

The USC Energy Institute

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Prior to his current position he had a successful thirty-three career with the Chevron Corporation, retiring in June 2008. From 1997 to 2008 he was Vice-President and Chief Technology Officer of Chevron Corporation. In this role he was responsible for all of Chevron's research, technology, and technical support functions including exploration, production, refining, information technology, and emerging energy technologies. From 1994 to 1997 he was President and Director of Chevron Canada Resources, Ltd: CEO of Chevron's Canadian subsidiary for exploration, production, infrastructure, and resource marketing operations. With partners, he oversaw construction and development of the giant Hibernia oil field, the first and largest in Atlantic Canada. From 1992 to 1994 he was President of the Chevron Petroleum Technology Company: Architect and founding president of Chevron's integrated upstream research and technology company.



USC Energy Institute: design goals and business model

- **University-wide initiative - now based out of Viterbi**
- **Research:** *energy systems, infrastructures, and supply chains*
 - Enable integrated systems research programs and support individual faculty programs with strong external partnerships
 - *operational demonstrations*
 - *experimental infrastructures*
 - *field research facilities*
 - *integrated energy information systems*
 - Maintain a solution focus, with near and medium-term outcomes



USC Energy Institute: design goals and business model

- **Partnerships:**
 - Build an integrated support base from both governments and industry
 - Develop strategic partnerships for R&D, demonstration, and education with select energy infrastructure / asset owners and technology suppliers
 - Actively engage in external energy issue and policy development
- **Education:**
 - Support curriculum development
 - Expand industrial recruiting base
 - Engage industrial partners in professional education development
 - Sponsor ship and management of the USC Energy Club

USC Energy Institute: program development areas

- “Digital Energy” – the intersection of energy and information technology systems and infrastructures – Strategic Partnership development
 - Intelligent oil and gas fields (Chevron)
 - Smart Grids (DWP, Honeywell, Eaton, and)
 - Cyber-defense systems (under development)
 - Energy and behavioral systems; human-technology interactions; “industrial games” for training (ABB, and ...)
- Unconventional hydrocarbon resource, system, and supply chain development (under development)
- Geothermal resource, system, and supply chain development
- Interaction of energy, water, and climate systems

Partnership development areas

- Cyber-defense systems for oil and gas operations and electrical power components / infrastructure
- Integrated production and environmental management systems for shale gas development
- Robotic deepwater well and production monitoring systems
- Next-generation human-digital interfaces for energy infrastructure management
- Distributed gas use and processing technologies