

AGENDA

Commission for the Environment

June 9, 2014

7:30 p.m.

Orange County West Campus Office Building
131 West Margaret Lane, Hillsborough

-
- | <u>Time</u> | <u>Item</u> | <u>Title</u> |
|-------------|-------------|---|
| 7:30 | I. | Call to Order |
| 7:32 | II. | Additions or Changes to Agenda |
| 7:35 | III. | Approval of Minutes – May 12 (Attachment 1) |
| 7:40 | IV. | CFE Appointments
On May 20 the Board of County Commissioners appointed three new members: Clifford Leath, Judy Miller, and William Newby. A current CFE roster is provided (Attachment 2). |
| 7:45 | V. | Coal Ash site remediation by Duke Energy
Representatives from Duke Energy (Indira Moses Everett and Mark McIntire) will provide an update on the Dan River coal ash spill and Duke Energy's strategy to rectify the situation. (Attachments 3 - 4) |
| 8:20 | VI. | State of the Environment 2014
Staff will review the status of the State of the Environment report and identify final tasks needed to complete the report. |
| 8:30 | VII. | Environmental Summit planning
The CFE will discuss preparations for the Environmental Summit to be held in Fall 2014 at the Maple View Farm Agricultural Education Center. The summit planning committee will likely need to meet once or twice along with staff during the summer break. |
| 9:00 | VIII. | Updates and Information Items
Staff and/or CFE members will provide updates on the following items: <ul style="list-style-type: none">➤ The Nature of Orange photography contest➤ Funding for Orange County rural curbside recycling programs (Attachment 5)➤ Coal ash on Town of Chapel Hill property by Bolin Creek (Attachment 6)➤ Other coal ash sites in the Triangle and in rural NC (Attachments 7)➤ Draft Orange County Parks & Rec Master Plan 2030 (Attachment 8)➤ Solar farm planned for site off Mt. Sinai Road (Attachment 9)➤ Widening of Interstate 40 through Orange County (Attachment 10)➤ NC law allows fracking; funding for test wells (Attachment 11)➤ Proposed reduction of air quality monitors in NC (Attachment 12)➤ Chatham Park (Pittsboro) development update (Attachments 13)➤ Jordan Lake water circulators on hold (Attachment 14)➤ USEPA sets limits on CO2 emissions from power plants (Attachment 15)➤ Hemp products sold in US grocery stores (Attachment 16) |
| 9:30 | IX. | Adjournment
<i>Next meeting:</i> August 11 (Chapel Hill) |

CFE Meeting Ground Rules

1. Keep to agenda topic under discussion
2. Share relevant information
3. One person speaks at a time after recognition by the Chair
4. Everyone is invited to participate in discussions / no one person should dominate discussions
5. Strive to reach consensus first before voting

**Orange County
Commission for the Environment**

DRAFT Meeting Summary

May 12, 2014

Orange County West Campus Office Building, Hillsborough

PRESENT: Jan Sassaman (Chair), May Becker, Peter Cada, Donna Lee Jones, Steve Niezgoda, Rebecca Ray, Lydia Wegman, David Welch

ABSENT: Loren Hintz, David Neal, Jeanette O'Connor, Gary Saunders (arrived; had to leave)

STAFF: Rich Shaw, Tom Davis

GUEST: Bill Kaiser

- I. **Call to Order** – Sassaman called the meeting to order at 7:40 pm. Sassaman introduced Bill Kaiser who is expected to be reappointed to the CFE by the BOCC.
- II. **Additions or Changes to Agenda** – There were no changes or additions.
- III. **Approval of Minutes** – Sassaman asked for comments on the minutes for April 14. Niezgoda motioned to approve as written; Cada seconded. Approved unanimously.
- IV. **Rural Curbside Recycling Program update** – Sassaman reported on what he observed at the May 8 BOCC meeting. He read comments that he had presented in support of the proposed solid waste service tax district. Sassaman said the board of commissioners took no action, but would revisit the issue at a May 13 work session.

CFE members discussed the pros and cons for the tax district. Wegman asked whether the County might consider imposing the fee despite the threat of a possible lawsuit. Nobody knew whether that was likely to happen. Sassaman encouraged members to attend the work session to learn how this matter would be decided.

- V. **State of the Environment 2014** – Shaw reported on the status of the report, and he handed out a list of tasks needed to complete each section (Attachment 3). Sassaman asked for volunteers to take charge of some of the items better suited for CFE member involvement. Ray reported on the additional work she had done to improve the symbols for conveying the status and trend for each environmental indicator. Ray said she would provide the final symbols to the staff for them to incorporate into the document.

Sassaman asked Shaw to send out a link for members to review Draft #9 of the report once he had incorporated recent comments on the Land and Air & Energy sections.

- VI. **Environmental Summit** – Shaw provided a summary of the CFE's planning thus far (Attachment 4) for an Environmental Summit to be held in fall 2014 at the Maple View Farm Agricultural Education Center. He thanked members for agreeing to delay the event from the original May 31 date.

Shaw asked for volunteers to identify potential dates in September/October that would not conflict with a lot of other major events. Wegman offered to help with that, and said she and other summit committee members (O'Connor, Ray, and Hintz) would also help to identify potential panelists. Shaw reminded CFE members that they had agreed on

invasive species and water resources as general panel topics, which will be refined depending on who can be lined up to make presentations. These talks would complement an overarching subject of climate change presented by Dr. Christensen.

Sassaman suggested Don Francisco (UNC Chapel Hill) to speak on water issues. Cada recommended Avner Vengosh (Duke) be asked to discuss the hydraulic fracturing ("fracking") issues for this area. Kaiser recommended asking Mike Kunz (NC Botanical Garden) to discuss invasive plant species. Someone else suggested that Judd Edeburn be asked to discuss forest management issues.

Shaw reviewed other logistics that had been discussed thus far. Niezgoda recommended using social media platforms such as Facebook and Twitter to advertise.

Sassaman asked staff and CFE members to report back at the June meeting.

- VII. **Committee Meetings** – The CFE chose not to hold committee meetings.
- VIII. **Updates and Information Items** – Information on the following subjects was provided and selected items were summarized by staff: a) Orange County Community Giving Fund, b) Nature of Orange photo contest, c) OWASA forest management at Buckhorn Road, d) proposed NC rules for fracking, e) potential changes to UDO allowing clustering in Rural Buffer, f) proposed changes to federal jurisdiction for wetlands, g) Chatham Park (Pittsboro) public hearings, and h) Triangle Land Conservancy receives \$1 million.
- IX. **Adjournment** – Sassaman adjourned the meeting at 8:45 pm.

Summary by Rich Shaw, DEAPR Staff

Orange County COMMISSION FOR THE ENVIRONMENT

(updated June 2014)

NAME OF MEMBER HOME ADDRESS/TELEPHONE	POS #	DATE OF APPOINTMENT COMMITTEE (Representation)	TERM ENDS	BUSINESS TELEPHONE E-MAIL	TOWNSHIP OF RESIDENCE
May Becker 511 Cotton Street Chapel Hill, NC 27516	#1	9/21/2010 Air & Energy Resources (At Large)	12/31/14	919-969-7439 tomatocutter@yahoo.com	Chapel Hill
Peter Cada 420 Coach House Lane Hillsborough, NC 27278	#10	9/21/2010 Water Resources (At Large)	12/31/14	919-485-8278 peter.cada@tetrattech.com	Hillsborough
Loren Hintz (Vice Chair) 804 Kings Mill Rd. Chapel Hill, NC 27517	#4	1/27/2009 Land Resources (Biological Resources)	12/31/16	919-933-8987 ldhintz@bellsouth.net	Chapel Hill
Donna Lee Jones 3035 Carriage Trail Hillsborough, NC 27278	#5	5/21/2013 Water Resources (Water Resources)	12/31/15	919-541-5251 donnaleejones13@hotmail.com	Eno
Clifford Leath 6600 Maynard Farm Road Chapel Hill, NC 27516	#6	5/20/2014 TBD (At Large)	12/31/16	919-968-0708 cliffleath@earthlink.net	Bingham
Judy Miller 403 Jericho Road Hillsborough, NC 27278	#2	5/20/2014 TBD (Air Quality)	12/31/14	919-732-9969 Jmiller221@hotmail.com	Cedar Grove
David Neal 323 West Queen Street Hillsborough, NC 27278	#13	9/21/2010 Air & Energy Resources (At Large)	12/31/15	919-732-2156 David.L.Neal@gmail.com	Hillsborough
William Newby 2821 Becketts Ridge Road Hillsborough, NC 27278	#8	5/20/2014 TBD (At Large)	12/31/16	919-541-5296 newby.william@epa.gov	Hillsborough
Steven Niezgoda 524 Patriot's Pointe Dr. Hillsborough, NC 27278	#14	5/21/2013 Land Resources (At Large)	12/31/15	716-998-1490 steve.niezgoda@gmail.com	Hillsborough
Jeanette O'Connor 117 S Peak Dr. Carrboro, NC 27510	#9	5/21/2013 Land Resources (At Large)	12/31/14	703-678-6893 jeanette.oconnor@gmail.com	Chapel Hill
Rebecca Ray 5617 Jomali Drive Durham, NC 27705	#15	11/19/2013 Water Resources (Land Resources)	12/31/15	919-383-0685 rebecca.ray@nc.rr.com	Eno
Jan Sassaman (Chair) 201 Bolinwood Drive Chapel Hill, NC 27514	#7	12/13/2011 Air & Energy Resources (At Large)	12/31/16	919-933-1609 jan.sassaman@gmail.com	Chapel Hill
Gary Saunders 103 Woodshire Lane Chapel Hill, NC 27514	#12	1/27/2009 Air & Energy Resources (Engineer)	12/31/15	919-707-8413 gary.saunders@ncdenr.gov	Chapel Hill
Lydia Wegman 5704 Cascade Drive Chapel Hill, NC 27514	#3	11/19/2013 Land Resources (At Large)	12/31/14	919-886-8775 lnwegman@gmail.com	Chapel Hill
David Welch 20 East Drive Chapel Hill, NC 27516	#11	9/21/2010 Land Resources (At Large)	12/31/14	919-406-2101 davwelch@hotmail.com	Chapel Hill
David Stancil Rich Shaw Tom Davis Lynn Hecht	245-2522 245-2514 245-2513 245-2510	Director, Dept. of Environment, Agriculture, Parks & Rec. Land Conservation Manager Water Resources Coordinator Administrative Assistant		dstancil@orangecountync.gov rshaw@orangecountync.gov tdavis@orangecountync.gov lhecht@orangecountync.gov	

Contact: Tom Williams
Office: 980.373.4743 | 24-Hour: 800.559.3853

April 22, 2014

Duke Energy updates N.C. legislative commission on coal ash

RALEIGH, N.C. – Duke Energy’s North Carolina State President, Paul Newton, today spoke before the N.C. Joint Environmental Review Commission (ERC) on the company’s response to the Feb. 2 Dan River coal ash incident and its near-term and longer-term actions to address coal ash across the state.

“Duke Energy is committed to working with policymakers and regulators to implement both short- and long-term solutions to coal ash management in North Carolina,” said Newton.

Newton told the ERC the company takes full responsibility for the Dan River incident. He also discussed the significant steps Duke Energy has taken on the site and in the river since the company’s previous update to the ERC on Feb. 17. These include:

- Ongoing water sampling that demonstrates the Dan River has returned to normal water quality conditions, and drinking water remains safe.
- Removing an ash deposit near the Dan River site and preparations to begin removing an ash deposit behind the Schoolfield Dam near Danville in the coming weeks.
- Continuing to work constructively with federal and state experts from the U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service, Virginia Department of Environmental Quality and N.C. Dept. of Environment and Natural Resources (NCDENR) to monitor the river and evaluate additional remediation efforts.

Newton said as a result of Duke Energy’s recently completed \$9 billion power plant fleet modernization program, the company has retired more plants than any other time in its history. The company had always planned to permanently close its ash basins as it retires units, following existing industry norms and compliance expectations of state and federal regulators.

Immediately after the Dan River incident, the company engaged independent third-party engineering experts to assess all of the company’s ash basins by May 31, 2014, and immediate action will be taken to address any significant issues, Newton said.

The company also is preparing a comprehensive, longer-term ash basin strategy that involves intensive analysis at all of its coal plant sites that begins next month. That work

will be completed by the end of the year, with closure strategies recommended for each site.

Newton described the key guiding principles that will help determine site-specific closure strategies. Those include the proximity of the ash basins to downstream drinking water intakes and downstream groundwater sources used for drinking water. They also focus on community considerations (such as traffic), potential environmental and health impacts, cost-effectiveness and amount of time it takes to complete the project.

Cost estimates for Duke Energy's plans for ash (see chart at <http://www.duke-energy.com/pdfs/CoalAshPlanWaterfall.pdf>)

Newton said the combination of the company's previous plans, and its more recent actions outlined in its March 12 letter to N.C. Gov. Pat McCrory and NCDENR Secretary John Skvarla, are estimated to cost approximately \$2 billion to \$2.5 billion.

These plans assume the following costs and activities:

- The costs of excavating and relocating ash from the company's Dan River and Riverbend sites to a lined structural fill or lined landfill. Those costs are assumed for Sutton as well, while work is underway to determine the most appropriate closure approach.
- The costs to continue to move ash from the Asheville plant to a lined structural fill.
- The costs to convert three remaining coal units to dry fly ash systems.
- A hybrid "cap in place" closure approach for the company's remaining 10 coal plant sites in N.C. This provides for some excavation on sites to consolidate ash, with a synthetic barrier to keep ash dry and protect groundwater. Site-specific studies have been underway to determine the most appropriate closure method.
- Dry bottom ash handling at operating sites in N.C. This type of system transports bottom ash wet and then stores it dry.

Costs increase significantly to excavate and remove all ash from coal sites

Although excavating and relocating ash in basins is warranted at some sites, costs increase by \$4 billion to \$5.5 billion with a one-size-fits-all "excavate and remove" approach across the N.C. coal fleet, Newton said.

There is no available capacity at Duke Energy's existing lined landfills to receive excavated ash, so there would be a need to site, permit and construct new lined landfills or structural fills. The time to relocate basin ash to new lined landfills or structural fills would take approximately 20 to 30 years, Newton added.

Newton said if the company were also required to convert to all-dry ash handling systems, the costs would increase an additional \$1 billion to \$2 billion. These steps, added to the total excavate and remove approach, collectively would cost a total of \$7 billion to \$10 billion.

“The intensive analysis of our coal sites will continue during the rest of this year,” Newton said. “This work, combined with our guiding principles, will further inform closure strategies and related costs.”

“In our view, the best approach to manage coal ash for our customers and North Carolina lies somewhere along this spectrum, with steps that address ash at both retired and operating plants. We look forward to working constructively with our regulators to achieve prudent, environmentally sound and cost-effective solutions,” Newton added.

The costs outlined in Duke Energy’s plans are approximations subject to completing detailed engineering studies. They do not include costs associated with financing, inflation and increases in operating and maintenance expenses.

The management of coal ash is a national issue

According to the federal EPA, there are 676 ash basins in the U.S. and Duke Energy has 33 in North Carolina, about half of which are inactive. Fly ash accounts for about 80 percent of the ash produced, and bottom ash makes up the other 20 percent.

In 2013, Duke Energy produced 1.8 million tons of ash at its North Carolina plants and approximately 67 percent of this was reused or recycled beneficially in structural fill, cement, cinder blocks and other construction materials.

For more information about Duke Energy’s ash management activities, its plans at specific plants and its response to the Dan River incident, see <http://www.duke-energy.com/ash-management/>.

Headquartered in Charlotte, N.C., Duke Energy is a Fortune 250 company traded on the New York Stock Exchange under the symbol DUK. More information about the company is available at: www.duke-energy.com.

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Coal Ash in North Carolina



According to the U.S. Energy Information Administration, about 37 percent of all electricity generated in the United States comes from coal. In the Carolinas, Duke Energy produces about 28 percent of its electricity from coal, and that number is expected to drop to 25 percent by 2015.

All coal naturally contains inorganic matter from the rocks and minerals in the coal seam where it was mined. Coal-fired power plants burn coal to make steam, and the steam turns turbines to generate electricity. When that coal is burned, the inorganic matter in the coal becomes coal ash. Coal ash has been accumulating at sites throughout the United States for more than nine decades.

Different types of coal ash

Coal combustion results in two forms of ash:

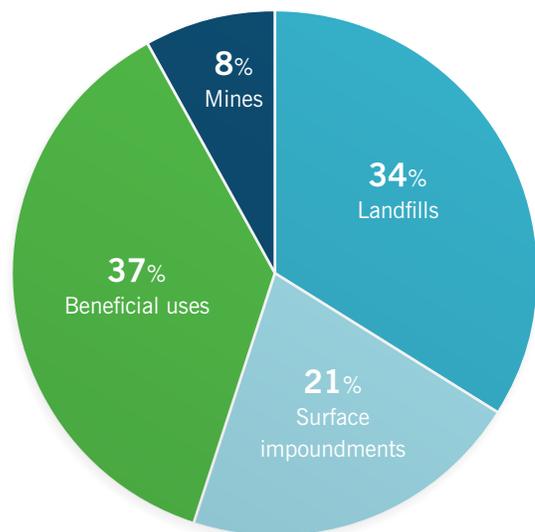
- **Fly ash** — a fine material similar to the consistency of talcum powder. Fly ash accounts for about 78 percent of the coal ash generated annually in the United States.
- **Bottom ash** — a coarser material collected from the bottom of coal-fired boilers.

In addition to fly ash and bottom ash, some power plants also produce synthetic gypsum as a byproduct. This happens at coal-fired plants that have emissions-control equipment called scrubbers installed to remove sulfur dioxide emissions.

A state and national issue

- Duke Energy has approximately 102 million tons of coal ash stored in North Carolina in 33 ash basins. According to the U.S. Environmental Protection Agency (EPA), there are approximately 676 ash basins throughout the United States.
- The head of EPA's waste office testified in February 2013 that "coal ash is one of the largest waste streams generated in the United States," with almost 136 million tons generated in 2008. Approximately 46 million tons are landfilled; 29 million tons are disposed of in surface impoundments, such as ash basins; 50 million tons are beneficially used; and 11 million tons are placed in mines.

Destinations of coal ash generated in the US



Storage, monitoring and safety

If the ash is not being reused or recycled, it can be stored dry in landfills or in water in ash basins. Duke Energy has already transitioned its larger coal-fired units to store fly ash in dry landfills and has multiple measures in place to safely and effectively manage the ash that is stored in basins. For example:

- **Ash dam inspections:** Inspections are conducted by company engineers and government regulators every year and by independent third parties every five years.
- **Surface water monitoring:** We routinely sample upstream and downstream of our coal-fired power plants.
- **Groundwater monitoring:** We have voluntarily monitored groundwater at our plants for years, expanding those efforts in 2010.
- **Fisheries monitoring:** We also sample fish tissue annually at several sites near our coal plants across North Carolina to monitor the health of aquatic life.

Closing ash basins

Electric utilities have several options when closing ash basins. Ultimately, the solution for basins is based on site-specific factors and may include a combination of the methods below. Any solution also must comply with federal regulations.

- Beneficial use
- Capping the ash with soil or a synthetic barrier
- Excavating and relocating the ash to a lined landfill

Reuse and recycling

Fly ash, bottom ash and synthetic gypsum are often grouped together and called coal combustion products, and the EPA has affirmed that these products are safe to reuse. In 2012, more than 51.9 million tons of these products were beneficially reused in the United States. In 2013, Duke Energy produced approximately 3.3 million tons of coal combustion products at its North Carolina plants, and almost 74 percent of those products were reused or recycled.

Fly ash can be reused in concrete products and projects, including roads, bridges and buildings. It also can be used as structural fill such as embankments or trenches that are built when native soil at a site or a roadway is not strong enough to support a structure. Bottom ash is often used to replace sand or gravel and can be used to manufacture concrete blocks, along with structural fills and embankments.

The synthetic gypsum from coal plant scrubbers is often used for wallboard manufacturing. About 40 percent of the gypsum wallboard manufactured in the United States uses synthetic gypsum from coal-fired power plants. In fact, the gypsum from the Roxboro Plant in Person County, N.C., is used at a wallboard manufacturing facility that was built next to the plant because of the nearby supply of synthetic gypsum.

Sources:

- Electric Power Research Institute
- Edison Electric Institute
- American Coal Ash Association
- U.S. Energy Information Administration
- Industrial Resources Council
- Duke Energy statistics

**ORANGE COUNTY
BOARD OF COMMISSIONERS**

ACTION AGENDA ITEM ABSTRACT

Meeting Date: June 3, 2014

**Action Agenda
Item No.** 7-f

SUBJECT: Funding for Orange County's Rural Curbside Recycling Programs

DEPARTMENT: Solid Waste/Recycling

PUBLIC HEARING: (Y/N)

No

ATTACHMENT(S):

May 13, 2014 Abstract – Issues and Funding Options for Orange County's Recycling Programs

INFORMATION CONTACT:

John Roberts, 245-2318
Michael Talbert, 245-2308
Gayle Wilson, 968-2885

PURPOSE: To approve a funding source for Orange County's Rural Curbside Recycling Program.

BACKGROUND: On May 13, 2014 the Board discussed issues and funding options for the County Rural Curbside Recycling Program and provided direction to staff (see Attachment). A majority of the Board agreed to continue Rural Curbside Recycling for Fiscal 2014/2015, to serve the existing 13,700 customers and add as many new customers as possible with existing resources. The Board requested to review three funding Options, listed below, for Fiscal 2014/2015. On May 27, 2014 Chair Barry Jacobs & Vice Chair Earl McKee add a fourth Option to be considered by the Board (detailed as Option #2 below).

1. Fund Rural Curbside Recycling Program for Fiscal 2014/2015 with Landfill Reserves.

To fund \$728,260 from Solid Waste Unrestricted Reserves which were \$3,082,630 as of June 30, 2013.

2. Fund Rural and Urban Curbside Recycling Programs for Fiscal 2014/2015 with Landfill Reserves.

To fund \$2,090,526 from Solid Waste Unrestricted Reserves which were \$3,082,630 as of June 30, 2013.

3. Eliminate all Recycling and Convenience Center fees and raise the County's property tax rate.

To replace all revenues from fees would equal \$6,049,228 and require a property tax increase of 3.77 cents.

4. Increase the Solid Waste Convenience Center fees to cover all or part of the \$1,856,543 transfer from the General Fund to Solid Waste to fund Convenience Center Operations - see the table below.

Convenience Center Fee Category	Current Fee	Increase to 33% of Remaining GF Contribution Balance	Increase to 50% of Remaining GF Contribution Balance	Increase to 67% of Remaining GF Contribution Balance	Increase to 100% of Remaining GF Contribution Balance
Rural	\$40	\$61	\$72	\$83	\$102
Urban	\$20	\$31	\$36	\$41	\$ 51
Multi-Family	\$ 4	\$ 6	\$ 7	\$ 8	\$ 10
Revenue (97% Collection Rate)	\$1,202,292	\$1,840,754	\$2,160,833	\$2,480,912	\$3,062,552

FINANCIAL IMPACT: The financial impact to the County is:

- to use \$728,260 of Solid Waste Unrestricted Reserves for Option (1) above;
- to use \$2,090,526 of Solid Waste Unrestricted Reserves for Option (2) above;
- to replace all revenues from Solid Waste Recycling and Convenience Center fees and raise the property tax rate by 3.77 cents from 85.8 cents to 89.57 cents to generate an additional \$6,049,228 for the Solid Waste Fund for Option (3);
- to increase the Solid Waste Convenience Center fees to cover all or part of the \$1,856,543 transfer from the General Fund to Solid Waste to fund Convenience Center Operations for Option (4), see the table above.

RECOMMENDATION(S): The Manager recommends that the Board fund the Rural Curbside Recycling Program by using \$728,260 of Solid Waste Unrestricted Reserves for Fiscal 2014/2015 (Option 1 above).

June 1, 2014

Group wants coal-ash cleanup

Old dump near police HQ has leaked into soil, groundwater

By TAMMY GRUBB
tgrubb@newsobserver.com

CHAPEL HILL A state official told the town this week that it's too soon to say what should be done about coal ash buried decades ago on land that now houses the Chap-

el Hill Police Department. The local environmental group Friends of Bolin Creek asked the Town Council on Wednesday to start cleaning up the site based on the latest report from the town's consultant.

"It would be a grave mistake to follow the lead of the N.C. Department of Environment and Natural Resources – whose reputation on coal ash regulation is now discred-

ited on a national level – by allowing the coal ash to remain in an unlined pit in the center of town," the group said in a letter to the town. DENR has come under fire and a federal grand jury investigation for its response to the Duke Energy coal ash spill on the Dan River and its handling of other coal ash sites around the state.

Chapel Hill officials said they don't know where the coal ash

Get more info

Chapel Hill town officials have posted coal ash dump letters and reports at bit.ly/1toqSFS.

came from before being buried just north of Bolin Creek off Martin Luther King Jr. Boulevard. The town bought the property in the early 1980s from the Sparrow fam-

SEE COAL, PAGE 5A

ily. Before that, the land provided fill dirt for projects in the 1950s and '60s. In the 1970s, the holes left behind were filled.

Town officials now are considering whether to sell the property or use it differently. The town plans to build a new police station in the future.

Falcon Engineering, hired to investigate, told the town last July that more work was needed. The town approved further studies, notified DENR about the potential contamination and installed fencing to limit potential runoff into the creek.

Falcon Engineering officials tested two wells, conducted deep soil probes at several spots and collected samples from Bolin Creek both upstream and downstream of the site. A March report confirmed coal-related contaminants – arsenic, lead, barium, chromium and selenium – had leaked into the soil and groundwater. High levels of mercury also were found in the groundwater, it said.

The study did not find a high concentration of heavy metals in Bolin Creek, it said.

According to the report, only one heavy metal – barium – would affect future development of homes or apartments on the site. Commercial projects could be allowed under existing state standards, it said.

In its letter to the town, however, the Friends of Bolin Creek contend the results overlook the fact that many of those heavy metals exceed environmental standards, even if they don't prevent someone from building on the site.

Testing the creek's surface water may not find coal-ash metals that settled over time and still could be affecting fish, insects or water quality, wrote group president Julie McClintock, who is also a member of the town's Stormwater Advisory Committee and a former Town Council member.

"This type of unpermitted pollution of the creek via hydrologically connected groundwater violates the Clean Water Act," she wrote. "Moreover, the state groundwater regulations require that where the North Carolina groundwater standards have been exceeded, as they already have been here many times over, the polluter must stop the discharges to groundwater and take corrective action to clean up the pollution. Yet that is not what the Town appears to be planning in this case."

The letter asks the town to take three steps:

- Test Bolin Creek – upstream and downstream of the site – for heavy metals that might have settled

- Comply with the federal Clean Water Act prohibition on pollution being leached into Bolin Creek

- Meet the state's requirements that any pollution threatening the creek or contaminated creek water be cleaned up

Qu Qi, a regional supervisor in DENR's Division of Waste Management, said the letter misconstrues the state's position. The investigation is still in its early stages, Qi wrote in a May 28 letter to Chapel Hill Mayor Mark Kleinschmidt.

Groundwater results need to be retested and confirmed, because the water samples were too cloudy, Qi said. Taking new samples with a low-flow groundwater pump could avoid "falsely elevated laboratory results," Qi said

The results of those new samples determine what happens next, Qi said. If there's a high threat of contamination, the Division of Waste Management would lead additional testing and remediation work. If the threat is low, the town could work through the state's Registered Environmental Consultant Program to resolve the risks.

"However, it is premature to speculate about the proper final remedy at this stage," Qi said.

The council referred the matter to staff for discussion at a future meeting.

Coal ash rarely used as structural fill in Triangle

By JOHN MURAWSKI
jmurawski@newsobserver.com

Despite its prevalence as a construction material in North Carolina, state records show a conspicuous absence of coal ash being used as structural fill in the Triangle, one of the fastest-growing and most construction-intensive regions of the state.

Most of the 70-plus structural fill sites documented by the N.C. Department of Environment and Natural Resources are in rural areas, such as Halifax, Cumberland,

Brunswick, Iredell and Nash counties.

The agency lists a pair of projects in Orange County and one in Durham County, but they were not completed or records are unavailable.

One project was a UNC-Chapel Hill pilot study in 1992 to assess the feasibility of using 500 to 600 tons of coal ash as a substitute for lime on agricultural fields at a farm that grew soybeans.

The university has no records of the study and none of the employ-

ees from that time still work for UNC's Energy Services department, said UNC spokeswoman Susan Hudson.

One condition of the state's approval for the project was that UNC would submit a report on the pilot project, but DENR does not have a copy on file.

The UNC ash came from the campus co-generation power plant that burns coal as one of its fuel sources. The ash is temporarily stored on site in a silo and trucked away for reuse as structural fill, as concrete

or for other uses, Hudson said.

DENR also lists Duke University as designating 4,000 to 5,000 tons of coal ash to be used as structural fill for the Science Research Center, Law School Addition, Public Policy Building, Medical Science Research Building and for utility trenches.

However, Duke spokesman Keith Lawrence said veteran employees on facilities projects do not recall ash being used for structural fill. "As best as we can determine, there is no indication that the ash was actually used as

material," Lawrence said.

Lawrence said the university does not have the time and resources to manually search its paper records, which are archived off-site, to confirm the employees' recollections about the ash.

Duke had been burning coal on campus since the 1920s and converted the power plant to burn natural gas in 2011. The plant produces steam to heat Duke's buildings, sterilize surgical equipment and maintain proper humidity for artwork and lab research.

Coal ash dumped at sites in rural N.C.

Sites around state are unregulated and mostly unmonitored

By JOHN MURAWSKI
jmurawski@newsobserver.com

Years before the accidental coal-ash spill into the Dan River in February, the waste was being dumped into creeks, wetlands and vacant fields across the state.

Scores of private ash sites were proposed for legitimate construction use – such as building an airstrip or a parking lot – but the construction didn't always take place.

More than 70 ash sites statewide hold about 11 million cubic yards of ash, much of it used in building roads, parking lots and other projects.

But nearly a quarter of the waste sits at six of the largest sites, where about 2.6 million cubic yards of coal ash lies in unlined pits, largely unmonitored for potential groundwater contamination.

Over the years, the sites have been cited by the N.C. Department of Environment and Natural Resources with violations for creating dust clouds, for being placed too close to water sources, and for

Inside

In the Triangle: Coal ash rarely used as structural fill. 14A

Liability threat: Shareholders sue Duke Energy over coal-ash management. 4B

ash erosion into water drainage areas. At one site, the ash was dumped into a wetland area.

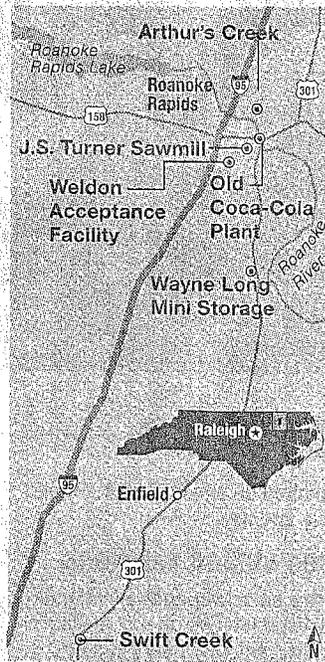
“When they said they had an end use, they didn't have an end use – it was a form of disposal,” said Ellen Lorschneider, planning and programs branch head of the solid waste section within DENR. She said operators were just dumping coal ash and describing the sites as structural fill.

As public officials grapple with a solution to safe coal ash storage, the focus has largely been on the future of the 33 ash pits and ponds at power plant facilities that are contaminating nearby groundwater. These sites are operated by Charlotte-based Duke Energy and its Raleigh-based subsidiary, Duke Energy Progress, formerly called Progress Energy.

But the 70-plus ash sites throughout the state, many on private property in Eastern North

Structural fill sites

Six of the state's largest structural fill sites that DENR says are coal ash disposal sites because the ash was not used for construction.



SOURCE: NC Department of Environment and Natural Resources
The News & Observer

SEE COAL ASH, PAGE 14A

COAL ASH

CONTINUED FROM PAGE 1A

Carolina, are also drawing attention after years of neglect. Even where the ash was used as "structural fill" – to level roadways, for road beds and to stabilize soil under buildings – the concern doesn't go away.

Gov. Pat McCrory's proposed Coal Ash Action Plan, now under review by lawmakers in Raleigh, includes a temporary moratorium on the use of coal as structural fill in amounts of 5,000 cubic yards or more.

McCrory's coal-ash proposal would also start regulating structural fill as landfilled solid waste. It would require state permits, leak-proof liners and groundwater monitoring for structural fill sites, none of which has been required in past years.

"Under current law, passed by previous administrations, there are more stringent requirements for the disposal of household garbage than there are for certain coal-ash applications," said DENR spokesman Drew Elliot.

Undocumented sites

The state's six biggest ash dumps, including four about 90 miles northeast of Raleigh in Halifax County, contain anywhere from 10 times to 100 times more coal ash than is typically needed for construction. The six sites range in size from 127,176 cubic yards to 905,238 cubic yards, according to state records.

The structural fill sites documented by DENR were mostly built after North Carolina adopted regulations in 1994 to promote the "beneficial reuse" of coal ash as structural fill. The use of ash for construction fill is widely accepted and encouraged by the U.S. Environmental Protection Agency.

The state's structural fills contain coal ash disgorged by Duke and Progress and reused at their own power plants and other construction sites, as well as waste from smaller industrial operations. Duke once sold the ash for 50 cents to \$1 a ton, but ash producers also paid to have it hauled away.

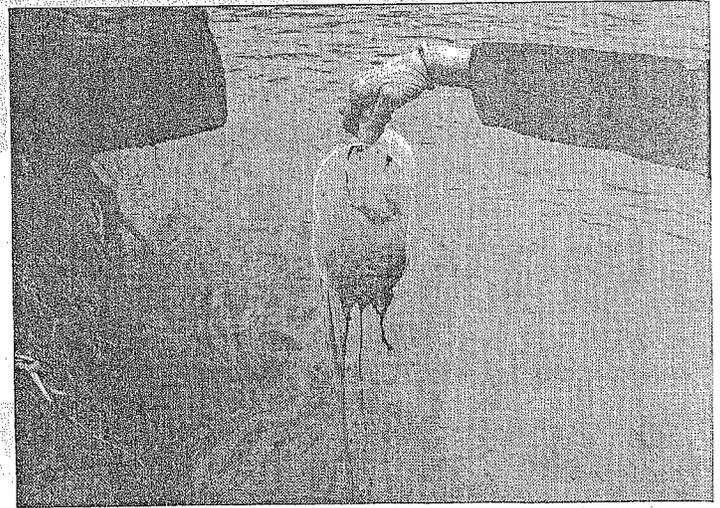
It's not clear how many total structural fill sites exist in the Triangle or statewide or where they are located, however, because sites built before the 1990s are not documented.

What is clear is that the state's historic dependence on coal as an energy source to generate electricity produced more ash than the construction industry could use. Duke and Progress for decades have stored excess ash on site in pits and lagoons.

Some enterprising locals saw an opportunity and agreed to haul ash away for a fee, hoping to find a buyer or to use it for development projects.

"It was just a great big huge hole there, and we filled it in," said Blackwell Bennett Pierce, owner of Utilities Transport, a trucking company that hauled coal ash between 2004 and 2007 to the Arthur's Creek disposal site in Northampton County, about 90 miles northeast of Raleigh. The site holds 480,612 cubic yards of ash, according to a county deed in the DENR records.

Plumblin Engineering, which designed the ash retention site, paid an administrative penalty of \$9,154.88 in 2011 for a number of violations at Arthur's Creek that included erosion problems and coal



GERRY BROOME - A

Jenny Edwards of the Dan River Basin Association scoops coal ash from the banks of the river in Rockingham County.

ash washing into a nearby creek. DENR officials say the problems have been resolved.

"We thought maybe we might use it for something one day," Pierce said. "But there's no use for it. Nobody wanted it."

Research biologist Dennis Lemly, who works for Wake Forest University and the U.S. Forest Service, has studied the effects of coal-ash contaminants and said dry ash storage sites are long-festering problems and overdue for stricter oversight.

"The two operative words are unregulated and mostly unmonitored," Lemly said. "It raises the larger underlying issue with the state regulatory system."

Problems in Nash since 2002

A Nash County site called Swift Creek has caused the most chronic environmental headaches. It accepted coal ash for more than a decade through 2003 and resulted in contamination of lead, arsenic and sulfates in shallow groundwater, a problem still awaiting a solution.

DENR on May 16 gave the site's operators 90 days to come up with groundwater corrective measures. The agency first cited Swift Creek for violations back in 2002.

Resolving ash-related problems can take years because DENR doesn't issue permits for structural fill sites and has limited authority

» Online

Previous problems: Read more stories about the N.C. coal ash issue at nando.com/coalash.

toring report by Sherrill Environmental of Durham said the eight water samples showed no contamination of coal-ash chemicals in deep groundwater monitoring wells.

The companies that worked the Swift Creek project were ReUse Technology, the broker that filed the 1991 notification of the project, and Full Circle Solutions, which bought the site from ReUse in 2003, according to DENR records. Full Circle CEO Robert Waldrop, who is based in Georgia, did not respond to questions about Swift Creek development plans for the structural fill or why the problems are taking so long to resolve.

Full Circle's lawyer, David Franchina in Charlotte, said by email that the companies and their consultants had been working with DENR for 10 years and plan to resolve the issues.

Company denies liability

The ash at Swift Creek came from Cogentrix, a Charlotte energy company that operated small coal-burning power plants throughout North Carolina. The Cogentrix power plants sold electricity to large utility companies for years, but Cogentrix has since sold off the plants, and some have been converted to other fuel sources.

When it owned the plants, Cogentrix had the ash hauled away and has washed its hands of any liability.

"The transfer of responsibility would take place when the materials go into the contractor's vehicle," said Cogentrix spokesman Jeff Freeman. "We're out of it completely."

State regulations require that structural fill proposals must submit a notice to DENR and be constructed safely to prevent erosion. They can't be put within 50 feet of a wetland or stream, within 100 feet of a drinking water source, and within 2 feet of the seasonal high groundwater table.

State regulations also prohibit

speculatively storing coal ash for some potential future use. Speculative storing can be avoided if at least 75 percent of the ash is used or sold every year for beneficial reuse in construction projects.

Henry Long, part owner of the Arthur's Creek property, said he was paid an average of \$1,400 a month to accept ash at the site from the Roanoke Valley Energy power plant owned by the Westmoreland Coal Co. His responsibility was watering and dust suppression of the ash, and in the 1990s, he said he hauled ash for Pierce's trucking company.

"When you dump that stuff out, it's like talcum powder almost," Long said.

DENR citations

After a local farmer complained in 2006, DENR slapped Long and Plumblin with a Notice of Violation for "creating a very large dust cloud of coal ash."

DENR's second citation, in 2009, noted "coal ash stockpiled on the property," and described that ash south of the pile "occupied an extensive wetland area measuring 2 to 3 inches in depth."

Samples taken from the wetland area "revealed high levels of arsenic, calcium, selenium and iron," according to DENR documents.

Agency spokeswoman Susan Masengale said the groundwater at Arthur's Creek has not been tested.

Russell Henry Grant, who did surveying work for Plumblin Engineers on structural fill sites, said some of the ash in Halifax County was beneficially reused for construction in the 1990s - a Family Dollar, a fire station in Weldon, a Basnight building supply store and an overpass for N.C. 125.

But then DENR inspectors started visiting the ash sites and citing violations, said Grant, who is part-owner of the Arthur's Creek property.

"We weren't getting paid enough to handle all the problems," Grant said. "Everyone just kind of ran when DENR started issuing violations. Everyone's scared of it."

CHARLOTTE OBSERVER STAFF WRITER BRUCE HENDERSON CONTRIBUTED TO THIS REPORT.

to regulate ash disposal, Lorschneider said. Additionally, the projects involve a host of conflicting interests: engineers, property owners, ash haulers and dust suppressors.

"They are fighting among themselves as to who should take responsibility for it," Lorschneider said.

Swift Creek began accepting ash in 1992, but environmental regulators didn't realize the extent of the problems there until 2002, when Swift Creek project operators notified DENR they planned to expand the site to accept more ash. That's when state inspectors noticed that the 2002 plans didn't match the original 1991 plans, and that the ash had been dumped into a drainage area and was soaking in water, which causes leaching of toxic chemicals.

The facility operators agreed to install groundwater monitoring wells in 2005, which confirmed suspicions that the ash was percolating chemicals. By then the site contained 134,000 cubic yards of ash.

In 2006, the site operators paid a \$4,000 administrative penalty and submitted a dewatering plan to dry out the ash. That plan, which diverts a drainage channel, has largely worked, but the chemicals remain in the groundwater.

A July 2013 groundwater moni-

Murawski: 919-829-8932

Orange County Parks and Recreation Master Plan 2030

Open House & Public Hearing Summary

May 17/ May 28

What's Going On?

Orange County's master plan for parks and recreation is 25 years old and in need of update. The plan, which includes recommendations and planned actions for the future, has served the county well and many of the things called for in 1988 have come to pass. A new master plan has been drafted and will soon be presented to County officials for consideration.

What Do We Know?

To create a new master plan, three different community needs assessment surveys were conducted, and 832 persons responded. Here is a brief summary of the results:

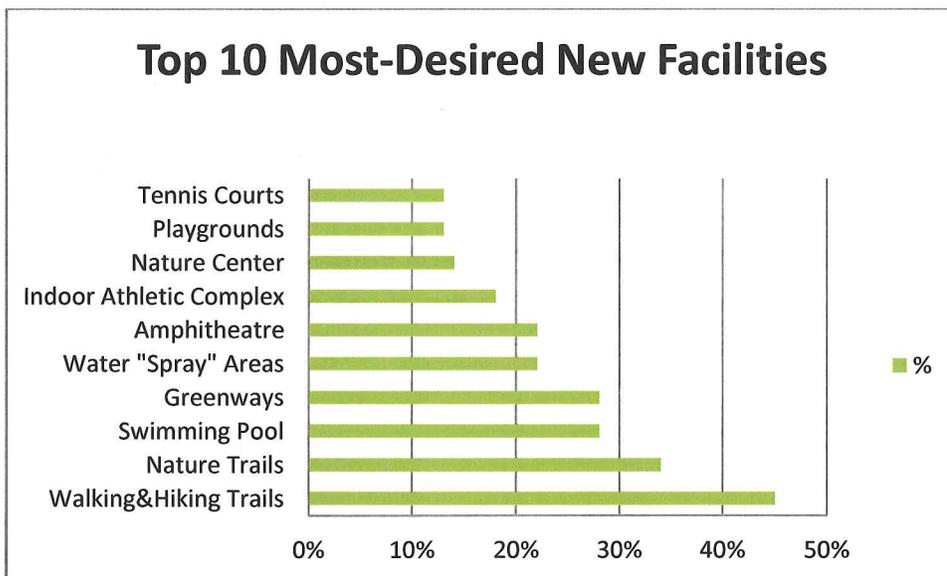
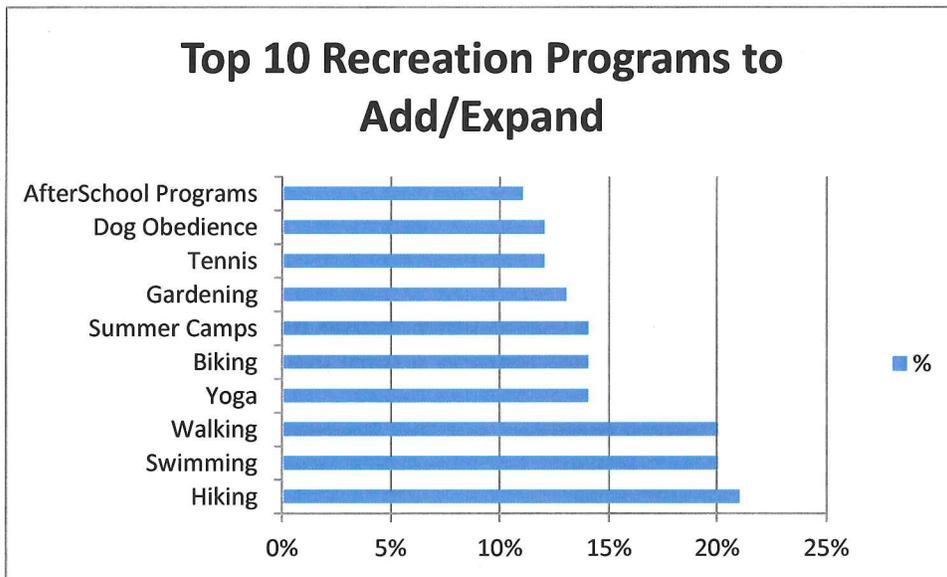
- The most commonly-used County facilities are the Sportsplex and Central Recreation Center in Hillsborough, Little River Regional Park, and Eurosport Soccer Center.
- **82%** of those surveyed think the County should expand active outdoor recreation opportunities.
- **79%** think the County should expand low-impact/passive recreation opportunities.
- **89%** said the County should expand or provide a trail system linking various areas of the county.
- Between **89% and 94%** feel County facilities are safe, well-maintained and well-operated.
- **93%** think that parks and recreation programs enhance economic health of the community, and **96%** think they enhance the physical and mental well-being of residents.

Most Popular Recreation Programs

1. Youth Soccer
2. Youth Basketball
3. Open Gymnasium
4. Little River Trail Run
5. Volleyball

Most Popular Special Events

1. Egg Hunt
2. Halloween Spooktacular
3. Fishing Rodeo
4. Earth Day Fair



Draft Master Plan Findings – What Does the Plan Indicate?

Existing Parks and Recreation Facilities and Programs

1. County residents overwhelmingly approve of the way current parks and recreation facilities are operated and maintained. They feel safe in these facilities, and find them easy to get to and accessible. County staff are seen as helpful and professional.
2. In the 15 years since the County opened its first park, additional park facilities and recreation centers have been created that serve a variety of community needs – and get high marks for providing quality opportunities to recreate – but maintenance and equipment replacement needs are on the horizon for some facilities.
3. The County has successfully acquired parkland and constructed parks in low-income and minority communities over the past 15 years, providing a needed outlet for physical activity, reflection in nature and outdoor recreation that meets social, mental and physical needs for both individuals and the public.
4. Residents believe strongly that park facilities and recreation programs:
 - a. Enhance economic health of Orange County;
 - b. Enhance physical and mental well-being of residents, and
 - c. Help reduce crime.

Future Park and Recreation Facilities and Programs

5. There is strong interest among county residents to expand both active recreation and low-impact recreation opportunities (especially hiking, walking and biking trails, and a swimming pool).
6. Residents are less sure and largely split on whether the County should pursue indoor facilities for arts/leisure activities, but somewhat more in favor of additional indoor athletic facilities.
7. Some residents are unsure about whether future athletic programs or parks are needed, but among those expressing an opinion, a significant majority favor new programs and parks.
8. The highest levels of interest in new/expanded programs are for walking, hiking, swimming, biking, summer camps and yoga.
9. Likewise, the top choices for new parks facilities are walking trails, nature trails, biking trails, greenways, a swimming pool and water parks.
10. Residents are almost universally supportive of funding new parks and recreation facilities through grants and corporate donations.
11. Residents express strong support for financing future parks and recreation opportunities through voter-approved bonds or existing local taxes. There is less support for charging user fees, and increasing local taxes (other than property taxes) is not a desired solution.
12. The County has successfully acquired sites for new parks identified in the 1988 Master Plan, with the exception of the Bingham District, and four new parks are projected in the County's Capital Investment Plan, along with additions and improvements to existing parks.
13. The creation of nature preserves in important natural areas of the county offers an opportunity for public access and low-impact recreation in addition to protection of natural resources.

Opportunities and Challenges

14. The County has in recent years seen success in pursuing public/private or public/non-profit partnerships for new facilities, and should continue to pursue these opportunities where mutually-beneficial.
15. With the County having land-banked several park sites for future use, and little room for new parks inside the town borders, there may be unprecedented opportunities for partnerships between County and towns for developing new park or recreation facilities.
16. There are likely also financial benefits to coordination and collaboration among the towns and County for future parks.
17. While not growing at the rate of the 1970's-1990's, the County continues to be a very-desirable place to live with a high quality of life, and population growth is expected to continue, adding another 36,000 residents by the year 2030. These new residents will likely be split between persons in the towns and those in the rural and suburban areas of the County.

18. The County's Lands Legacy Program has wiped out the parkland deficit identified in 1999, and secured a number of future parks, open spaces and nature preserve sites at strategic locations for future needs.
19. The 1988 Master Recreation and Parks Plan served the County well as a blueprint for future needs, and most of the facilities and programs anticipated in that plan have been built, secured or implemented. Many of the basic philosophical and physical tenets of that plan are still valid. However, a solution to a park site for Bingham Township remains to be addressed.
20. Opportunities for coordinated school/park planning with the school systems appear to exist.

Proposed Recommendations

Important Note: *These are draft recommendations and are subject to change.*

1. Enhance and protect our investment in existing park and recreation facilities.
2. Build the planned future parks (all planned parks open within 10 years).
3. Complete Nature Preserves in a way that provides for public access and recreation.
4. County should work with towns, school systems and others to build new facilities.
5. In some manner (whether on rural rustic trails or along rural roadways), develop a plan and complete Orange County section of the NC Mountains-to-Sea Trail.
6. Build more trails, and connect County/town open spaces and parks with trails?
7. Improve access to parks and trails, and design parks for healthy lifestyles.
8. Look at new program needs and consider new partnerships.
9. Examine the role of community centers in providing recreation, other services.

Issues for Further Study

- Ultimate Level of Service for the County Parks system.
- Review methods of park funding and acquisition.
- Coordination between Sportsplex and County programs.
- Further examine need for a public pool?
- Artificial turf versus natural playing surfaces.
- Frequency of surveys and plan updates.

Want to view the master plan – or share thoughts and comments online or by email? Go to http://orangecountync.gov/deapr/parks_master_plan.asp and click on the master plan link, or comments link. Email us at deapr@orangecountync.gov or call 919-245-2510.

Solar farm generates sparks

June 4, 2014 News + Observer

Neighbors say proposed operation does not fit community

By TAMMY GRUBB
tgrubb@newsobserver.com

HILLSBOROUGH The Orange County Board of Commissioners could decide this fall whether an Arizona company can build a 4-megawatt solar farm on half a

50-acre property north of Chapel Hill.

Sunlight Partners wants to build an unmanned solar farm beside the Falls of New Hope neighborhood off Mt. Sinai Road at 5609 Cascade Drive. An 8-foot chainlink fence inside a 50-foot-wide landscape buffer would shield some neighbors from the proposed field of six- to 10-foot-tall, fixed photovoltaic solar panels.

The site is in the county's Rural

Buffer, which allows some solar projects. If approved, the solar farm could be built over three months and maintained twice a month. The company plans to hire a local landscaper to care for the land.

The N.C. Utilities Commission approved the company's plan in July 2013. The process included an N.C. Wildlife Resources Commission review that recommended keeping 50- to 100-foot buffers around two existing streams and

re-seeding with short grasses to limit mowing.

Most of the roughly 100 people at last week's public hearing opposed the project. Speakers said they support solar energy but don't think a solar farm fits an established neighborhood for reasons including noise, traffic, and the potential chemical leaks, increased stormwater runoff and reflected sunlight causing a glare.

SEE SOLAR, PAGE 3A

Solar researchers report traffic is minimal once a farm is built, and the sound generated usually can't be heard 50 to 100 feet away, according to a 2012 UNC School of Government report. The inverter, which converts the power before it enters the electrical grid, sounds like an air conditioner, and vegetation under the solar panels continues to absorb runoff, the report says. The glare risk is typically in early morning or late evening, it says.

Residents also worry about the effect on property values and losing the existing view. Appraisers testified for both positive and negative effects on property values, but industry experts say the state doesn't have enough experience to offer a clear answer.

"This facility, with its 18,000 panels over 20 acres, will permanently transform what is one of the most bucolic and tranquil residential neighborhoods in the county into what amounts to an industrial zone," neighbor Bob Cantwell said.

Last week's hearing will continue Sept. 8. The delay also postpones the county Planning Board's scheduled reviews.

The company would lease the land for 15 years from property owners Sheila and Mike Bishop and Virginia Nunn, who also owns her home across Mt. Sinai Road. The company could renew the lease at least two times for five years each, the family said.

Sunlight Partners would sell the electricity to Duke Energy.

The family lives to the south — not far from the proposed solar farm — on land that once belonged to Sheila Bishop's father and uncle. Sons Chris and Carson are the fifth generation in Orange County, she said, and her grandfather, William Nunn, sold the land for Falls of New Hope in 1966.

Mike Bishop said they investigated potential concerns and sought a second opinion from Strata Solar in Chatham County before negotiating with Sunlight Partners to double the buffer, plant taller trees and ensure dead plants would be replaced.

Farmer Bob Strayhorn most recently harvested hay from the field but isn't able any longer. That could end an existing agricultural property tax exemption, the family said, and a solar farm seemed to be a responsible use of the land.

The deal also could preserve their inheritance and help Nunn, who is approaching 88 with serious health concerns, pay her property taxes and hire a caretaker so she can stay in her home, Chris Bishop said.

"Do (neighbors) really think that we should let them continue to enjoy the view, and us get nothing out of it?" Sheila Bishop asked.

Relations with their neighbors have been difficult for a long time, and they've had trespassers who think their property belongs to the subdivision, Mike Bishop said. His "no trespassing" signs are often torn down, he said.

Sunlight Partners, founded in 2010, has 48 potential North Carolina sites under consideration, company officials said. The state's solar industry is booming due largely to tax credits and state laws that reduce solar costs by more than half, and a requirement that power companies provide up to 12.5 percent of energy sales through renewable sources by 2021.

Grubb: 919-932-8746



I-40 Widening in Orange Co.

Transportation Improvement Program Project No. I-3306.A



THIS ISSUE

- Public Meeting Info p. 1
- Project Description p. 1
- Vicinity Map p. 2
- Project History p. 3
- Contacts p. 4
- Schedule p. 4

Why Is This Project Needed?

The purpose of improving this section of I-40 is to help relieve peak hour congestion.

Public Meeting to be Held Tuesday, June 10 for I-40 Widening Project

An informal drop-in style public meeting will be held on June 10, 2014 from 4 to 7 p.m. in Chapel Hill to introduce the proposed I-40 widening project to the public. Information on the proposed project will be provided and representatives from the North Carolina Department of Transportation (NCDOT) will be available to answer questions and receive comments about the proposed project.



NCDOT will provide auxiliary aids and services under the Americans with Disabilities Act for anyone who wants to participate in this meeting. Anyone requiring special services should contact NCDOT Project Planning Engineer Eugene Tarascio (contact information on back page) as early as possible so that arrangements can be made.

Public Meeting

Tuesday, June 10
4-7 p.m.

Southern Human Services Center
2501 Homestead Rd.
Chapel Hill

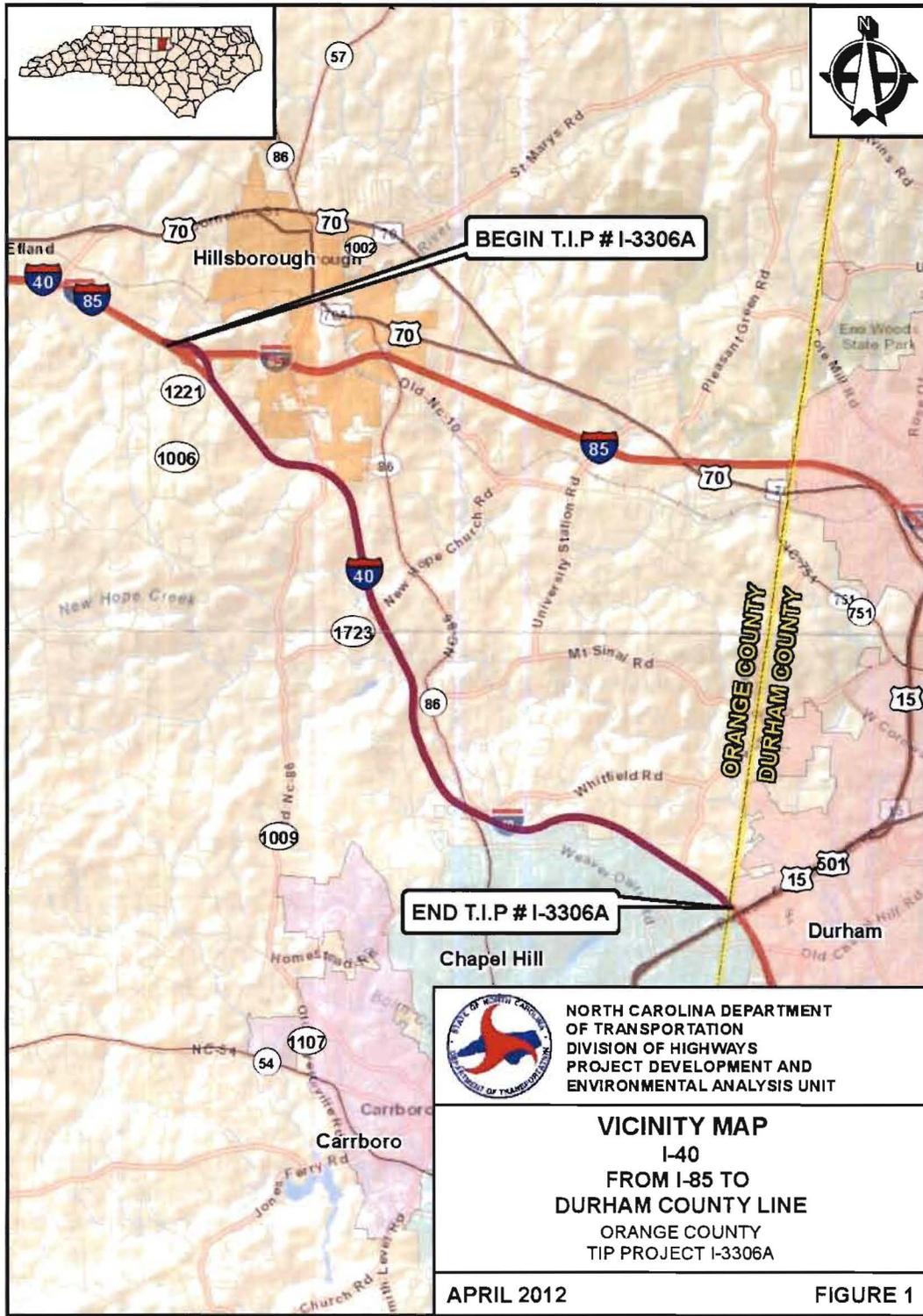
The information presented at this public meeting will be general in nature because detailed design plans have not yet been developed.

Project Description

NCDOT proposes to widen 11.4 miles of I-40 from I-85 in Orange County to the Durham County line. The widening will add one additional travel lane in each direction in the grass median of the interstate, and all the widening is anticipated to occur within the existing right of way.

For persons who speak Spanish and do not speak English, or have a limited ability to read, speak or understand English, interpretive services will be available at the meeting upon request. For more information, please call 1-800-481-6494 prior to the meeting.

Citizens are encouraged to review the information in this newsletter, attend the meeting, and provide input regarding the proposed project.



What Has Been Happening?

Initial environmental studies have begun to gather information and data on the project. Over the next few months, you can expect to see different project team members visit the area.

Project team members may take photographs, make notes, take measurements or mark important locations. However, these markings are only surveying and documentation guides and they do not necessarily indicate that your property will be impacted by the project.

Project team members need to access your property or business for these studies, NCDOT respectfully asks that you allow our staff on your property to conduct the necessary studies.



I-40 West of US 15-501 near Durham/Orange County Line

How Will This Affect Me and My Community?

The proposed widening will reduce traffic congestion, especially during peak rush hours. Below is a list of the potential effects of the project. As the development of the project moves forward, NCDOT will continuously refine the design to avoid and minimize project impacts.

Improvements to Interstate 40:

- Easier to merge on I-40 westbound at US 15-501/I-40 by continuation of inside I-40 westbound lane;
- Connect the eight-lane section at the beginning of the project (I-85) and the six-lane section at the end of the project (Durham County line);
- Fewer traffic delays;
- Wider road to better accommodate vehicles; and
- Faster EMS/Fire Department response.

Other effects may include:

- Streams and wetlands, and other natural and environmental resource effects.



Interstate 40 Widening

North Carolina Department of Transportation
Project Development and Environmental Analysis Unit
Attn: Eugene Tarascio
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

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First-Class Mail
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JOHN KENT
394 CUB CREEK RD
CHAPEL HILL, NC 27517-6327



Contact Us

Eugene Tarascio
NCDOT Project Planning Engineer
Email: gtarascio@ncdot.gov
Phone: 919.707.6046
1548 Mail Service Center
Raleigh, NC 27699-1548

If you have transportation questions about other projects, call the NCDOT Customer Service Office at 1-877-DOT-4YOU or visit the NCDOT website at www.ncdot.gov.

Project Schedule

June 10, 2014 — Public Meeting
2015 — Categorical Exclusion
Environmental Document
2015 — Public Hearing
2016 — Begin right-of-way
2017 — Begin construction

1,340 copies of this public document were printed at a cost of \$1.40 each.

N.C. now open to fracking

MCCRORY SIGNS BILL; STATE MOVING TO LURE NATURAL GAS DRILLERS

June 5, 2014



ROBERT WILLETT - rwillett@newsobserver.com

Gov. Pat McCrory, flanked, from left, by Sen. E.S. Newton, Sen. Bob Rucho, legislative staffer Jeff Warren and Rep. Mike Hager, brandishes the pen he used to sign a bill Wednesday to allow fracking in North Carolina at N.C. State's Centennial Campus in Raleigh.

By JOHN MURAWSKI
 jmurawski@newsobserver.com

RALEIGH Gov. Pat McCrory's signing of major energy legislation into law Wednesday sets the stage for preliminary exploration of North Carolina's shale gas potential, with the state government taking the lead where private industry has been reluctant to commit.

State-sponsored drilling is expected to get underway this fall in Eastern North Carolina as part of a \$550,000 state effort approved last year to help the energy industry assess fracking prospects here.

Inside
Revenue: Governor says he'll help towns with replacing privilege tax. **1B**

Boosters of energy exploration want to expand the state's drilling activities beyond the six counties designated last year. The Senate's proposed budget would add more counties throughout the state and includes nearly \$1.2 million to aid the energy sector by drilling, analysis and marketing. The governor's budget includes \$500,000 for drilling up to three test wells near Sanford in Lee County.

» Online
Gallery: See more photos from Gov. McCrory's signing of a fracking bill with this article at nando.com/politics.

"It's a great thing for the government to be willing to do that," said Mark Miller, co-owner of Tar Heel Natural Gas, a Charlotte company interested in energy exploration here. "If the government can help the industry ascertain, that's a huge hurdle to climb over to get industry to come into the state."

The actual areas to be drilled will

be determined after the state budget is finalized. The Senate passed its budget last week and sent it to the state House for consideration. The House is expected to discuss its own budget next week. While the two chambers differ on some budget provisions, the House is likely to endorse the test wells.

Critics of fracking want subsidies directed to promote solar power and wind energy, not a booming industry sector that is thriving on its own.

"It looks like a taxpayer subsidy

SEE **FRACKING**, PAGE 7A

FRACKING

CONTINUED FROM PAGE 1A

going to the oil and gas industry," said Cassie Gavin, lobbyist for the North Carolina chapter of the Sierra Club. "If they're interested in the resource, then they should invest in exploring."

State ready to help

But energy development has lagged here, and lawmakers eager to promote drilling in North Carolina want to send the industry a clear signal that the state is ready to help.

The Energy Modernization Act, enacted into law Wednesday, clears the way for issuing fracking permits 61 days after safety rules are adopted. Permits could be issued as early as March and almost certainly by the fall of 2015.

McCrory signed the law at N.C. State University's Centennial Campus flanked by key lawmakers and Cabinet secretaries who are involved in developing an energy sector for the state. Security was tight with both campus and Raleigh police, but there were no protesters.

"Now for the first time North Carolina is getting into energy exploration," McCrory said, who passed out the pens used to sign the legislation. "North Carolina has been sitting on the sidelines for too long."

An inducement to industry

Still, energy companies are not likely to spend millions of dollars to explore here if their investment won't pay off. Producing natural gas for commercial use would require drilling horizontally through several thousand feet of prehistoric shale rock and using hydraulic fracturing, or fracking, to release natural gas trapped in the rock formations.

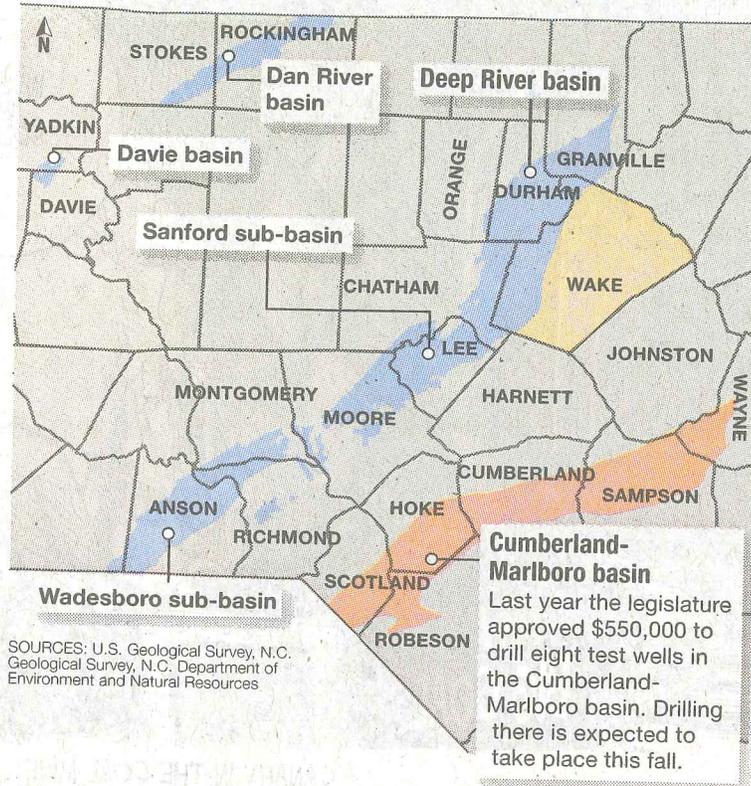
North Carolina's shale gas potential remains speculative and is based on about 15 core samples collected in past decades as well as a handful of test wells in Lee County that have struck gas, said State Geologist Kenneth Taylor. Lee, Moore and Chatham counties are believed to be the state's epicenter for natural gas and related fossil fuels commonly called "wet" gas.

Pinpointing the best sources of the shale gas could require drilling several hundred test wells, Miller said. North Carolina's offer to drill several more test wells would be an inducement for the industry to pick up the slack, he said, but no guarantee of success.

Bids from contractors are due June 21 for drilling the core samples in the Cumberland-Marlboro basin, ap-

Test drilling in N.C.

Gov. Pat McCrory and the state Senate's budget proposals include funding to drill test wells in different basins across the state to assess shale gas potential. Areas to be drilled will be determined by the legislature in the final version of the state budget.



SOURCES: U.S. Geological Survey, N.C. Geological Survey, N.C. Department of Environment and Natural Resources

Cumberland-Marlboro basin
Last year the legislature approved \$550,000 to drill eight test wells in the Cumberland-Marlboro basin. Drilling there is expected to take place this fall.

The News & Observer

'Now for the first time North Carolina is getting into energy exploration. North Carolina has been sitting on the sidelines for too long.'

GOV. PAT MCCRORY

proved by the legislature last year for a swath that includes Wayne, Sampson, Scotland and Hoke counties.

Drilling could start in fall

If the funds for drilling remain in the state budget, Taylor said, the core samples could also be drilled as early as this fall. He said the drilling locations haven't been selected but they would be on state-owned property.

Drilling core samples doesn't produce gas; instead, it provides cylinders of soil and rock that can be chemically analyzed for organic carbon, the common marker for natural gas, oil and other fuels.

Vertical core samples are also cheaper than drilling gas test wells, costing between \$400,000 and \$500,000 for a 4,000-foot core, versus more than \$1 million per gas well, Taylor said. Drilling for gas is

more complicated and requires "stimulating" the well by fracturing the surrounding rock with high-pressure water or nitrogen foam.

"It'll get information that companies need to make a decision," Taylor said of core samples. "We can get information if there's gas there or not without going into the exploration business."

Republican Sen. Buck Newton of Wilson, one of the advocates of shale gas exploration, said he has discussed the state's energy prospects with several energy companies that have expressed interest in North Carolina.

Newton predicted that, by 2017, "the picture will become very clear for the industry as to the extent of the resources" in the state.

Fracking fears and hopes

*News + Observer
June 3, 2014*

I have two gut feelings I want to share dealing with fracking in N.C.: fear and hope.

I fear that with the legislature in session, the preliminary report of 120 items by the Mining and Energy Commission will be changed to be more favorable to industry. This already shows up in the Senate as a bill dubbed the Energy Modernization Act.

I fear that the preliminary report will be accepted as amended, that the public meetings to have been held this summer will not occur, and that the October deadline for the final report (actually the commission indicated it would need until January) will not be honored. The Senate would dismiss the current commission and make it smaller, and the legislature would nominate most of the members. I fear that this could lead drilling to begin next spring, basically without due process, as initially set forth by this same legislature.

I hope that as potential drilling companies realize how complex the geology is within the Sanford Sub-Basin – with the multitude of faults and injected igneous dikes and the escape routes that both natural gas and toxic drilling waters have to get to the surface and into drinking water wells – that the risks are not acceptable.

I hope it is noteworthy that there are no permeable rock layers in which to inject the toxic waters used in drilling, neither in the Triassic basin, nor in the adjacent Piedmont. The possible sedimentary beds exist only in the Coastal Plain area, and these aquifers serve as major water sources. The tourist trade must be considered.

I hope the price of natural gas remains so low that drilling will not pay. And, if the natural gas is mainly methane, it is not as valuable as natural gas. I hope it is realized that the amount of retrievable natural gas is really unknown and that predictions are always on the high end.

I hope it is realized that there are thousands of square acres of black shales in formations that are hundreds to thousands of feet thick in many states and that future resources are being exploited now. Our Cumnock Formation is tiny in volume and would not sustain years and years of production.

I hope companies realize that the infrastructure of roads and pipelines is not available, nor are nearby water sources to mix with the toxic chemicals. I hope companies realize that the EPA is about to study whether the ingredients of toxic drilling waters should be made public.

I hope that other early on-the-spot drilling companies will not renew leases as has at least one company. I hope that the 120 items on the commission report will stall leasing agreements in the future.

If I were the CEO or a board member of a gas or oil company, I hope I would not allow funds to be used in the Triassic Sanford Sub-Basin of North Carolina.

Daniel A. Textoris, Emeritus professor of geology,
UNC-CH, Chapel Hill

0The length limit was waived.

Air quality monitors targeted

N+O

May 3, 2014

Monitors not required
by EPA would be cut

By CRAIG JARVIS
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State lawmakers who have been cutting environmental regulations in their quest for to streamline government have a new target: cutting the number of air quality monitors around the state.

That provision is in a wide-ranging regulatory overhaul bill that has cleared the Senate and is headed to the House. SB734 would make state environmental regulators get rid of any ambient air monitors that federal law doesn't require – a big concern to the neighbors of some high-profile locations that could lose their monitors, such as:

- The one set up on Blackstone Drive in Sanford to help monitor pollution from potential fracking operations in Lee County.

- The device at the sulfur smelting plant at Bayview Ferry on the Pamlico River in Bath, where neighbors have long complained of the odor.

- The monitor across the street from a proposed massive coal-fired cement plant in Castle Hayne in New Hanover County that community activists and environmentalists have been fighting for six years. The plant is not far from two new schools and next to the Northeast Cape Fear River.

"When I heard about that I just couldn't believe it," Kayne Darrell of Castle Hayne, one of those neighbors and activists, said about the bill Wednesday.

Aside from eliminating monitors that people in some communities might like, the idea of shutting down dozens of air quality equipment stations if the U.S. Environmental Protection Agency says it's OK – and do it in the next three months – isn't that simple.

The EPA has to approve states' networks of air quality monitors, which are submitted in detailed plans every year by July 1. The state Department of Environment and Natural Resources reviews its monitors – adding some, eliminating others – based on such criteria as population, weather patterns and air quality standards, which often change.

"We're doing it based on the science: where we think we have air quality problems in the state, and where we need information to control air pollution and predict where we might have problems," DENR spokesman Tom Mather said.

Monitoring stations

Currently, the state operates 132 monitors in 56 shed-like stations. Mecklenburg, Buncombe and Forsyth operate their own monitors. More than half of the state monitors are not specifically required by the EPA. But that doesn't mean they can just be closed, according to DENR.

The monitors that are required by the federal agency meet certain criteria, while those not required individually might still be considered necessary to form an adequate network, Mather says. Besides population and pollution levels, monitors also are used in forecasting and modeling.

All of which has to be signed off on by the EPA, in an annual process that isn't squeezed into the three-month span under the proposed legislation.

Additionally, the EPA will soon
SEE **MONITORS**, PAGE 7B

MONITORS

CONTINUED FROM PAGE 1B

release proposed new standards for ground-level ozone, or smog, which are expected to be more stringent. That could have implications across the state if areas are suddenly considered out of compliance with federal regulations. Sometimes businesses are reluctant to locate in an area that is out of compliance, because of increased regulation and more paperwork, Mather said.

"Some of these monitors, where they are meeting standards, people might think are superfluous, all the sudden become very important," Mather said.

In other words, if the EPA is getting tougher, it might not be the right move for North Carolina to do less air quality monitoring.

"That's why we're baffled by this legislation," Mather said.

Cost savings minimal

It isn't clear where the legislation originated. In March, a staffer in the legislature's fiscal research division emailed DENR asking for a detailed report on the

monitors, which the agency compiled. The staffer declined to say what prompted the inquiry, as bill-drafting communications are confidential.

Sen. Trudy Wade, a Republican from Greensboro who is a co-sponsor of the bill, has said in public legislative discussions that it was prompted by the looming EPA regulations, which could require more monitoring of specific sources of pollution, such as large industrial plants, instead of the more common ambient monitoring of general air quality in a region.

Wade said that could prompt a realignment of monitors, and so the state had to be in a position to use its resources to best advantage.

The cost savings would be minimal. The DENR report indicates the annual operating costs of the three types of monitoring – gaseous, fine particle and air toxics – range from an estimated \$11,400 to \$36,000 for each device. Most of the funding comes from the EPA, although some comes from state vehicle inspection fees and gas taxes.

Mather said the monitoring network can save the state money and help businesses. Charlotte has been the only part of the state not meeting ozone standards, a designation that has included surrounding counties. But monitors placed in outlying counties showed some areas were meeting standards, and so portions didn't have to be included in that designation, Mather said. Again, that would make an area more attractive to some businesses.

One such device, the Rockwell monitoring station in Rowan County, downwind from Charlotte, helps the state understand what's happening in Mecklenburg County and develop strategies, the DENR report notes. Only one of the eight monitors there is currently required by the EPA.

'Public health threat'

Environmentalists are concerned that cutting back on monitors is a step toward dirtier air.

"How are we better off knowing less about our air quality?" said Molly Diggins, state director for the Sierra Club. "And how can

we keep our air quality from deteriorating if we remove a primary source of data in our communities?"

Darrell, the community activist in Castle Hayne, said much of the motivation spurring neighbors of the proposed cement plant came from information gleaned from the air quality monitor there, which documented that New Hanover County was in danger of exceeding sulfur dioxide standards.

"We wouldn't have known about that without that monitor," she said.

The Southern Environmental Law Center, which has represented environmental groups in litigation over the cement plant, says Titan America's air quality permit application proposed to emit more than 5,000 tons of sulfur dioxide, nitrous oxide, carbon monoxide, particulate matter and organic compounds every year, burned in a coal-fired kiln.

Doug Springer, a Castle Hayne resident who runs boat tours on the Cape Fear and Northeast Cape Fear rivers, says the prospect of a cement plant of that magnitude argues for closer monitoring in an area already

burdened with pollution.

"On a daily basis I have to apologize to my customers on the river for the different smells and odors coming out of the landfill, chemical plants on the Northeast. It's a reality," Springer said. "We smell it in downtown Wilmington on certain days if the wind is blowing right. I have a hard time understanding the justification for doing less monitoring now. We probably should be doing more."

The monitor in Lee County is collecting baseline data that will be used to monitor any changes in air quality caused by hydraulic fracturing of shale gas in that area, once that process is legalized.

Therese Vick of the Blue Ridge Environmental Defense League says the state needs all its monitors.

"Closing air monitoring that bears silent witness, measures things that the EPA doesn't require to be measured, gives a more complete picture of what's going on in the ambient air," Vick said. "I think it's a public health threat."

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May 25, 2014

Chatham Park nears final vote

By ANDREW KENNEY
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PITTSBORO With dueling choruses of critics and supporters, the Chatham Park project on Tuesday cleared the last likely hurdle before its potential approval.

More than 70 people signed up to speak at the podium of Pittsboro's old courthouse for a final public debate about Preston Development Co.'s master plan for a city-size development wrapping around eastern Pittsboro.

Unlike the November public hearing, there were no signs, no shouts from the audience and few T-shirts with printed messages. People still had plenty to say, covering topics as diverse as forest growth rates and economic distress.

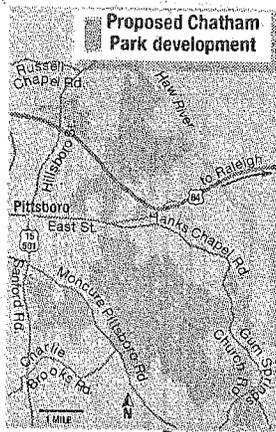
The speakers, largely consisting of residents of Pittsboro and surrounding areas, tended to argue past each other. Critics often dove into the rules and nitty-gritty of the plan, while many supporters argued for the project's broad economic promise.

Dick Winokur saw a chance for Pittsboro to establish its future.

"I've seen over and over again where opportunities like this were passed by," he said. "It gives an opportunity for our children and our grandchildren to stay in the community, work in the community and improve our community."

Cathy Holt, however, worried promises of environmental protection and sound planning could erode with time. "All these protections for our quality of life that we have here have to be down on paper, not promises," she said.

Pittsboro Matters, the most-unified voice questioning the developer, again called for further study and more information. Among its requests, the group asked:



■ That the developer pay before the project's approval to study its social and economic effects.

■ That the developer establish affordable housing.

■ That the developer study its traffic impact, with an eye toward protecting downtown.

■ That the developer robustly protect streams and sensitive environmental areas.

Philip Culpepper, a representative for the developer, questioned his critics' intentions. "That's their only goal, is to kill Chatham Park," he said in an interview. "They will cover it up with 'study, affordable housing, local contractors,' every condition they can think to do."

Culpepper said the company will look into affordable housing, but he rebuffed requiring certain units be built for people with lower incomes.

"There's not a town-wide (affordable housing) ordinance," he said. "We believe we should be treated the same way as the rest of the town, not to put the finger on us because ... they think there are wealthy people behind it."

The board has not yet scheduled its potential vote on the project.

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Project a regional game changer



Commentary

Kirk Ross

N+O

May 25, 2014

Change happens slowly until it happens all of the sudden.

You see this principal in nature – slow budding, then pow, a flower. Also, mudslides.

Here in southern Orange County we've seen change in fits and starts for close to a decade. If you're right next to a new high-rise or a set of new houses shoehorned into a couple of underused lots, it seems like a big deal. If you look at the overall growth rates, though, we're not exactly bustling.

It may seem shocking to say so, but in terms of our economy, the lay of the land and our role as a community we're still the college town/commuter community for Raleigh, Durham and the park, just bigger and more built out.

Nothing has come along that has promised to really shake up that paradigm. Until now.

Last week, citizens of Chatham County lined up at a Pittsboro Town Board meeting to raise concerns about Chatham Park, a massive development that runs from the east side of Pittsboro to Jordan Lake. The first thing to know about Chatham Park is the scale. "Massive" doesn't do it justice.

For decades we've heard talk that one development or another would double or triple the size of Pittsboro. Even now, given that the town is still only about 4,000 people, that would be big, but not regional impact big.

Chatham Park would increase the town's population by almost 1,500 percent to more than 60,000 over the project's 30 year time span. It's the kind of growth rates we saw in Cary in the 1980s sustained for three decades. Keep in mind that major developments grow in spurts. That means we're likely to very quickly have a town nine miles down the road with the population of Carrboro within a decade and the population of Chapel Hill a decade later — 22,000 homes.

It's also massive in terms of size, about 7,200 acres, pretty much surrounding eastern and southern Pittsboro and stretching from the southern tip of Jordan Lake to the banks of the Haw River near Bynum. It's almost all of the developable land left in the area covering a total of about 7,200 acres or about 11 square miles.

Another RTP

While another town with the same number of people as Chapel Hill just a short hop down the road is going to have a major impact, the nature of this new village is what I think will change things the most.

The backers of the plan, including SAS founder Jim Goodnight, envision another tech and research park. It has the potential to be an employment center equal in draw to RTP. If their plan works out, many of those 60,000 residents of New Pittsboro will work in this new tech park. Some will commute across the lake. But given the traditional ties between Chatham County and UNC, particularly in health care, it is hard not to see a close partnership between the new community and this one. And given the natural constraint of the lake, some of the people who will work in this new giant employment center are going to find the commute much easier from north Chatham and southern Orange a much easier.

Right now, the odds are fairly good that Pittsboro will take the deal. It's hard to tell when, but with much of the land already in hand, that could mean a fairly quick start when it does happen.

The time for Orange County communities to take a hard look at the consequences of that decision, its impact on our community and on our neighbors. If we get ahead of the curve in planning for this change we can avoid the transportation and planning nightmares we saw in the later half of the last century. And I pray we can avoid turning 15-501 south into a strip mall infested corridor like 15-501 north.

We're on the cusp of the biggest change in 50 years, folks. You might want to look into that.

Kirk Ross is a longtime North Carolina journalist, musician and public-policy enthusiast. Contact him at kmr@rossalmanac.com

Jordan circulators on hold

June 4, 2014 News + Observer

State had planned to begin stirring the waters by April 1

By ANDREW KENNEY
akenney@newsobserver.com

RALEIGH The state has paid about \$400,000 for construction of 36 SolarBee devices, even though a federal review has temporarily delayed a plan to use them to stir the waters of Jordan Lake into cleanliness.

The state's environmental agency expected to put the water circulators on Jordan Lake by April 1.

They won't be deployed, however, until the U.S. Army Corps of Engineers gives final approval for the controversial, \$1.44 million "pilot project."

For environmentalists and critics of the plan, the pending federal review offers a last chance to derail the effort, which some see as a poor replacement for environmental rules that the legislature delayed last summer.

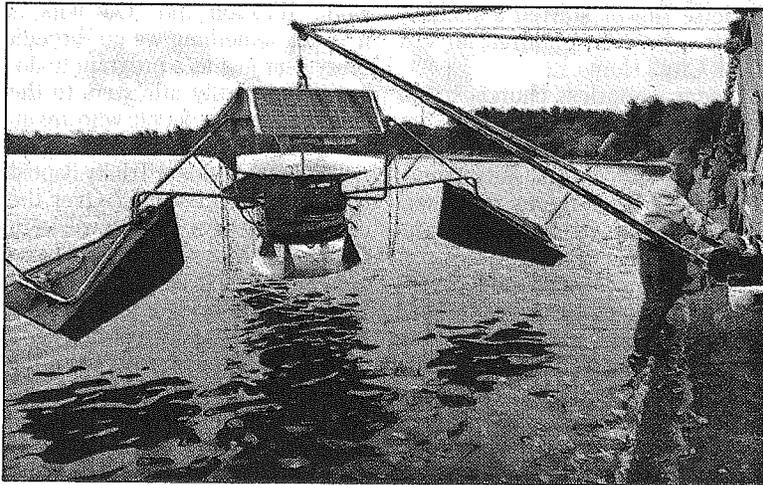
Earlier this year, a coalition of environmental groups, their supporters and others flooded the Corps of Engineers with comments, about 1,500 in all.

The state could be forced to make significant changes to the project if the Corps finds serious issues in those comments or in its final review.

The state Department of Environment and Natural Resources argues that's an unlikely situation. A draft report issued by the Corps of Engineers found that the pilot project would have no unavoidable adverse impacts.

Some of the plan's critics, however say the state has moved too hastily by paying out money to the devices' manufacturer, Medora

SEE SOLARBEE, PAGE 5B



MEDORA CORP.

The SolarBee water circulator will be used to control pollution in Jordan Lake after final approval from the Army Corps of Engineers.

SOLARBEE

CONTINUED FROM PAGE 1B

Corp., and inking a deal with the company.

"The reason that environmental review is necessary before projects are undertaken is so that people can evaluate all the aspects of the project," said Will Hendrick, an attorney with the Southern Environmental Law Center.

"I feel it's poor public policy to commit substantial amounts of public dollars to projects the consequences of which are either unknown or unreviewed," Hendrick said.

Federal OK needed

The 36 devices, each weighing 850 pounds, now are sitting in storage at a Medora facility. The state needs the Army Corps of Engineers' permission to put them in the water because the federal government controls the lake and thousands of acres of shoreline.

DENR's leadership is confident it will get that permission, based on "departmental discussions with the U.S. Army Corps of Engineers," according to agency spokeswoman Sarah Young.

It's not unusual for the department to sign a contract ahead of approval, Young wrote in an email, though she couldn't say how often it happens.

This back-and-forth is only the latest step in the dance between the state, local and federal officials responsible for Jordan Lake.

The stakes aren't small: The lake saw about 1.1 million visitors in 2013, according to the N.C. Division of Parks and Recreation, and the man-made reservoir provides drinking water for about 300,000 people in the Triangle.

The federal government in 2002 declared the lake's water quality "impaired" by algae, leading to a long debate about how to keep algae-feeding nutrients out of the rivers and creeks above the lake. In 2009, state leaders stamped an eight-county set of regulations called the Jordan Lake Rules.

Last year, upstream legislators moved to scrap that par-

tially implemented plan. Eventually they settled for a two-year delay, during which the state could explore alternative options, such as "in-lake" technology that would kill algae, as opposed to the traditional approach of limiting the pollution that feeds algae.

At the same time, the legislature wrote language into the state's budget that essentially handed the contract for the water-circulating project to Medora.

That same legislation called for the two-year test to begin in April, which is part of the reason for DENR's haste, according to Young.

Alternatives considered

Despite the delay, DENR's sailing has been smooth.

The Corps of Engineers found no significant negative impacts from the project in a draft environmental report issued March 7. The Corps then gathered public comments for a month, and since then has been reviewing them and preparing a final decision.

The draft assessment considered some alternative approaches, including two companies' competing solar circulators, cable-powered circulators and wind-powered circulators.

The report found Medora's SolarBee was the most-effective approach, able to circulate more water while standing only 2 feet above the surface.

In all, 36 devices would be spread across about 1,500 acres of the roughly 45,000-acre lake, split between the Morgan Creek arm on the northern end of the lake and the Haw River arm on its southwest end. If the pilot works, a full deployment could include five times more units.

The circulators would be anchored for safety, and state employees would inspect them weekly. Signs at boat ramps and buoys near the deployments would warn boaters about the project, according to the report, while the circulators themselves would have reflective orange posts and strobe lights.

Medora has never seen a swimmer injured by the de-

vices; anyone too close is pushed away on the surface, rather than underwater, according to the draft report. The devices should be practically inaudible at any distance, according to the draft.

And given their wide spacing and gentle output, the SolarBee units would do no harm to birds or fish, the Corps and DENR predicted.

Small fish could pass through the floats, while larger fish could swim away, according to the report, though critics questioned this conclusion. In fact, the devices could help fish by oxygenating more water, according to the environmental assessment.

Corps response pending

Critics of the plan, however, say that DENR has failed to prove why the project is necessary in the first place. Hendrick of the SELC said it's merely an effort to delay implementation of the Jordan Lake Rules.

"Let's not spend substantial amounts of state dollars engaging in a protracted experiment with unproven effectiveness, when as a result of the previous protracted negotiation process, rules were put in place with proven effectiveness," he said.

His group also challenged the plan on technical grounds, questioning, for example, whether the devices might spread aquatic weeds by fragmenting and dispersing them.

The Corps has not finished its responses to the public comments it received, including the SELC's, according to federal biologist Justin Bashaw.

Those responses could bring new data and research or pose new challenges to the state project, but the Corps isn't ready to say when it will release its findings, except that they will come "in the near future."

Should the project pass, the circulators may soon be on the water – and the state government's plan for Jordan Lake could foreshadow its new approach to the environment.

June 2, 2014

EPA sets nation's 1st limits on CO2

PLAN ORDERS N.C. PLANTS TO CUT EMISSIONS 40% BY 2030

By BRUCE HENDERSON
bhenderson@charlotteobserver.com

The Obama administration's plan to slash the carbon dioxide billowing from power plants relies more on operating efficiencies and low-polluting technologies than on shuttering coal-fired plants.

The nation's first limits on carbon dioxide, announced Monday, would reduce carbon emissions 30 percent by 2030, compared with 2005. Much of the reduction would begin in 2020. The proposal would let states decide how to reach state-by-state targets.

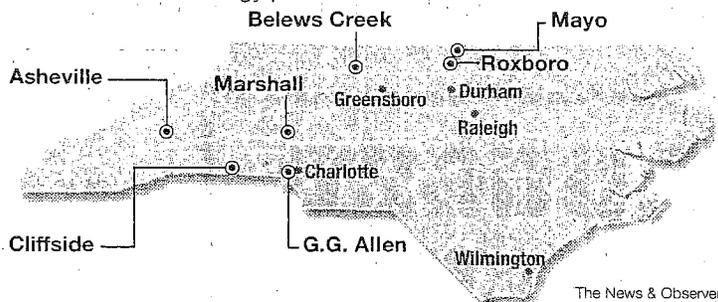
Charlotte-based Duke Energy, the nation's biggest electric utility and second-largest carbon emitter, said it was reviewing the 645-page proposal and has not yet assessed impacts to its operations or costs to its 7.2 million customers in six states.

Environmentalists hailed the plan as an overdue step to slow climate change. Skeptics called it a job-killing scheme that will cost consumers billions.

"Today is a momentous day, when the government is finally saying what it needed to say" about climate change, said Robert

N.C. coal-fired electric power plants

There are 7 Duke Energy plants in the state.



» Online

Duke Energy and beyond: Find more state and local business news at nando.com/business.

Bruck, an N.C. State University environmental scientist.

North Carolina's Republican Sen. Richard Burr called the plan "a further strain on American families."

Democratic Sen. Kay Hagan said she was reviewing the rule and promised to push for changes "good for North Carolina."

The Environmental Protection Agency estimates annual costs of the plan at \$7.3 billion to \$8.8 billion and public health and climate

Inside

National view: More details of the EPA's emissions limits, projections. **Graphic, 6A.**

benefits of \$55 billion to \$93 billion a year by 2030.

North Carolina's power plants will be expected to reduce their carbon emission rates 40 percent by 2030, according to EPA figures.

Emission rates show how efficiently power plants operate. The rates are calculated by dividing their emissions by the amount of electricity the plants generate.

EPA set North Carolina's 2030
SEE EMISSIONS, PAGE 6A

EMISSIONS

CONTINUED FROM PAGE 1A

target at 992 pounds of carbon dioxide for every megawatt-hour generated. The rate in 2012 was 1,646 pounds. The state's power plants released 53 million metric tons of carbon dioxide in 2012, the agency said.

The targets reflect what the states have achieved so far in reducing emissions and what EPA believes is attainable.

The outlook in N.C.

North Carolina, like 37 other states, has a renewable-energy standard that has boosted solar power. The state also cracked down in 2002 on power-plant releases of pollutants that form soot and smog, placing it ahead of neighboring states.

Duke, meanwhile, has shut down half of its 14 North Carolina coal-fired power plants rather than install state-of-the-art pollution controls required by existing or impending federal laws. Power plants account for about one-third of U.S. carbon releases.

Federal projections show North Carolina headed to an 18 percent drop in carbon emissions by 2020, compared with 2005, said Jonas Monast, director of the climate and energy program at Duke University's Nicholas Institute for Environmental Policy Solutions.

"North Carolina is going to see continued growth in renewable energy, energy efficiency and natural gas," Monast said.

As part of that mix, Monast said, newer coal-fired plants with up-to-date pollution controls should be able to continue operating.

Duke says its carbon emissions are nearly 20 percent lower than in 2005. It's spent \$7.5 billion to update its coal fleet.

"We plan to participate in the rule-making process," Duke spokesman Chad Eaton said of the EPA proposal.

Pushback expected

The trade association for electric utilities, the Edison Electric Institute, said the "EPA appears to have allowed for a range of compliance options to reflect the diversity of approaches that states and electric utilities have undertaken and may undertake to reduce greenhouse gas emissions. Flexible compliance is necessary to maintain a diverse portfolio of gen-

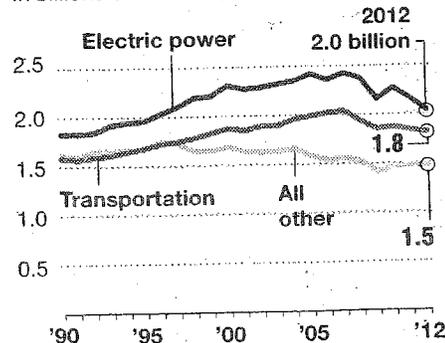
U.S. to cut carbon emissions

The Obama administration announced a plan to reduce carbon emissions from power plants, the biggest source of carbon dioxide pollution, which is a major cause of global warming.

The plan: Cut emissions from power plants by 30 percent from 2005 levels by 2030

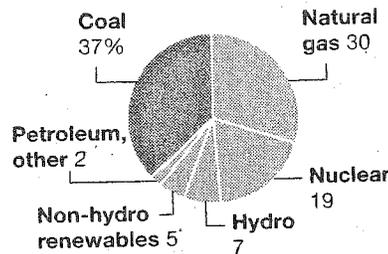
U.S. carbon emissions by sector

In billions of metric tons of carbon dioxide



Coal biggest source of electricity

Energy sources used by power plants, 2012



Source: U.S. Energy Information Administration, Natural Resources Defense Council, AP

© 2014 MCT

Plan says it's up to the states

Each state will determine how to meet customized targets set by EPA.

A state could have more time to submit plan if it joins with other states.

States get credit for steps already taken to cut emissions.

Power plants have reduced emissions by nearly 13 percent since 2005, almost half way to White House goal.

Ways to cut. Make power plants more efficient, reduce frequency that coal-fired plants supply power to grid; invest in more low-carbon energy sources.

erating sources."

Rep. Price Harrison, a Greensboro Democrat and green-energy advocate, said political wrangling could erupt over the state's carbon plan.

"I think we're going to see some resistance from the climate change deniers, but I don't think they represent a majority of the legislature," she said.

Donald van der Vaart, energy policy adviser for the N.C. Department of Environment and Natural Resources, challenged the proposed rule in testimony before a congressional committee last November.

Van der Vaart questioned whether EPA had proposed the rule under the correct section of the Clean Air Act.

He testified that carbon-capture technology for power plants was not proven, and said states, not the federal agency, have authority to develop air pollution control programs.

"One of our chief concerns is not getting too far down the road and having its legality challenged," as happened with past federal rules, said Drew Elliot, the department's communications director. "We've seen this movie before, and we don't to be expending resources for what may be a futile effort."

After brief discussions with EPA, state officials said Monday they're still uncertain of crucial details such as what baseline year the carbon targets will be measured against.

Depending on that year, the state might or might not get credit for renewable-energy development or pollution reductions.

The state plan is expected to be developed by the rule-making Environmental Management Commission, an appointed board, but legislators get final say over new rules.

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JEFF WILLHELM - jwillhelm@charlotteobserver.com

Steam flows from the Allen Steam Station near Belmont.

June 3, 2014

EPA says plan to cut emissions is flexible

BY CORAL DAVENPORT
New York Times

WASHINGTON The Obama administration on Monday announced one of the strongest actions ever taken by the U.S. government to fight climate change, a proposed Environmental Protection Agency regulation to cut carbon pollution from the nation's power plants 30 percent from 2005 levels by 2030.

The regulation takes aim at the largest source of carbon pollution in the United States, the nation's more than 600 coal-fired power plants. If it withstands an expected onslaught of legal and legislative attacks, experts say it could close hundreds of the plants and also lead, over the course of decades, to systemic changes in the U.S. electricity industry, including transformations in how power is generated and used.

Gina McCarthy, the EPA administrator, unveiled the proposal in a speech Monday.

"Today, climate change — fueled by carbon pollution — supercharges risks not just to our health, but to our communities, our economy, and our way of life," McCarthy said.

The regulation is likely to stand as President Barack Obama's last chance to substantially shape do-

mestic policy and as a defining element of his legacy. The president, who failed to push a sweeping climate change bill through Congress in his first term, is now acting on his own by using his executive authority under the 1970 Clean Air Act to issue the regulation.

Under the rule, states will be given a wide menu of policy options to achieve the pollution cuts. Rather than immediately shutting down coal plants, states would be allowed to reduce emissions by making changes across their electricity systems — by installing new wind and solar generation or energy-efficiency technology, and by starting or joining state and regional "cap and trade" programs, in which states agree to cap carbon pollution and buy and sell permits to pollute.

In her remarks, McCarthy repeatedly emphasized the plan's flexibility.

"That's what makes it ambitious, but achievable. That's how we can keep our energy affordable and reliable. The glue that holds this plan together — and the key to making it work — is that each state's goal is tailored to its own circumstances, and states have the flexibility to reach their goal in whatever way works best for them," she said.

McCarthy also said that the proposal will help the economy, not hurt it.

Hemp, pot's sober kin, overcomes stoner stigma

GROCERY STORES START SELLING HIGH-PROTEIN SNACKS FROM CANADA

News - Observer May 25, 2014

By MATTHEW BOYLE
Bloomberg News

Mike Fata figures hemp could be the perfect food – if only people would stop snickering.

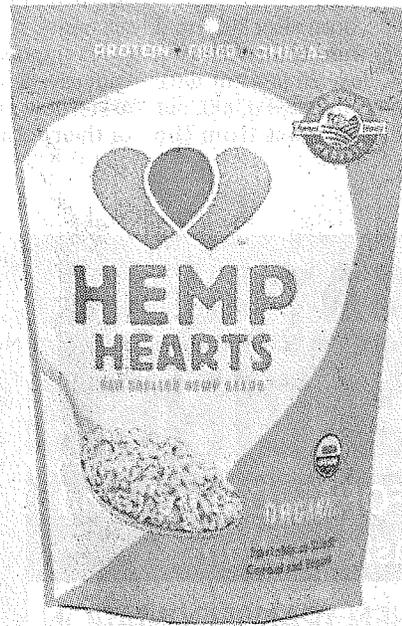
Fata, 37, the co-founder of Manitoba Harvest, has worked for the past decade on transforming the sober cousin of marijuana from the butt of jokes into a supermarket staple.

The effort's paying off. Costco Wholesale, Safeway and Whole Foods Market now sell his products, and hemp is on the cusp of a breakthrough, thanks to looser cultivation bans and the food industry's hunger for nutritious plants. Even the stoner stigma is slowly abating as hemp gets recognized for its ability to deliver protein, rather than psychoactives.

"Our customers are bright enough to know that it does not have dope in it if Costco's selling it," says Jim Taylor, a founding partner of Avrio Capital, a Calgary-based venture capital company and one of Manitoba Harvest's backers. "It's more than a fad. We believe we can build a brand here."

Hemp is not a drug. It's a variety of the cannabis plant with less than 0.5 percent of the mind-bending compound tetrahydrocannabinol, or THC. Earlier this year, the U.S. government finally recognized hemp as distinct from its seedier cousin, though a federal ban on commercial cultivation remains in place.

The ban hasn't stopped imports flowing in from Canadian companies such as Manitoba Harvest, which plans to hand out 2 million samples of its hemp hearts – the soft, nutty-flavored inner kernel of hemp seeds – this year.



Boosting hemp's image, chains such as Costco, Safeway and Whole Foods now sell Manitoba Harvest products.

Hemp is woven into American history. George Washington grew it, and the nation's first flags were made from it. It's easily digestible and packs more protein than chia or flax. It's also a versatile food: Hemp hearts can be sprinkled on cereal, yogurt or salads, or processed into powders, flour or oil to make everything from bread to beer. Hemp is pricier than, say, chickpeas, but it provides a more complete protein, with all nine amino acids that the human body cannot produce.

"We have our eye on it," says Colleen

Zammer of Bay State Milling, who has worked with food and beverage companies like Kellogg and PepsiCo to develop and promote healthy ingredients for the past 25 years. "It's THC-free, similar to chia in nutrition, and better tasting."

Hemp's resurgence comes amid a broader shift in climate, crops and consumer preferences. Other protein-rich plants – think peas and quinoa – enjoy booming sales and are in short supply, global warming is scrambling the cultivation map from Argentina to Canada, and environmental concerns kindle demand for local produce.

Amid this landscape, opposition to hemp is softening. Fourteen U.S. states have removed barriers to its cultivation, and the farm bill Congress passed in February will allow hemp growing for research purposes in those states. North Carolina does not allow hemp cultivation. Restrictions have eased as even marijuana gains acceptance, and Democrats and Republicans alike support the economic lift hemp could provide industries ranging from textiles to homebuilding.

"Without realizing it, many Americans already use hemp in their soaps, automobile parts, or even in their food," says Rep. Jared Polis, a Democrat from Colorado (where private consumption of pot is legal), and one of the legislators behind the farm bill's hemp amendment. "The potential for a billion-dollar-plus domestic industry is very realistic."

Hemp growing has been legal since 1998 in Canada, opening the door for entrepreneurs like Fata. As a teenager in Winnipeg, Fata weighed over 300 pounds and tried countless fad diets until a friend

SEE HEMP, PAGE 3E

HEMP

CONTINUED FROM PAGE 1E

turned him on to hemp. The mix of protein and fiber curbed his appetite for junk food, and he's now a walking advertisement for healthier living through hemp, practicing yoga and eating a plant-based diet.

Going mainstream

Fata and two friends started Manitoba Harvest soon after legalization, yet the lingering association with pot made it hard to gain traction early on — something Fata calls “the snicker factor.”

Others in Canada's nascent hemp sector say they faced the same stigma. “Some people looked at me and turned right around like they had seen the devil,” recalls Shaun Crew, chief executive officer of Hemp Oil Canada.

Fata persisted, handing out samples of his hemp hearts at trade shows, in yoga studios, and on the street. A few natural food stores took the product, then in 2001 Fata's big break came when Loblaw, Canada's biggest food retailer with 2,300 stores, signed on.

“A lot of consumers would not give us time of day because of all the misinformation out there,” Fata says. “As we stepped up from natural food stores to mainstream stores, the stigma started to go away.”

Sales have tripled to more than \$50 million in the past two years. Prices range from \$1.50 for a 0.9-ounce sachet all the way up to \$75 for a 5-pound pouch of certified organic hearts. At a recent industry gathering in California, Fata introduced his latest creation: hemp-heart “Snaxs” made with brown rice syrup and organic cane sugar. He figures sales could hit \$500 million over the next decade.

Stigma remains

John Elstrott, chairman of Whole Foods, says Fata has helped debunk the myths surrounding hemp through sampling and education.

The two companies sponsor the annual Hemp History Week, which this year kicks off June 2 and features more than 175 events coast to coast, including a three-day “Hemp Hoe Down” in South Dakota. Celebrity backers include musician Ziggy Marley and actress Alicia Silverstone.

Still, the stigma is hard to shed. Last year, the U.S. Air Force told its pilots to steer clear of a variety of Chobani Greek yogurt that came with a side packet of hemp seeds to be tipped into the pot. The Air Force said the product could have enough

THC to be detectable under its drug-testing program. Chobani has since replaced the hemp with other seeds, according to a spokesman. It doesn't help that some hemp companies revel in stoner stereotypes: There's even a hemp gin and vodka brand called “Mary Jane's.”

Easing his black Jeep Rubicon into the parking lot of the company's plant on the industrial northwest side of Winnipeg on a frigid March morning, Fata checks in on the \$6 million expansion that he says will triple his annual production.

He mentions that representatives from Safeway approached him about making hemp-flour bread for its in-store bakery. Safeway declined to comment.

“Five years ago that would not have happened,” he says. “Hemp is hot.”

The expansion is good news for the food manufac-

‘As we stepped up from natural food stores to mainstream stores, the stigma started to go away.’

MIKE FATA

CO-FOUNDER OF
MANITOBA HARVEST, WHICH
MAKES HEMP HEARTS

turers waiting to add hemp to their products. Take Post Holdings, maker of Grape-Nuts and Alpha-Bits cereal. The company's Erewhon brand, acquired in 2012, offers a hemp and buckwheat cereal that is one of its top sellers. Jim Holbrook, executive vice president of marketing, said the St. Louis-based company is also “actively pursuing” hemp as an ingredient in an upcoming cereal from its Great Grains imprint.

Other companies aren't keen to discuss their plans. PepsiCo and Kellogg declined to comment.

ConAgra Foods and Kraft Foods said they have no plans for hemp, leaving the market open for smaller outfits such as Nutiva and Nature's Path Foods.

If hemp is going to become a billion-dollar market as its backers claim, more big companies need to get on board. The lingering stigma, Fata says, shouldn't keep mainstream manufacturers from seeing its promise.

“They missed the Greek yogurt boom,” Fata says. “They don't want to miss out on this.”