



# Newsletter

## Environmental Connection

January-February 2013

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Sponsored by the Utah Department of Environmental Quality

Donna Kemp Spangler, Editor

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### Guv Budget Proposes Funding for Radon; UCAIR and Pay Raise to Employees

The Department of Environmental Quality (DEQ) would receive an additional \$50,000 a year to continue its indoor radon program under Governor Gary Herbert's proposed spending plan for fiscal 2014, which begins on July 1, 2013.

Herbert's proposed \$12.8 billion budget also seeks a 1 percent pay raise to state employees, and money set aside for discretionary salary increases for state agencies, to identify areas where salary adjustments are needed.

In addition to DEQ's budget, the Governor proposes a one-time \$50,000 allocation for the statewide air quality initiative, Utah Clean Air Partnership (UCAIR), which challenges businesses, individuals and governments to do something to help improve Utah's air quality.

"I'm very pleased with the Governor's proposed budget and look forward to working with the Utah Legislature to address any funding questions," said Amanda Smith, executive director of DEQ.

Earlier this year, the Environmental Protection Agency announced it would slash or eventually eliminate the estimated \$50,000 annual grant it has been providing to Utah for the past 20 years due to budget constraints, leaving Utah and other states struggling to find funding to continue the program. Utah's indoor air radon program has seen huge success in raising the awareness of radon – an invisible, odorless gas that can only be detected with testing homes. It is the second leading cause of lung cancer and Governor Herbert has declared January as "Radon Action Month."

"This is a vital program that has had such tremendous benefits to the public," said Rusty Lundberg, director of the Division of Radiation Control. "Funding for this program is critical to

saving lives.”

Governor Herbert unveiled his spending plan on Dec. 12, highlighting a budget proposal that includes an increase of nearly \$300 million in education, one his top funding priorities. In his budget address, Herbert also emphasized the need for state government to be more efficient.

“While Utah leads the nation in many notable economic areas, we must continue to ensure that limited state financial resources generate maximum value to all Utahns,” he said. “A new emphasis on operational excellence within state government will elevate Utah’s standing. It will redefine what it means to be the best managed state, demonstrating we can do more with less and optimize organizational efficiency across the enterprise of state government.”

The Legislature will finalize the 2014 fiscal year budget when it meets in a 45-day session Jan. 28.

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## **Utah Driving Natural Gas-Powered Vehicles State Promotes Diversification of Transportation Fuels**

More Utah residents are in the driver’s seat of vehicles that run on compressed natural gas (CNG), due in part to booming natural gas production in Utah and a growing number of CNG fueling stations – nearing 40 at last count, with more on the way.

Governor Herbert is hoping CNG vehicles will soon be a common sight in government lots.

“Natural gas is appealing for a lot of reasons,” said Sam Lee, director of Fleet Operations. “CNG vehicles provide emission reductions and lower fuel costs.”

Governor Herbert wants Utah state agencies to consider CNG and other alternative fuel vehicles when replacing their fleets. He recently asked each state agency to review their vehicle purchasing needs and plans for the coming year and to consider an expanded role for CNG vehicles in fleet operations.

Last March, the governor announced that the State of Utah was adding four new CNG vehicles to the state fleet, bringing the total number of CNG fleet vehicles to 85. But state agencies aren’t the only ones making the switch to CNG. Division of Air Quality Director Bryce Bird owns a CNG vehicle.

“I am a supporter of CNG vehicles,” said Bird. “Natural gas burns cleaner than conventional gasoline. If more people drove alternative vehicles like CNG or hybrids the air quality would greatly improve in our state.”

What is CNG?

CNG is made by compressing natural gas to less than 1% of the volume it occupies at standard atmospheric pressure. It is an odorless, non-toxic gaseous mixture of hydrocarbon, primarily methane (around 90 percent), along with small amounts of ethane, propane and other gases.

Natural gas burns cleaner than conventional gasoline or diesel due to its lower carbon content. When used as a vehicle fuel, it can offer life cycle greenhouse gas (GHG) emissions benefits

over conventional fuels. Natural gas use may reduce some types of tailpipe emissions, including volatile organic compounds (VOCs), nitrogen oxides (NOx), and carbon monoxide (CO). These emissions are precursors for the formation of PM2.5 and ozone, both of which present significant air quality concerns in Utah.

CNG provides emissions benefits—especially when replacing older conventional vehicles or when considering life cycle emissions. Replacing a typical older in-use vehicle with a new natural gas vehicle (NGV) reduces carbon monoxide (CO) emissions by up to 75%, NOx emissions by 50 percent, primary particulate matter (PM) emissions up to 95 percent, VOC emissions by 55 percent, and carbon dioxide (CO2) emissions by 20-30 percent.

Natural gas can also replace gasoline in smaller applications, such as forklifts and commercial lawn equipment. Because natural gas is a low-carbon, clean-burning fuel, a switch to natural gas in these applications can result in substantial reductions in VOCs and NOx emissions in small engines, contributing to a reduction in PM2.5 formation from these area sources.

### Natural Gas Vehicles

There are two types of CNG fuel systems on the market: dedicated vehicles, which operate exclusively on natural gas, and dual-fuel vehicles, which can use both natural gas and gasoline. Auto manufacturers offer a variety of both dedicated and dual-fuel CNG vehicles, including compacts, trucks, vans, and buses. Light-duty vehicles typically operate in dedicated or bi-fuel modes, and heavy-duty vehicles operate in dedicated or dual-fuel modes. Natural gas is stored in tanks as CNG.

General Motors, Chrysler, and Ford offer bi-fuel CNG pickups, which run on either gasoline or natural gas. Currently, the Honda Civic GX is the only dedicated CNG passenger car available from an original equipment manufacturer (OEM) and only on a limited basis. Increased consumer and business use of NGVs depends in part on OEMs introducing more natural gas models into their product line, leading to the expansion of the CNG infrastructure.

### Infrastructure

Current market conditions indicate that the need and desire exists to expand CNG fueling options, both in Utah and nationwide. A recent survey of over 200 natural gas vehicle (NGV) executives indicated that business leaders expect significant increases in the number of natural gas fueling stations nationwide over the next three years. At least half of natural gas equipment suppliers surveyed were confident that home refueling appliances for CNG vehicles would be widely available by 2015.

According to a recent study by America's Natural Gas Alliance, growth in CNG infrastructure is dependent on vehicle availability. Fleets continue to be the leading purchasers of NGVs, with nearly one-fifth of the nation's transit buses running on CNG or liquefied natural gas (LNG), making it the sector with the highest NGV use. Waste collection and transfer vehicles, followed by airport shuttles, were the next largest users of NGVs. There are a number of heavy-duty natural gas vehicles—as well as few light-duty NGVs—available from original equipment manufacturers. Many public and private sector fleet vehicles, however, are CNG conversions, with the higher price for a conversion offset through lower fuel costs.

Utah currently has the one of the largest per capita CNG fueling infrastructures in the country.

By the end of 2012, there were 35 public access CNG stations, including seven managed by the State Fuels Network. Additionally, there are more than 50 private stations operating in Utah. A number of local businesses and governments have converted their fleet vehicles to CNG and have installed onsite fueling stations.

Governor Herbert, along with a growing number of governors across the country, believes that states positioned to take the lead on the use of CNG vehicles and infrastructure stand to reap long-term social and economic benefits. Diversifying transportation fuels and building a transportation infrastructure and fleet to meet the needs and demands of future generations is one of the cross-cutting goals included in Governor Herbert's 10-Year Strategic Energy Plan which states that "it is critical to our economy, air quality, and our quality of life that Utah diversifies (its) transportation model."

### Governors Lead the Charge for CNG Vehicles

Governors across the country, including Governor Herbert, are determined to shepherd that process along. A coalition of 22 states, led by Colorado Governor Hickenlooper and Oklahoma Governor Mary Fallin, proposed the purchase of up to 10,000 new CNG cars and trucks per year for state fleets to spur production and encourage car manufacturers to build OEM CNG vehicles rather than converting them to CNG after the fact.

According to the Memorandum of Understanding (MOU) signed by these interested states, "the joint solicitation of a Multi-State Request for Proposal (Joint-RFP)...aggregates annual State fleet vehicle procurements...to provide a demand base sufficient to support the design, manufacture, and sale of functional and affordable OEM NGVs by automotive manufacturers in the United States...the States understand the need for continued development and expansion of CNG fueling infrastructure and (will) endeavor to encourage private investment, predicated on demonstrating an anticipated increase in State NGVs, to meet growing demand."

In mid-July 2012, officials from 14 states, including Utah, met with officials from Chrysler, Ford, and General Motors to discuss ways to increase CNG vehicle production. The National Association of State Procurement Officials (NASPO), in conjunction with the state of Oklahoma, issued a Multi-State Natural Gas Vehicle Cooperative RFP for Natural Gas Vehicles a week later. The RFP signifies that the participating states intend to develop a statewide contract for purchasing NGVs. The initial contract is intended for use by the twenty-one states that have submitted an intent-to-participate document with NASPO, but other states have been invited to join as well. The twenty-one states include the thirteen states (including Utah) that previously signed onto the NGV MOU, plus eight more states. State authorities asked to receive bids on the following bi-fuel and dedicated NGVs: compact sedans, mid to full size sedan, half-ton truck, three quarter-ton truck, three-quarter ton cargo van, one-ton cargo van, and transit cargo van.

More than 100 car dealers in 28 states submitted bids in response to this joint RFP, effectively driving down the cost premium of five classes of NGVs. Officials say this successful bid will encourage car manufacturers to provide more affordable NGV options, leading to greater public demand and utilization of CNG vehicles. The increased use of NGVs in government fleets is predicted to accelerate investment in supporting infrastructure, making the use of CNG vehicles more feasible and convenient.

### What's Next for Utah

Utah is doing its part to accelerate this investment in the CNG infrastructure.

Although numbers aren't available yet, Lee reports that orders from state agencies for new vehicles will be coming in over the next few weeks. There are three classes of OEM CNG vehicles currently available for state purchase: compact sedan, full size truck, and full size cargo van. Increased use of CNG vehicles will encourage infrastructure growth, both for state fueling stations and public CNG stations across the state.

"By increasing the number of CNG vehicles in government fleets, the state hopes to help fuel demand for CNG locally and nationally," said Lee.

With abundant natural gas, a sizable fueling infrastructure, and public and political resolve to address air quality issues, Utah stands ready to fuel a thriving CNG market in the state.

*This article was written by Christine Osborne of DEQ's Office of Planning and Public Affairs.*

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## **Intermountain's Kem C. Gardner Supply Chain Center Delivering More Than Medical Supplies**

By practicing the three R's—reduce, reuse, recycle—Intermountain Healthcare's (IHC) new 327,000-square-foot medical distribution center and warehouse will not only deliver medical supplies to its many facilities, but also deliver energy and waste reductions.

As a member of IHC's Sustainability Council, the Utah Department of Environmental Quality's Business Assistance program has worked with IHC to help them meet their sustainability goals.

Located at 7302 S. Bingham Junction Blvd. in Midvale, the Kem C. Gardner Supply Chain Center (SCC) is part of IHC's non-profit system of 23 hospitals, 160 clinics and home care operations, based in Salt Lake City, Utah, serving patients in Utah and southeastern Idaho.

The facility will supply everything from suture kits to laptop computers as part of its \$1.3 billion it spends a year on supplies.

"No one buys as much stuff as us," said Brent Johnson, IHC's vice president of Supply Chain Organization.

Before the SCC was built, IHC operated a largely decentralized system, where the majority of IHC's 15,000 vendors made deliveries to individual facilities. Instead of practicing "just-in-time" inventory strategies, which means receiving products only as they are needed, IHC facilities were forced to order larger quantities and provide their own storage space. The decentralized system complicated efforts to convert to reusable shipping containers.

The new SCC gave IHC an opportunity to implement the first of the three "R's" of the Environment: Reduce the amount of waste produced. IHC is reducing its packaging waste by buying in bulk using a centralized ordering system and working with manufacturers to limit packaging materials as much as possible. Energy use is being reduced through efficiency initiatives, such as using natural light to light inner space, LED lighting for all exterior lighting, and ceiling circulation fans in the warehouse. Centralized courier and heavy fleet operations result in better utilization of transportation resources, resulting in a reduction of IHC's transportation footprint.

IHC also practices the second of the three “R’s” of the Environment: Instead of throwing things away, try to find ways to reuse them. IHC uses reusable pallets, crates, and totes to delivery products within the closed loop healthcare system. Reusable containers also helps IHC use trailer space more efficiency, due to uniform container sizes and nesting capability.

Lastly, IHC is implementing the last of the three “R’s” of the Environment: Recycle any products that can’t be reused and then buy products made from recycled material. IHC has initiated a comprehensive recycling system for all waste with an overall goal of reducing 20 percent or more of their solid waste stream.

IHC’s commitment to reducing its overall environmental footprint is exemplified by its pursuit

of LEED (Leadership in Energy and Environmental Design) certification for the SCC, meaning that it was designed and built to achieve high performance in sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

*This article was written by Frances Bernards, business assistance consultant for DEQ.*

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## **Solid and Hazardous Waste Snuffs out Illegal Dumps**

They sprout up from time to time along rural Utah, but they’re not just crops.

They’re heaping piles of concrete and construction debris dumped illegally onto private lands that can threaten nearby streambeds.

“It’s not a regular occurrence but they pop up like ‘Whac-A-Mole’,” said Scott Anderson, director of the Division of Solid and Hazardous Waste (DS&HW). “They are a problem because they open the gates for dumping household waste, pesticides or used oil. It’s an eyesore but can lead to bigger problems.”

Dumping in remote areas is like graffiti in urban areas: If it’s not cleaned up, it attracts more polluters.

DS&HW, a Division of the Department of Environmental Quality, is charged with the “protection of public health and the environment by ensuring proper management of solid and hazardous wastes within the State of Utah.”

Many times the illegal dumps are spotted during the course of an inspection of a permitted landfill or other fieldwork. Once the landowner is identified, DS&HW notifies them by mail to come up with a cleanup plan. “It’s much easier to work with them,” Anderson said. If there’s no response, an environmental inspector shows up at the door to outline the problem and resolve the issue. Sometimes the assistance of the county sheriff is needed to gain access to the property.

In addition to the eyesore, there is the threat to public health.

If unchecked, the waste piles can become a breeding ground for rats, other rodents and mosquitos. The landowner sometimes uses the waste piles to fill in gullies that eventually get buried and threaten to contaminate nearby streams and creeks. Illegal dumps also can catch fire

and spew toxic smoke.

“For a lot of these instances, it’s a money issue,” said Anderson. “We will work with the landowner and give them some options.”

Usually there are two: haul to a permitted landfill or open one. The latter is rare because it’s a rigorous and more costly process that requires meeting environmental regulations.

In many cases, there are local, county or regional landfills located nearby – many more than there used to be when illegal dumping was more ubiquitous.

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