UNIVERSITY FACULTY SENATE MEETING

NOVEMBER 11, 2009
AGENDA

- Call to Order
- UFC Report (5 minutes)
- Dean of Faculty Report (5 minutes)
- Nominations & Elections Committee Report (3 minutes)
- Approval of Minutes (2 minutes)
- Comments from Kent Fuchs (20 minutes)
- Resolutions from 14 October (due to lack of quorum on 14 October) (10 minutes)
- Resolution on Marcellus Shale Drilling (20 minutes)
- Comments on e-shop (10 minutes)
- Good and Welfare (20 minutes)
UNIVERSITY FACULTY COMMITTEE REPORT (UFC)

David Lipsky
DEAN OF FACULTY REPORT

Bill Fry
Task Force Availability/Discussion

(College Reports in Colleges)

**Student Enrollment:** Wednesday, Nov. 18, 12:15-1:15 p.m.
Hollis E. Cornell Auditorium, Goldwin Smith Hall;

**Libraries:** Tuesday, Nov. 24, 12:15-1:15 p.m.
G10 Biotechnology Building;

**Social Sciences:** Tuesday, Dec. 1, 4:30-5:30 p.m.
Lewis Auditorium, G76 Goldwin Smith Hall;

**Management Sciences:** Wednesday, Dec. 2, 12:15-1:15 pm.
G10 Biotechnology Building

**Life Sciences:** Monday, Dec. 7, 4:30-5:30 p.m.
Lewis Auditorium, G76 Goldwin Smith Hall.

(Budget Model: January, date, time and location TBD)
Provost – Faculty interaction
(some confidential)

UFC (~weekly)

Financial Policies Committee - Budget Task Force
- Personnel issues

CAPP - one meeting completed (CAPP request)
- advisory meeting upcoming (Provost request)

DoF: participant in many “planning” discussions
(most are confidential)
quorum at meetings:

Do we need paper reminders?

Budget corrections – Procurement
  hope for major savings ($30-40 million)
REPORT FROM THE NOMINATIONS & ELECTIONS COMMITTEE

Fred Gouldin
November 11, 2009
Report from Nominations & Elections Committee

Speaker pro temp
- Charlie Walcott, CALS, emeritus

Nominations & Elections Committee
- Mary Pat Brady, A&S

University ROTC Relationships (URRC) Committee
  Andrea Parrot, CHE

FACTA COMMITTEE
- John Guckenheimer, A&S

ASSEMBLIES
University Hearing Board Committee
- Ken Brown, A&S
- Bruce Tracey, Hotel School
RESOLUTIONS FROM 14 OCTOBER
(DUE TO LACK OF QUORUM ON 14 OCTOBER)

November 11, 2009
Resolution to Support the Cornell CAP

- Be it therefore resolved that the Faculty Senate finds that the CAP for the Ithaca Campus is needed to:
  - Achieve the goal of climate neutrality by 2050;
  - Establish interim targets for goals and actions that will lead to climate neutrality, and mechanisms for tracking progress on goals and actions; and
  - Establish a portfolio of proposed actions that will enable progress toward the goal of climate neutrality, will demonstrate fiscal stewardship and will enhance the University’s research, academic, and outreach missions and programs.
Resolution to Support the Cornell CAP

• Be it further resolved that the Faculty Senate commends and supports Cornell University for adopting the Climate Action Plan;

• Be it finally resolved that this resolution be sent to Cornell University President David Skorton as well as the co-chairs of the President’s Climate Commitment Implementation Committee, Professor Tim Fahey and Vice President for Facilities Services Kyu Whang.
RESOLUTION ON TASK FORCE REPORTS

November 11, 2009
Amendment to Resolution Regarding Availability of the Task Force Reports

• **Whereas** the creation of a number of Task Forces has been the principal mechanism whereby some members of the faculty have had a role in responding to the present financial crisis, and;

• **Whereas** these Task Forces have now completed their reports and submitted them to the Provost, and;

• **Whereas** the decisions made based upon these reports will affect all members of the faculty;

• **Now** therefore be it resolved that the faculty recommends that the task force reports *or those parts of those reports which the provost deems to contain viable responses to the present crisis* be submitted at the earliest possible moment for discussion and response by the faculty at large.
Resolution On Task Force Reports

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• **Whereas** these Task Forces have now completed their reports and submitted them to the Provost, and;

• **Whereas** the decisions made based upon these reports will affect all members of the faculty;

• **Now** therefore be it resolved that the faculty recommends that the task force reports be submitted at the earliest possible moment for discussion and response by the faculty at large.

*Endorsed by: Eric Cheyfitz, English, Shawkat Toorawa, NES, Kent Goetz, Theatre, Film and Dance and Shelly Feldman, Developmental Sociology*
RESOLUTION ON MARCELLUS SHALE DRILLING

Linda Nicholson and Colleagues
November 11, 2009
Marcellus Shale Gas Drilling Resolution

Brought by Faculty Senators:

Linda Nicholson, Molecular Biology & Genetics
Peter Hinkle, Molecular Biology & Genetics
Clare Fewtrell, Department of Molecular Medicine
Ted Clark, Department of Microbiology and Immunology
Ron Booker, Department of Neurobiology and Behavior
natural gas (methane)

\[ \text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O} \]

greenhouse gases

\(108.70\ \text{pm}\)
Untapped riches

The Marcellus Shale formation, which stretches all through the Appalachians, holds as much as 516 trillion cubic feet of natural gas. Current, high energy prices have made drilling for the gas attractive.

Source: U.S. Bureau of Land Management, Geology.com, Catskillmountainkeeper.org

Ed Yozwick, Keith McCafferty/Post-Gazette

http://www.post-gazette.com/images4/20080720Marcellus_Shale_map.gif
Why Now?

- Increase in reserve estimates
- Economics
- Technology to access
- Wall Street acceptance of unconventional plays (sources)

Source: WVSORO Drill Rig in West Virginia
Hydraulic Fracturing

Hydraulic fracturing, or “fracking,” involves the injection of more than a million gallons of water, sand and chemicals at high pressure down and across into horizontally drilled wells as far as 10,000 feet below the surface. The pressurized mixture causes the rock layer, in this case the Marcellus Shale, to crack. These fissures are held open by the sand particles so that natural gas from the shale can flow up the well.
Aerial View of Well Pad

- 3-5 acres
- cleared industrial area
- drill rig(s)
- trucks
- holding pits
- pipelines
- storage tanks
Hydraulic Fracturing

- fracturing with large volumes of high pressure water = hydrofracturing
- To suspend sand in water, chemicals* are added (~1% of total vol.)
- 364+ water trips per well (3 – 5 million gal)

Source: Cheasapeake Energy 2008
Hydrofrac’ing a Marcellus Well, West Virginia

*PROPRIETARY formulation, including known carcinogens, endocrine disrupters, arsenic, hydrogen sulfide, mercury, benzene, toluene, xylene and formaldehyde
Flowback water has high levels of:

- Brine (salt), Total Dissolved Solids (TDS)
- Heavy Metals, Radioactivity (radium 226 and 228 brought to surface)
- Drilling & frac’ing chemicals

Source: J. Henry Fair  Dimock PA
Disposal Options

- Municipal Wastewater Treatment Plants
  - Questions about capacity, cost, down-stream effects
  - Specifically-designed Treatment Plants
  - Construction of several plants being planned/discussed
    (Towanda, PA; Waverly, NY)

- Injection Wells
  - Are rock formations here suitable?
  - Long-term science/safety impacts are less known
  - Test well planned for Chemung Co.
“For example, the Village of Cayuga Heights disclosed last March that it received more than 3.0 million gallons of contaminated drilling wastewater. Without undertaking a state-required "headworks analysis" or enforcing local pretreatment requirements, the wastewater was accepted at a sanitary treatment plant that discharged into an impaired section of Southern Cayuga Lake, where approximately 30,000 local residents obtain their drinking water downstream of the facility's discharge location.”
New Spacing – 40 acres

• Source: Skytruth.org

Jonah Basin, Wyoming
More Pipelines

Source: Fortuna Energy
Local Impacts

- Water Consumption
- Waste Disposal
- Groundwater Well and Surface Water Contamination
- Surface Disturbance
- Noise: trucks/drilling/frac’ing/compressors
- Air Quality: truck exhaust, flaring, emissions from pipelines

Source: All Consulting 2008  Lined Pit in Pennsylvania from a Marcellus Well
Current Drilling Activity

- Active drilling in Marcellus Shale in PA
- **Well information is posted on DEC’s website** [http://www.dec.ny.gov/energy/46288.html](http://www.dec.ny.gov/energy/46288.html)
- Active drilling in other rock formations in NY
- Active vertical wells in Marcellus formation in NY
- Permits for horizontal Marcellus drilling in NY on hold during DEC’s SGEIS review

Source: Sky Truth
Chief Oil and Gas

Source:

2000 – 5000 ft

~1 mile

compulsory integration
Tompkins County Lands Leased for Gas Drilling
www.tcgasmap.org
More Information

http://gasleasing.cce.cornell.edu
www.tcgasmap.org
www.propublica.org
www.shaleshock.org
www.endocrinedisruption.org
Non-Sustainable Energy Use

\[ \text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O} \]

greenhouse gases

400 million year old deposits
Sustainable alternatives for Cornell

$\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$

anaerobic digester

$\text{CH}_4$

$\text{CO}_2$

$\text{CO}_2$
Cash Cows: Vermont Dairy Farm Converts Cattle Manure into Electricity

A Vermont dairy farm is producing something other than milk. Earlier this month, state officials were on hand to visit Vermont’s newest methane facility. Westminster Farms Inc., along with Green Mountain Power (GMP), have been working together in an on-site plant that converts methane gas released from cow manure into electricity.

Cow manure is one of the largest contributors to greenhouse gasses and the runoff from manure pollutes water. Taking a liability and converting it into an asset, just made environmental and economic sense to the farm’s Shawn Goodell. An anaerobic digester is used to mix, heat and break down the manure. The raw manure and ag substrates produce methane biogas, which is captured and then generates electricity. And with an estimated 1,200 cows on the Westminster-based dairy farm, finding a supply of manure is not a problem! Sure gives new meaning to the term “natural gas” doesn’t it?

Liquid waste will be used as fertilizer. Leftover solids will be used as cattle bedding, saving the farm about $80,000 on the cost of sawdust. And that is good news, especially considering the state of the economy. Like other businesses and industries, the dairy industry is also feeling the pinch. It is estimated that less than 1,100 dairy farms remain in Vermont. That’s about 300 less than five years ago.

While the technology is not new to Vermont, Westminster Farms is the latest dairy farm in Vermont to convert methane into energy. Westminster Farms will receive a fixed price per kilowatt hour generated. Since July, the project has been producing about 225 kilowatts of electricity, enough to power about 250 homes on a daily basis. GMC customers will be given the option of purchasing the renewable energy.

The project took about three years to bring to fruition. Funding for the $1.5 million project was a collaborative effort between both state and federal agencies. According to the GMP press release, Westminster Farms invested about $700,000 and Vermont-based Green Mountain Power committed $175,000. Other agencies involved in funding the endeavor include the U.S. Department of Agriculture (USDA), Vermont Department of Agriculture, Vermont Agricultural Credit Corporation (VACC) and Vermont Clean Energy Development Fund.

WHEREAS, It is estimated that the geologic rock bed known as Marcellus Shale may contain up to several trillion cubic feet of natural gas, and dramatic increases in the price of crude oil and the corresponding need to reduce our nation’s dependence on foreign oil have resulted in a tremendous increase in interest and activity relating to natural gas exploration and hydraulic fracturing;

WHEREAS, Cornell University is committed to environmental leadership exemplified by the signing of the American University and College Presidents Climate Commitment by President Skorton;

WHEREAS, Cornell University has a great responsibility to preserve and protect its natural resources, water resources, and quality of life for current and future Cornell faculty, staff and students;

WHEREAS, Cornell University is positioned to take a leadership role in the issue of hydraulic fracturing of the Marcellus Shale, sustainability education and research on water management, soil health as well as animal and human health and medicine;
THEREFORE, BE IT RESOLVED, that the Cornell Faculty Senate urges President David J. Skorton:

1. To establish a committee of faculty, staff, students and alumni empowered with the decision of whether to lease any university-owned lands to natural gas drilling companies.

2. To urge the New York State Department of Environmental Conservation to delay the issuance of permits for gas drilling until such time as New York State has completed all necessary and appropriate studies and has in place an adequately funded as well as staffed inspection and enforcement program.

3. To urge New York State to enact a severance tax and adequate permit fees on gas drilling companies to pay the costs of regulation and oversight of drilling, and to mitigate the cost of repairing roadways and resolving environmental impacts due to drilling.

4. To urge New York State to require that all chemicals (and specific formulations of those chemicals) intended to be introduced into wells be identified and the information be made public, with special notification to local emergency response personnel and health care providers, before use of such chemicals is permitted.
Resolution on Marcellus Shale Drilling

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Faculty Senate Meeting
Procurement Initiative
November 11, 2009
Joanne M. DeStefano
Procurement Savings

$ Millions

FY 10  FY 11  FY 12  FY 13  FY 14
4.5    7.5    12.0   24.0   30.0
Draft Goals FY10 & FY11

- Organizational changes identified and implemented by June 2010
- 95% of spend with eShop enabled suppliers goes through eShop by June 2011
- Improve the dollar volume of spend under contract by 50% by June 2011
- Achieve $7.5 million savings by June 2011
Sources for Savings

Near-term (quick-wins)
- Focused on near-term cost reduction efforts
- Require minimal/no capital investment
- Less lead-time to implement
- Lower level of organizational process change required

Long-term (capability building)
- Focused on fundamental changes in the way procurement is executed at Cornell
- May require capital investment (e.g. technology)
- Often requires process redesign
- Organization improvement to enable savings capture required

~25-35% of savings opportunity*

~65-75% of savings opportunity*

*Note: Opportunity represents savings identification, not cash realization
Levers to Obtain Savings

Low

Required policy change

Ease of implementation

High

Spend aggregation
- Aggregate spend
  - Across disparate campus units
  - Across spend category
- Drive e-Shop and preferred contract utilization

Vendor negotiation
- Improve contracts relationships
- Offer volume commitments, contract incentives
- Introduce competition and auctions

Spend standards and regulation
- Design regulation to standardize non-core spend types
  - Segment spend based on item, user, & expected use
- Introduce competition and auctions
- Limit discretionary purchases (e.g. travel, cell phone, special events, etc.)

Post-contract tracking
- Introduce mechanisms tied to upgraded systems to ensure contract compliance

Spend reduction policy / budget cuts
- Limit spend in targeted non-academic areas; unit procurement budget cuts

Source: Bain Analysis; Cornell Interviews

091021-CSZ-Core Team Meeting 6_FINAL v2
Organizational Improvements

- Strategic planning process outlines verifiable goals
- Alignment between purchasing goals and university strategy
- Cross-university teaming to balance objectives across administration and faculty
- Decision-driven roles and organizational structure

- Talent recruitment and development
- Sufficient resource allocation to drive high-performance culture

- Data tracking and repository
- Integrated ERP system
- E-sourcing and e-procurement tools

- Superior execution of ‘mission critical’ activities
  - Strategic sourcing
  - Supplier development
  - Ordering
  - Innovation
Opportunities

• Best practice schools use eShop
  – Detail spend data
  – Efficient process
  – Pricing compliance tool

Challenges

• Implemented within DFA, not yet supported as institutional system
  – Needs better search tool
  – Better return process
  – eInvoicing for better unit information