



# CES Newsletter

Fall 2007



## Center for Energy Studies

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### Highlights:

- Energy Summit 2007 1
- Analysis on energy infrastructure, coastal erosion 3
- State oil and gas revenue hits record high 4
- USAEE honors lledare 5
- Devon, ExxonMobil join Advisory Council 7

## Energy Summit 2007

More than 100 representatives from industry, government, and academia converged at the Center for Energy Studies' annual Energy Summit 2007: *"Charting a Course through an Uncertain Energy Environment"* October 24. Media coverage by *The Advocate*, *Platts*, and smaller papers from both Baton Rouge and New Orleans highlighted presentations by nine speakers covering a broad spectrum of current global and U.S. energy topics.

Following opening remarks from CES director Allan Pulsipher, the presentations commenced with a break-down of the National Petroleum Council's influential 2007 study "The Hard Facts: The NPC Study and Outlook for Energy Supply and Demand" by T.Evan Smith, core member of the NPC team in charge of the report and a global supply chain advisor at ExxonMobil. This was followed by Phillip H. "Pete" Stark, vice president of industry relations at IHS. Stark's presentation, titled "Perspectives on Energy Business Challenges in the Age of Energy Supply Anxiety," gave an analysis of both technical and geopolitical challenges facing the upstream industry. Robbie Seng, senior petroleum geologist at Devon, shared Devon's pioneering deepwater exploration activities in the Gulf of Mexico. Morning sessions ended with an analysis of the major global petrochemical markets by Chuck Carr, director of propylene studies at Chemical Market Associates, Inc. Carr cited China, the Middle East, and southeast Asia as rising players in the petrochemical business, and also cited the interdependence of both the plastics and transportation fuels industries by way of common feedstock markets and subsequent volatility.

Afternoon sessions began with a refinery roundtable between Stan Vanderleeuw, manager of the ExxonMobil refinery in Baton Rouge, and Rich Bedell, manager of the Louisiana Refining Division at Marathon. Each summarized his firm's activities and outlook, then opened the floor for a period of question and answer from the audience. While the speakers differed on some points, a general consensus emerged on the issues of escalating material costs, skilled labor scarcities, and on grass roots versus add-on expansions to U.S. refining supply capabilities. After hearing the perspectives of these industry leaders, the audience was challenged to consider another correlated issue, as the next two speakers discussed climate change and anthropogenic emissions. Reid Harvey, branch chief with the U.S. Environmental Protection Agency's Climate Change Division, discussed U.S. and European regulatory regimes, while Eddie Lewis, partner at Houston-based Fulbright and Jaworski, LLP, engaged the audience with his wit, witticism, and dry humor in analyzing the current framework – or lack thereof – for climate change litigation in the U.S.



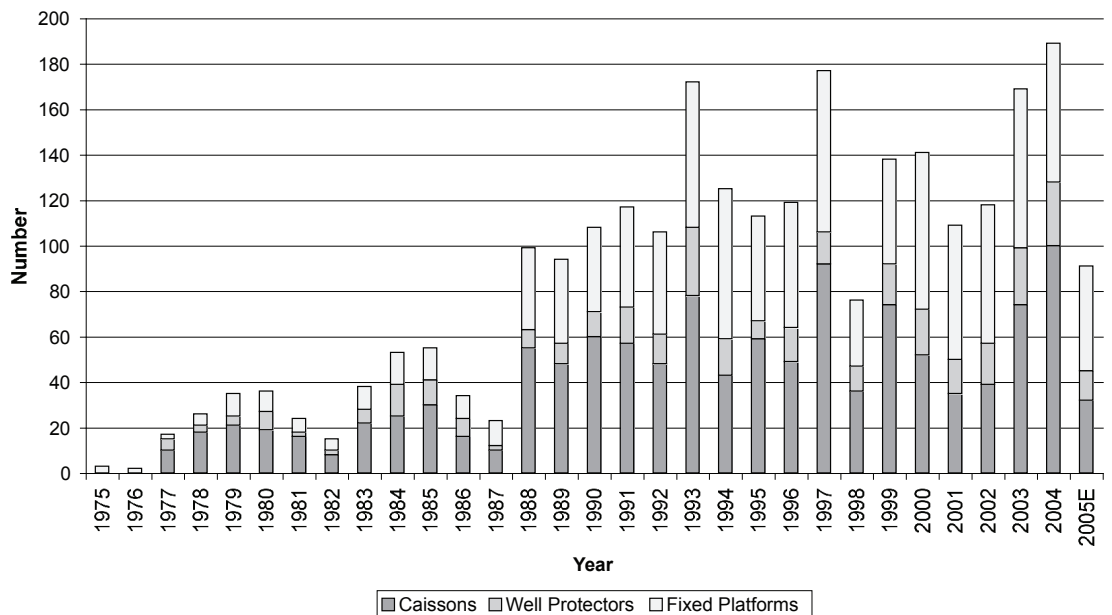
Stan Vanderleeuw of ExxonMobil and Rich Bedell of Marathon take questions from the audience during the refinery roundtable at Energy Summit 2007.

The conference was an exceptional success. The attendance was close to a record, and survey responses gave the overall conference, and the speakers, very high marks. The Center was fortunate to have a considerable number of important sponsors for the event. Our platinum sponsors were ConocoPhillips; Devon; ExxonMobil; Kean, Miller, Hawthorne, D'Armond, McCowan & Jarman, LLP; Marathon; and Suez Energy. Gold sponsors were AEP; Cheniere; F. Malcolm Hood & Associates; Louisiana Economic Development; and Southern Strategy Group, and our silver sponsor was Occidental Petroleum Corporation.

## MMS-CES Study Examines Idle Iron in Gulf

At the end of 2003, 2,175 active structures, 1,227 non-producing structures, and 505 auxiliary structures were located in the Outer Continental Shelf of the Gulf of Mexico. The Minerals Management Service has encouraged operators to remove this "idle iron" from producing leases that are no longer economically viable. Decisions about when and how a structure is decommissioned depend on issues such as environmental protection, safety, cost, and strategic opportunity. In *"Idle Iron in the Gulf of Mexico,"* Mark Kaiser, director, CES Research & Development Division, and Allan Pulsipher, CES executive director, model alternative regulatory policies of structure removal and compare costs of each option.

The study illustrates the tradeoffs involved in decommissioning, divestment, and disposition decision making, reviews scrap and storage methods for ships and rigs in the GOM, describes disposal alternatives, inventory statistics, and factors that influence breaking and disposal costs, and develops weight algorithms to determine the quantity of steel destined for scrap, reef, and storage markets. The report can be viewed and downloaded at <http://www.enrg.lsu.edu/publications/online/2007-031.pdf>



Structures removed in the Outer Continental Shelf of the Gulf of Mexico, 1973-2005 (Data for 2005 as reported on March 3, 2006, and indicated as 2005E).



## CES Provides Analysis on Energy Infrastructure, Coastal Erosion

David Dismukes, CES associate executive director and director of the Policy Analysis Division, recently served as principal investigator on a Save America's Estuaries program project to define a framework and examine the impact that coastal estuaries have on a variety of economic sectors, including energy, housing, transportation, and recreation. The purpose of the research was twofold: (1) to examine the state of the literature estimating the impacts of coastal restoration on energy infrastructure and (2) to scope the issue and offer suggestions on how the literature could be improved, or how new, more effective methods for evaluating this issue could be determined.

This research, given its limited scope and timing, had two objectives: to define an overall approach from which the benefits of coastal restoration activities on energy infrastructure could be estimated; and to attempt to establish a framework for the first step in this process, which is estimating the potential scope of the issue.

This research argues that the impacts of coastal erosion need to be identified before conducting any type of valuation analysis. There are two general impacts that coastal erosion can have on energy infrastructure. First, there are the potential incremental impacts that a catastrophic event can have, which could be mitigated if coastal erosion activities were conducted, thus representing a potential benefit.

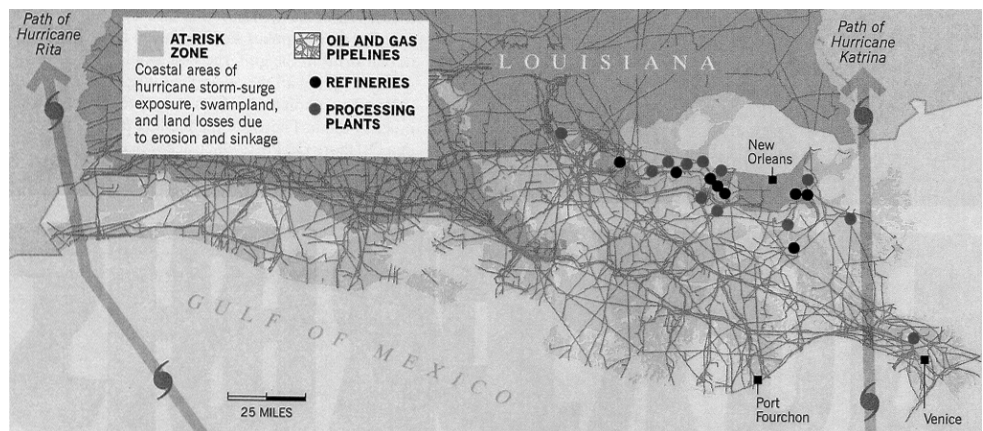
Second, there are ongoing impacts that must be considered that are exceptionally difficult to grasp, including the everyday, ongoing increase in costs associated with the greater operation and maintenance expense because of coastal intrusion. This could also represent increased additional investment in either "hardening" coastal infrastructure or making erosion mitigation investments to protect infrastructure. Here the appropriate analysis is the trade-off, or valuation between hardening and coastal restoration.

Because coastal restoration has multiple benefits, a unique opportunity for maximizing coastal restoration investments may be missed if these additional values are not recognized in the private sector valuation process. In most instances, there is no opportunity for firms to internalize these potential gains from public benefits. This is a classic case of an externality created by a public good.

Prior to estimating impacts, a number of steps were taken: (1) scoping the potential infrastructure that may be impacted by coastal erosion; (2) identifying the potential scope of impacts to these "at risk" assets; and (3) identifying the types of costs associated with either a coastal erosion-created event, or mitigation.

The remaining portion of this research followed a number of steps to identify energy infrastructure assets that are potentially at risk including the development of several maps and Geographic Information System (GIS) analyses overlaying areas that have significant energy infrastructure and those that have (or are anticipated) to experience coastal erosion. (This information was ultimately used in the August 20 *Fortune* article mentioned in the caption.)

The analysis highlights the fact that the energy sector has considerable assets along the coast, perhaps in the order of magnitude of several billion, if not hundreds of billions, of dollars. It is in their best interest to protect these assets in order to maintain profitable activities. The real policy and economic challenge is identifying opportunities, through appropriate valuation techniques, for getting private and public coastal restoration activities aligned to maximize overall environmental benefits. The current regime would appear to suffer from a classic externalities problem that continues to go unaddressed.



Data from the Save America's Estuaries project was included in the August 20 *Fortune* magazine article titled "The Next Energy Crisis." The article is part of a larger *Fortune* piece titled "New Orleans 2007: The Slow Road Back." A link to the article is on the CES Web site [www.enrg.lsu.edu](http://www.enrg.lsu.edu)

## State Oil and Gas Revenue Hits Record High for FY 06-07

In July, Louisiana Mineral Board Secretary Marjorie McKeithen reported that the state's income from oil and gas royalties was \$522.5 million, an all-time high, and that the state's total income from bonus, leaseholder, and interest payments was \$600.1 million, the highest since the 1982-83 fiscal year.

CES's David Dismukes said that record royalty income had been driven not only by high prices, but by increased production. "The fact that lease sales are generating record income indicates that the industry views Louisiana in a more attractive light for future energy investments. These numbers certainly support the conclusion that Louisiana's proactive resource policies, which have streamlined permitting, eliminated waste, and reduced legal and regulatory uncertainty, are paying big dividends," he said.

Table: Preliminary results of the lease sale and 2007-2008 FY totals (July 11, 2007)

Source: Louisiana Department of Natural Resources

Classification	Nominated Tracts	Nominated Acreage	Leases Awarded	No. of Acres	Amount of Cash Payments
<b><u>Lease Sale July 11, 2007</u></b>					
State Offshore Leases	16	30,604.470	6	4,596.810	\$927,459.64
State Onshore Leases	67	56,473.120	18	3,898.910	\$1,532,276.44
State Dedicated Leases	0	0.000	0	0.000	\$0.00
State Agency Leases	7	85.210	3	28.550	\$70,221.30
<b>Total Sale</b>	<b>90</b>	<b>87,162.800</b>	<b>27</b>	<b>8,524.270</b>	<b>\$2,529,957.38</b>
<b><u>2007-2008 Fiscal Year</u></b>					
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State Agency Leases	7	85.210	3	28.550	\$70,221.30
<b>Total Year to Date</b>	<b>90</b>	<b>87,162.800</b>	<b>27</b>	<b>8,524.270</b>	<b>\$2,529,957.38</b>

Record Setting Mineral Income Collections in Fiscal Year 2006-07 are as shown:

Royalties	\$519,528,581
Leasehold Payments	\$26,339,268
Bonuses	\$52,139,306
<b>Total Mineral Income</b>	<b>\$599,365,307</b>

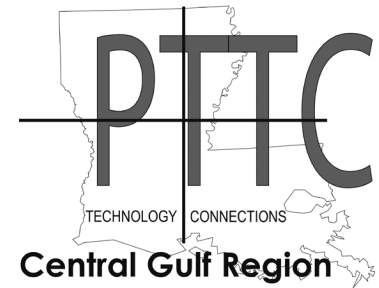
## PTTC Update

In July, the Petroleum Technology Transfer Council (PTTC) and the American Association of Petroleum Geologists (AAPG) signed a letter of intent for AAPG to assume management of PTTC activities. AAPG is a professional scientific organization with more than 31,000 members in 115 countries.

PTTC has been funded primarily by the U.S. Department of Energy with funds matched by the states and industry, but in 2006, Congress declined to provide FY07 funding for many elements of the Department of Energy's natural gas and oil R&D program from which PTTC drew its federal funds. DOE ultimately provided \$1 million of funding through September 2008 to help PTTC transition to a primarily industry-funded organization.

## PTTC Gulf Coast Region October Workshop to Repeat

On October 10, Don Goddard, PTTC coordinator, and Mike Surman, CES computer analyst, hosted the PTTC workshop *"Technologies for Developing Naturally Fractured Reservoirs"* in Shreveport. The workshop was very well received, and requests have been made for the Texas Region PTTC to offer the same agenda in Houston in February 2008. Topics include "Underbalanced Horizontal Drilling," by Rick Stone of Signa Engineering; "Simulation of Fluid Flow in Fractured Reservoirs" by Marisela Sanchez of Itasca; "Hydraulic Fracture Diagnostics" by Steve Wolhart of Pinnacle; "Integrating Logs...to Detect Natural Fractures" by Dan Buller of Halliburton; "Completion Techniques for Stimulation of Natural Fractured Reservoirs" by Rick Middaugh of Halliburton; and "Fracture Stimulation Optimization" by Keith Hudson of Corelab.



*The goal of the Petroleum Technology Transfer Council (PTTC) is to connect independent oil and natural gas producers with technological solutions in exploration, drilling and completion, operations and production, reservoir and development, and environmental issues—when they need it.*



## USAEE Honors Iledare

Wumi Iledare, director of the CES Energy Information & Data Division, accepted the United States Association for Energy Economics (USAEE) Senior Fellow Award, awarded to individuals who have exemplified distinguished service in the field of energy economics and/or the USAEE. Wumi, who is currently president-elect of the USAEE, received the award at the 27th Annual North American Conference of the USAEE/IAEE, September 16-19, in Houston.

## CES Provides Data for China Delegation

In July, members of the Energy Council Executive Committee from 11 states and four Canadian provinces traveled to Beijing to gain an understanding of each nation's energy concerns. The visit was part of an ongoing outreach program developed by the Energy Council in understanding the nature of the Chinese economy, its growth, and rapid increase in energy use. The engagement

Wumi Iledare

also provided an opportunity for Chinese leaders and policy makers to learn first-hand about American energy production and usage challenges.

The Center for Energy Studies assisted the Energy Council, and the Louisiana delegation in particular, in preparing for this important meeting. The Center compiled a number of statistics and quick facts for use in developing a fact book on each Energy Council state. The fact book was distributed to several Chinese government officials, energy company representatives, and academics.

## ConocoPhillips, CES Co-host "Conversations on Energy"

As part of a 30-city tour, ConocoPhillips hosted a town hall meeting, "Conversations on Energy," Tuesday, November 13 at the River Center. ConocoPhillips staff and invited panelists discussed alternative fuels, energy supply, the environment, energy efficiency and conservation. CES's David Dismukes served as moderator and host for the discussion. During their stop in Baton Rouge, ConocoPhillips executives planned to meet with local community and business organizations, high school and college classes, and local elected officials.



## America's Energy Coast Holds Leadership Forum

A one-day executive session titled "A New Sustainability for the Future of the Gulf Coast" will be held Friday, November 30, 8:30 a.m. – 4:30 p.m. at the Hilton Baton Rouge Capitol Center. Sponsored by America's Wetland Foundation, the Coastal Protection and Restoration Authority of Louisiana, and LSU, the event will be moderated by former Senator John Breaux and will bring together members of government, academia, industry, and conservation to outline plans for supporting sustainability along the Gulf Coast. CES's Allan Pulsipher and David Dismukes have been invited to participate.

America's Energy Coast is a national initiative of the America's Wetland Foundation. The project has several facets, the America's Energy Coast Honorary Leadership Council, America's Energy Coast Industry Council, the America's Energy Coast Policy and Information Center, the America's Energy Coast Leadership Forums, Public Service Announcements and the Coast Guardians.

## DEQ Secretary Mike McDaniel Serves as CES Guest Lecturer

DEQ Secretary Mike McDaniel visited the Center for Energy Studies on November 1 and gave a presentation on a wide range of energy and environmental issues. Of particular issue were ongoing air emission challenges and how the state and region might meet these ever increasing standards. The seminar was open to the public and well attended by faculty, students, and other stakeholders.

## Goddard, Team Report on Five-Year DOE Project

Don Goddard, CES associate professor, along with research team members Ernie Mancini of the University of Alabama, and Marty Horn, Louisiana Geological Survey assistant professor, have begun the second phase of the DOE-funded project "Basin Analysis and Petroleum System Characterization and Modeling, Interior Salt Basins, Central and Eastern Gulf of Mexico." The five-year project involves sedimentary basin analysis and petroleum system characterization and modeling of the North Louisiana Salt Basin and Mississippi Interior Salt Basin. According to the USGS, the hydrocarbon volume of these basins ranks them in the top 8% of the most petroleum containing and/or yielding basins of the world. The principal research effort for Phase 1 (Years 1-3) of the project was data compilation, determination of the tectonic, depositional, burial, and thermal maturation histories, basin modeling, and petroleum system identification for the North Louisiana Salt Basin; comparison of the geohistory of the North Louisiana Salt Basin to that of the Mississippi Interior Salt Basin; and assessment of the undiscovered and underdeveloped reservoirs of the North Louisiana Salt Basin. In Phase 2 (Years 4-5), the research focus is on characterization and modeling of the Upper Jurassic Smackover petroleum system, characterization and modeling of other Mesozoic petroleum systems, and refinement of the assessment of the undiscovered and underdeveloped reservoirs of the North Louisiana Salt Basin.

The research team is currently concentrating on other important reservoir and source rocks, including the Hosston Formation, Cotton Valley-Bossier Group, and the Haynesville Formation. The importance of the Bossier as a potential source rock will be studied first. As part of the task, e-logs are being scrutinized to determine its depth interval in the North Louisiana Salt Basin. Knowing this shale interval has helped in the search for available Bossier Formation cores. Seven additional cores were located and are being analyzed.

## Dismukes Appointed to IOGCC, Meets with Energy Council

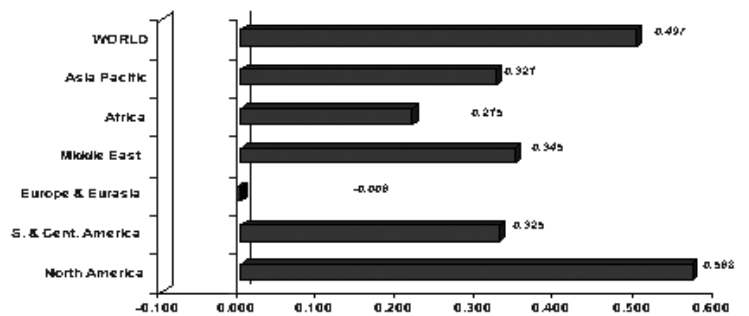
In May, Office of Conservation Secretary Jim Welsh appointed David Dismukes to the Energy Resources, Research & Technology Committee of the Interstate Oil and Gas Compact Commission (IOGCC). David will be serving in a position similar to that long-held by Bob Baumann, who retired last year.

Dismukes participated in his first meeting as an official Louisiana representative to the University Advisory Board of The Energy Council when he attended its 2007 State and Provincial Trends in Energy and the Environment Conference, June 28-July 1, in New Orleans. The well-attended meeting was the first Energy Council meeting held in the city since Hurricane Katrina.

## Iledare Presents Paper at SPE Conference

Wumi Iledare presented *"An Appraisal of the Global Petroleum Upstream Industry and Its Response to Changes in Crude Oil Prices"* at the 31st Annual Society for Petroleum Engineers International Technical Conference and Exhibition in Abuja, Nigeria. The presentation shows that exploration and production operational performance indicators suggest that the current estimated worldwide remaining crude oil reserves can sustain the worldwide production rate for at least the next 40 years. The analysis also reveals that, from 1980-1989, for every one-dollar drop in real crude oil price, 64 drilling rigs were disengaged. Fifty of these were disengaged in North America. For every one-dollar rise for 1999-2006, the study shows that 29 new rigs were engaged worldwide; 24 of those in North America.

Average Responsiveness of Drilling Rig Count to Real Oil Prices, 1999-2006



## Kaiser Teaches in Kazakhstan

Mark Kaiser returned to Kazakhstan in March 2006 to explore the changing nature of the investment climate in the country, and its impact on the fiscal terms and ability of companies to operate. Kaiser was hosted by the Kazakh-British Technical University and taught a short course on the petroleum industry during his stay.

## Dismukes Addresses Utility Advocates, Canadian Embassy Officials

David Dismukes was invited to speak at the National Association of State Utility Consumer Advocates' (NASUCA's) mid-year meeting in Denver last summer. Dismukes' presentation focused on the challenges of end-user energy efficiency in natural gas and electricity markets and various rate design mechanisms being promoted to address these challenges. Of particular emphasis was part of Dismukes' ongoing policy analysis of recent proposals for "revenue decoupling" and movements to what is referred to as a "straight-fixed variable" rate design mechanism for retail gas utilities. Dismukes was also invited by the New Hampshire Public Utilities Commission to participate on an expert roundtable to discuss these energy efficiency and rate design issues during a technical workshop held in November.

Dismukes was also invited by the Canadian embassy earlier this year to give a briefing and overview of Gulf of Mexico energy production and infrastructure issues. The briefing was given in Houston for the Heads of Mission (HOM) for each of the Canadian embassies. The goal of the meeting for the HOMs was to get a better understanding of U.S. energy production and infrastructure trends and challenges and how those are related and integrated into broader North American markets. The invitation to participate in the event was facilitated by long-time Center supporter Henry Wells, the Political and Economic Relations Officer in the Dallas Canadian Consulate General's office.

## Darby to ExxonMobil

Kristi Darby, who served as a geologist and research associate at the Center for the past three years, has left, along with her husband Brian (formerly an assistant professor in the Department of Geology), for positions with ExxonMobil in Houston. Kristi was an instrumental part of many of our research projects, outreach efforts, and conferences and will be sorely missed. We wish her and Brian the best in their new career opportunities in Houston.

## ExxonMobil, Devon Energy Join Industry Advisory Council

ExxonMobil recently joined the CES Industry Advisory Council. Jeff Copeskey, government relations advisor, will serve as the representative. The Center is grateful for the support provided by ExxonMobil and is looking forward to their support and advice.


Devon Energy has also joined the CES Industry Advisory Council. Mark Durkee will serve as the representative on the Board. Devon's participation increases the Center's independent producer representation on the advisory board, and we are looking forward to Devon's advice and counsel.

*The Center for Energy Studies conducts, encourages, and facilitates research and analysis to address energy-related problems or issues affecting Louisiana's economy, environment, and citizenry. Whether conducted by its staff or by others it supports, the Center's goal is to provide a balanced, objective, and timely treatment of issues with potentially important consequences for Louisiana.*

*Visit [www.enrg.lsu.edu](http://www.enrg.lsu.edu) to read about the latest news and events at the CES.*

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