the Council's website, www.nwcouncil.org.

Spring Subbasin Planning Update

The Regional Coordinating Group for subbasin planning met on April 16 to discuss the status of subbasin planning, the participation of NOAA Fisheries and the U.S. Department of Fish and Wildlife in the process, the overall schedule, and other issues arising from state, tribe, and province level discussions.

The Northwest Power Planning Council recommends funding for fish and wildlife projects throughout the Columbia River Basin to the Bonneville Power Administration. Its review and selection process relies on subbasin plans—locally developed documents—to help identify and prioritize the greatest needs for fish and wildlife in a particular geographic area.

The Regional Coordinating Group, the third level of the Council's three-tiered management structure for subbasin planning, is comprised of representatives from the U.S. Fish and Wildlife Service, NOAA Fisheries, the tribes, the Bonneville Power Administration, and other coordination groups, and provides advice to the Council on basinwide policy and coordination issues. The recent meeting was an opportunity to address some of the challenges to coordination between agencies and entities with different jurisdictions, missions, and responsibilities. Despite the differences, however, group members expressed a common desire to continue working toward cooperation and the success of subbasin planning. Issues identified for future discussion included alternative deadlines, funding requirements of subbasin planning, building the subbasin planning infrastructure, and integrating monitoring and evaluation into subbasin plans.

By the end of April, the Council expects to have approved 85 percent of the subbasin workplans throughout the basin. Three subbasins, the Bitterroot, Blackfoot, and Clark Fork, all in Montana, have indicated that they will not be developing plans at this time. The deadline for submitting subbasin plans is May 28, 2004.

Subbasins with Approved Workplans

Idaho

- Clearwater
- Coeur d'Alene
- Kootenai
- Pend Oreille
- Salmon
- Spokane

Montana

- Flathead
- Kootenai

Oregon

- Columbia Estuary
- Columbia Gorge
- Deschutes
- Hood
- Imnaha
- L. Columbia Mainstem
- L. Snake Mainstem
- Snake Hells Canyon
- Umatilla
- Walla Walla

Washington

- Asotin
- Columbia Estuary
- Columbia Gorge
- Cowlitz
- Elochman
- Entiat
- Grays
- Kalama
- Lake Chelan
- Lewis
- Little White Salmon
- Lower Columbia Mainstem
- Lower Snake Mainstem
- Methow
- Okanogan
- Pend Oreille
- San Poil
- Snake Hells Canyon
- Spokane
- Tucannon
- Upper Columbia Mainstem
- Upper Mid-Columbia Mainstem
- Walla Walla
- Washougal
- Wenatchee
- Wind
- Yakima

Conservation Achievements Can Be Repeated

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caused another 375 megawatts in savings in the region.

If the region's conservation achievements were expressed as power generated rather than power saved, the total — more than 2,600 megawatts — would be more than enough electricity for two cities the size of Seattle, which uses about 1,150 megawatts on average. Energy conservation now accounts for 10.2 percent of the Northwest electricity supply. That is, if the energy conservation measures, codes and standards were not in place, the Northwest would use 10.2 percent more electricity than it does now. The reduced demand for power helps reduce the region's exposure to the wholesale power market, which was important during the energy crisis of 2000 and 2001 when prices rose to levels never seen before.

"The region's accomplishments are impressive, but we are far from having done it all," Council Chair Judi Danielson said.

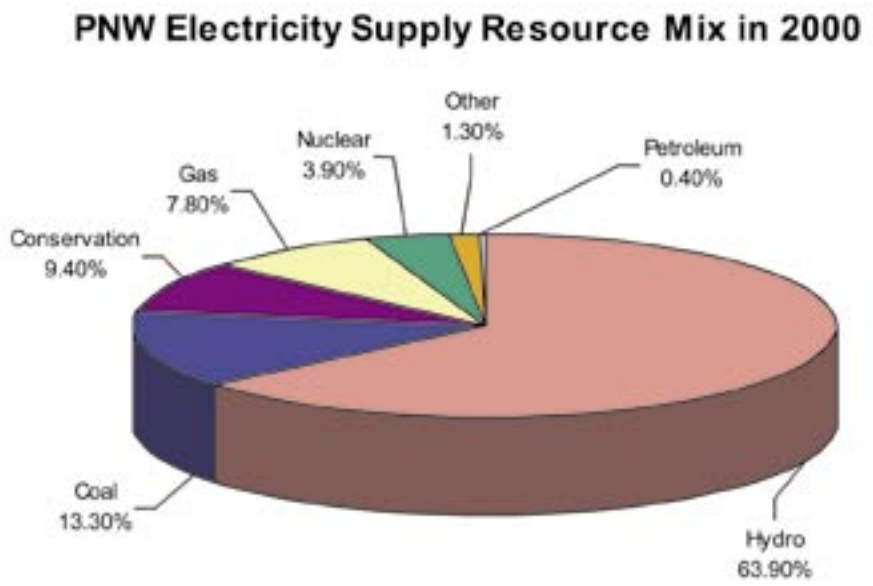
The Northwest has the potential for significant additional energy savings in the future, according to the Council. For purposes of its next Northwest Power Plan, which will be completed later this year or early in 2004, the Council estimates that 3,200 megawatts of cost-effective energy conservation could be developed by 2025. Based on the Council's preliminary analysis, the potential savings are in the following areas, expressed in average megawatts (electricity consumed continuously for a period of a year):

- Agriculture, 25;
- Non-aluminum industries, 350;
- Commercial non-building measures, such as water treatment, traffic lights, etc., 300;
- Heating, ventilation, air conditioning and windows, 200;
- New commercial building lighting, 200;
- Existing commercial building lighting, 250;
- Residential space conditioning, 575;
- Residential lighting, 660;
- Residential water heating, 335;
- Residential appliances, 305.

Two PowerPoint presentations that detail the savings to date and potential savings for the future are posted on the Council's website at these locations:

Conservation development between 1980 and today:
http://www.nwcouncil.org/news/2003_04/item7.pdf

Role of conservation in the regional power supply and estimates for the future:
http://www.nwcouncil.org/news/2003_04/powerB.pdf



Conservation's Future

Looking to the future of energy conservation, where will the region continue to make gains?

One of the biggest areas for potential savings and efficiencies is in residential lighting. In its 1998 Fourth Power Plan, the Northwest Power Planning Council identified 60 average megawatts of potential energy savings in residential lighting. Today, as it develops the latest version of the power plan, the Council is identifying over 600 average megawatts of potential savings in residential lighting. According to Tom Eckman, the Council's conservation resources manager, the reason for such a big jump is the increase in use of compact fluorescent light bulbs. During the 2000 - 2001 energy crunch, sales of compact fluorescent bulbs increased dramatically. Before the energy crisis, less than one half million bulbs sold in a year; when the energy shortage hit, nine million sold that year alone, signalling a turning point in demand and production and, as a result, bringing costs way down. These days, along with their lower cost, energy savings, and longevity, people can also find a wider variety of bulbs than before, and that makes them a popular choice for consumers. "A three-way compact fluorescent bulb that would have cost $20 a few years ago now sells for around $13, and demand should continue to go up," says Eckman.

Other areas where consumers will see improvements include appliances, especially

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President's Budget Proposes $589 million for Columbia Basin Fish & Wildlife in Fiscal Year 2004

President Bush has proposed a $14 million increase in fish and wildlife spending in the Columbia River Basin for Fiscal Year 2004. In February, President Bush submitted his budget proposal to Congress. It includes requests for several federal agencies for fish and wildlife activities in the Columbia River Basin totaling approximately $589 million, a 2.6 percent increase over the current year. Nearly half, about $287 million, will be provided by the Bonneville Power Administration. Unlike other federal agencies, Bonneville is a self-financed agency that does not rely on annual congressional appropriations for its operations. Bonneville collects funds from its ratepayers in the form of electricity generation and transmission revenues and is authorized to use them to finance its day-to-day operations. In effect, Bonneville's customers are directly financing about half of the salmon and other fish and wildlife recovery activities occurring in the Columbia River Basin.

The President's proposed Fiscal Year 2004 budget, which has a focus similar to the previous year's proposal, will fund a variety of activities including work at the U.S. Army Corps of Engineers' large mainstem dams on the Columbia and Snake rivers to improve juvenile and adult fish passage; habitat improvements along or near streambanks on lands managed by the Forest Service and Bureau of Land Management; operations and maintenance funds for regional fish hatcheries, as well as funds for initial reform of hatchery operations; funds for the Bureau of Reclamation for the purchase of water for increased instream flows; additional funds for research, monitoring and evaluation of work performed; and other activities.

Each year, the Council reviews those portions of the President's budget pertaining to the Columbia River Basin and recommends spending priorities to Members of Congress. The Council transmitted this year's recommendations to the Northwest Congressional delegation in a letter dated April 21. The letter is available for review on the Council's website, www.nwcouncil.org.

The House and Senate Appropriations Committees are currently reviewing the President's budget, and are expected to begin, later this spring and summer, passing the 13 separate appropriations bills that fund the operations of the entire federal government. Fiscal Year 2004 begins on October 1, 2003.

COLUMBIA RIVER BASIN
FEDERAL AGENCY FISH AND WILDLIFE FUNDING
FISCAL YEARS 2002-2004
($ in millions)

	FY 2002 Enacted	FY 2003 Budget	FY 2004 Budget
Columbia River Basin:			
Army Corps of Engineers	98.0	113.5	125.1
Bureau of Land Mangement	10.8	10.8	10.8
Bureau of Reclamation	11.0	15.0	19.0
United States Fish and Wildlife Service	10.0	11.7	10.3
Natural Resources Conservation Service	27.9	27.9	27.9
Bureau of Indian Affairs	0.4	0.4	0.4
United States Geological Survey	0.4	0.5	0.5
N.O.A.A. Fisheries	26.0	36.6	41.1
United States Forest Service	56.5	50.6	48.9
Environmental Protection Agency	18.3	18.3	18.3
TOTAL (Discretionary Appropriations)	**259.3**	**285.3**	**302.3**
Bonneville Power Adminstration Direct Fish Costs	253.3	289.7	286.6
TOTAL	**512.6**	**575.0**	**588.9**
OTHER PACIFIC COASTAL SALMON:			
Pacific Coastal Salmon Recovery Fund	110.0	90.0	90.0
N.O.A.A. Pacific Salmon Treaty	45.0	40.0	0
TOTAL (Other Pacific Coastal Activities)	**155.0**	**130.0**	**90.0**
GRAND TOTAL (Columbia and Other Pacific Salmon)	**667.6**	**705.0**	**678.9**

Artificial Production Review and Evaluation Update

The Northwest Power Planning Council's review of artificial production programs in the Columbia River Basin began its second round of provincial workshops on April 16 in the Columbia Gorge Province.

The Artificial Production Review and Evaluation (APRE) is evaluating the benefits and risks of anadromous and resident fish hatchery programs with the goal of improving their operations. The review is the next phase of the Council's 1999 Artificial Production Review, a report that outlined recommendations to reform hatchery practices.

During these workshops, hatchery operators and other fish and wildlife managers will have an opportunity to review the draft reports and offer feedback on the findings. A final APRE report will be completed by July 2003. The Council is also working closely with NOAA Fisheries and the Bonneville Power Administration to coordinate the APRE findings with the effort to develop Hatchery and Genetic Management Plans (HGMPs). NOAA Fisheries will use HGMPs to implement changes at hatcheries while addressing the Endangered Species Act and other legal requirements.

APRE
Artificial Production Review and Evaluation

Success Stories — Okanagan River

Canadian and U.S. Tribes Take Steps Toward an International Sockeye Salmon Restoration

Before there was a border between Washington and British Columbia, sockeye salmon grew up in the chain of lakes that form the headwaters of the Okanagan River. Over time, a border was established, the river acquired a name with two spellings — Okanagan in British Columbia and Okanogan in Washington — and the salmon runs steadily declined, largely from the impact of the chain of hydroelectric dams in the United States between the headwaters and the Pacific Ocean. At one time, lakes in the Okanagan basin accounted for more than 41 percent of the lake rearing habitat accessible to sockeye salmon in the Columbia River Basin.

Today, biologists from both countries are working on an experimental project to reintroduce sockeye into Skaha Lake, one of the natural impoundments formed by the Okanagan River in the headwaters region of south-central British Columbia. Skaha Lake is immediately south of the city of Penticton and north of Osoyoos Lake, which is split by the international border. Sockeye salmon once spawned in the upper reaches of the river, but McIntyre Dam, an irrigation diversion completed in 1954, now blocks fish from entering. The dam is the end of the road for anadromous fish in the Okanagan basin. If the current work determines that the sockeye reintroduction likely would be successful, fish passage would be built at the dam.

Currently, the only sockeye population is found in Osoyoos Lake, the lake that is split by the international border, and suitable rearing conditions only exist in the northern one-third of the lake. The abundance of that population has declined significantly over the last 50 years.

Research now is under way through the Council's Columbia River Basin Fish and Wildlife Program into the feasibility of reintroducing sockeye into Okanagan Lake, which has a large potential rearing capacity for sockeye. However, it is difficult to assess the risks and benefits of reintroducing the species into Okanagan Lake as there is the potential for interactions there between sockeye and other fish populations.

Fish and wildlife agencies and Indian tribes from both sides of the border decided on an alternative: reintroduce sockeye into Skaha Lake as an experiment. Knowledge gained from the Skaha experiment would be useful in determining whether it would be feasible to reintroduce sockeye into Okanagan Lake in the future.

On the American side of the border, the Skaha Lake project is being managed by the Colville Confederated Tribes. In Canada, the project is being managed by the Okanagan Nation Alliance. The Okanagan Nation Alliance, in coordination with Fisheries and Oceans Canada and the British Columbia Ministry of Water, Land and Air Protection, has nearly completed the three-year risk assessment project. The project has four objectives: 1) assessing the risk of fish diseases that may be tramsmitted by sockeye; 2) assessing the risk that non-native species such as walleye might populate the lake if fish passage is provided for salmon; 3) conducting an inventory of existing habitat and opportunities for habitat enhancement; and 4) developing a sockeye lifecycle model for an increased understanding of sockeye, kokanee and mysis shrimp interactions. Funding for the project, which began in 2000, is anticipated to total $802,000 over five years.

Results to date indicate that risks are lower than anticipated. Spawning habitat upstream of McIntyre Dam could support 9,000 pairs of adult sockeye, and access to Skaha Lake would result in a three-fold increase in rearing habitat.

The next step is to provide fish passage at McIntyre Dam and install a fish diversion screen on the irrigation canal intake. A proposal to begin that work was submitted by the tribes for funding in 2003, but it was rejected, for now, because of Bonneville's decision to reduce its fish and wildlife funding this year in response to its financial crisis.

Meanwhile, the tribes are going ahead with an evaluation of strategies to reintroduce sockeye into Skaha Lake. These include strategies to provide access so that fish could recolonize historic habitat.

Council Decisions

(continued from front page)

Snake Hells Canyon: Nez Perce Tribe.

Entiat: Chelan County, Washington Department of Fish and Wildlife.

Methow: Okanagon County, Washington Department of Fish and Wildlife.

Okanagon: Okanagon County, Colville Confederated Tribes, Washington Department of Fish and Wildlife.

All of the plans are due to the Council in May 2004.

Standard Market Design

February 2003

The Federal Energy Regulatory Commission extended its deadline to February 28 for comments on certain Standard Market Design issues, specifically 1) the proposed resource adequacy standard, 2) market design for the Western Interconnection, 3) transmission planning and pricing, 4) regional advisory committees and 5) congestion revenue rights and transition issues. In response, the Council submitted a brief comment recommending that FERC accept regionally determined solutions to these issues, rather than imposing nationwide solutions. The Council's comments are posted on its website, www.nwcouncil.org, under the "Energy" tab.

Recommendations to Bonneville on 2003 Fish and Wildlife Project Spending.

February 2003

In a letter dated February 21, the Council recommended a number of steps to ensure that Bonneville's expenditures to implement the Council's Columbia River Basin Fish and Wildlife Program in 2003 do not exceed $139 million, the spending limit imposed by Bonneville Administrator Steve Wright in December.

The Council said Bonneville's funding obligations — commitments to spend money — must be matched with available funds. By its own accounting, Bonneville carried over $40 million in fish and wildlife obligations from the last rate period that ended in Fiscal Year 2001 to the current rate period, yet actual funding for these obligations was not carried over. Thus, the program must absorb that $40 million within the $139 million spending limit for 2003. The Council recommended strategies to address the problem.

The Council also recommended Bonneville use its borrowing authority to pay for a number of habitat projects — purchases of land or easements. These projects total about $18 million, and paying for them with borrowed money, rather than paying for them directly within the $139 million cap, would ease financial pressure on the program in 2003, according to the Council's letter.

The letter, and Bonneville's March 28 response, are posted on the Council website, www.nwcouncil.org. Click on "Fish and Wildlife" and then "Bonneville's financial crisis and F&W program implementation."

Subbasin Planning Contracts

March 2003

The Council authorized negotiation of three contracts to develop a Salmon River subbasin plan. The contractors are the Nez Perce Tribe, Shoshone-Bannock Tribe, and the Idaho Department of Fish and Game. The Shoshone-Bannock Tribe will take the lead in planning for the upper Salmon basin, above the Middle Fork Salmon drainage, and the Nez Perce Tribe will lead the planning effort in the lower Salmon basin. The Department of Fish and Game will provide assessment products to the tribes to support the overall effort. The contracts call for the subbasin plan to be delivered to the Council in May 2004.

The Council also authorized a contract with Oregon Natural Heritage Information Center of Oregon State University for development of technical products regarding biodiversity information on plants, wildlife, fish, fungi and vegetation as that information is needed for subbasin planning in Oregon.

Issue Paper on Coeur d'Alene Tribal Hatchery

April 2003

The Council is seeking public comments on an issue paper that describes the trout production facility proposed by the tribe to mitigate the impact of downstream hydropower dams on the tribe's historic fisheries in the Spokane River Basin. Comments on the issue paper will be accepted by the Council through June 13, 2003. The paper is available by calling the Council's office toll-free at 800-452-5161 and requesting document 2003-03; and is also available on the Council's web site.

Subbasin Planning Contract

April 2003

The Council authorized negotiation of a contract for the development of the Grande Ronde Subbasin Plan. The work will be coordinated by the Grande Ronde Model Watershed Program. The plan is expected to be done in May 2004.

Calendar

Calendar of Council Meetings and Other Events:

May 28-29	Instream Flow Workshop, HUB Student Union Building, University of Washington, Seattle. Information at www.stewardandassociates.com/instream.
May 28-31	Confluence of Cultures Symposium, University of Montana, Missoula, MT. Information at www.atnitribes.org.
June 3-4	Hydropower and Fish Survival Tools, Wenatchee Center, Wenatchee, WA. Information at www.chealanpud.org/forum.
June 5	Northwest Water Trading and Marketing Seminar, World Trade Center, Portland. Information at www.theseminargroup.net.
June 10-12	Northwest Power Planning Council Meeting - Boise, Idaho.
June 10-13	World Summit on Salmon, Vancouver, BC. Information at http://columbiariver.fws.gov.
June 16-19	American Fisheries Society, Propagated Fishes in Resource Management Symposium, Boise, ID. Information at www.heb.pac.dfo-mpo.gc.ca/congree/pfirm.
July 9-11	Idaho Fish and Game Commission quarterly meeting, Idaho Department of Fish and Game headquarters, Boise.
July 15-16	Northwest Power Planning Council Meeting - Warm Springs, Oregon.
July 17-23	Western Association of Fish & Wildlife Agencies Annual Meeting, Red Lion Inn, Port Angeles, WA.
July 26	Wy-Kan-Ush-Pum Gala, The Governor Hotel, Portland, OR. Information at 503-238-3555.

Conservation's Future

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clothes washers and space heating and cooling equipment. In the case of clothes washers, technology has greatly improved their efficiency. Although developments for that appliance had been static for many years, with the re-entry of horizontal axis machines, new washers are more efficient than the old machines. "You can buy washers now that exceed the 2007 minimum efficiency standards by as much as 75 percent," says Eckman.

In residential heating and cooling systems, Energy Star, or equivalent, heat pumps and central air conditioners are available that are 20 to 30 percent more efficient than those currently being installed in new homes today. In addition, reducing the air leaks from duct work in both new and existing homes offers still more potential for savings. In particular, recent research has shown that sealing leaks in manufactured homes could save the region around 120 average megawatts of electricity.

In the commercial sector, improvements in building lighting, heating, and cooling systems continue to present considerable cost-effective savings as technology and building design practices improve. The Council is also identifying savings in areas not looked at before such as "packaged refrigeration"— appliances like vending machines, icemakers in hotels, and reach-in coolers in grocery stores and delicatessens. Such appliances are currently not subject to federal efficiency standards. The savings potential becomes apparent when you consider that the average vending machine uses between 3,000 - 4,000 kilowatt hours a year, and that includes its lighting which is often inefficient. Simple low-cost measures can provide 1,000 kilowatt savings per year in vending machines, and about 40 percent of that from lighting alone.

Technology will be the source of greater savings in many other untapped areas, like sewage treatment facilities where state-of-the-art control systems will bring a more efficient use of energy. In small and mid-size sewage treatment plants, low-cost remote monitoring and process control technology will help in sensing when to turn on and off certain treatment processes, much like an electronic robot, rather than depending on human testing and operation. Implementing this new approach not only reduces energy costs, it can help plants comply with water quality regulations and better manage sludge accumulation, chlorination and dechlorination, effluent ammonia, and odors.

Agriculture is another area where technology will improve efficiencies in things like irrigation systems, and most recently, in the dairy industry. One improvement enables milking pumps to work only when attached to an animal, rather than operating the whole system at maximum capacity. But some savings simply rely on ingenuity. Dairies have found that by using "flat plate heat exchangers," comprised of stainless steel tubes alongside each other, they can accomplish two goals at once, and save energy. While one tube carries warm milk, straight from the cow, to refrigeration for cooling, another tube carrying water runs by it in the opposite direction. Through a simple heat exchange process, the water cools the milk down before it reaches refrigeration, and the water, in turn, is heated from the milk for use in the dairy. It's an elegant solution that gets the most from what we use, which is, after all, the whole point behind conservation.

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