



# **Iowa Office of Energy Independence and the Iowa Power Fund: Taking Shape**

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**Iowa Energy Summit  
October 4, 2007**



The Office of Energy Independence (OEI) was established in 2007 to coordinate the state of Iowa's activities concerning energy independence.



Leading Iowans to a vibrant future through economically viable and environmentally sound energy choices.



To achieve a sustainable energy future by:

- Providing leadership through education, planning and investment
- Developing policies and resources to produce market transformation

# Organizational Structure & Tasks

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## Structure:

- Operations staff (located in Lucas Bldg; 725-6025)
- Iowa Power Fund Board
- Due Diligence Committee
- Energy Coordinating Council

## Initial Tasks:

- Iowa Power Fund
- Energy Independence Plan
- Energy Forums & Education
- Energy Issues



**February 1, 2008**

# Iowa Power Fund Board

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- Comprised of 18 members, 11 voting and 7 nonvoting, ex officio members
- Review and approve applications for assistance from the fund; direct moneys for technical assistance for the Diligence Committee
- Advise OEI on strategic direction for the Power Fund
- Resource to the Governor regarding renewable energy, renewable fuels & energy efficiency
- Currently designing the Power Fund Process

# Due Diligence Committee

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- Comprised of 7 members
- Reviews applications for financial assistance that come before the Power Fund Board
- Determines if a proposed project is practical, economically feasible
- May recommend to the Board approval on conditional basis or that an application be rejected

# Energy Coordinating Council



- Membership consists of staff from various Iowa Departments & Organizations
- Input into Energy plan & review plan's compliance
- Sharing of energy information & rule making activities
- Provide technical expertise & assist w/ outreach
- Evaluate legislation
- Develop long term recommendations
- Keep OEI in the loop (monthly reports)
- Synergies

# Task: Iowa Power Fund



- Almost \$25 million:
  - \$375,000 OEI administrative costs;
  - \$2.5 million – DED community college workforce training & economic development
- To provide financial assistance to entities in an attempt to increase Iowa's research, development, & use of sources of renewable energy; improve efficiency and reduce greenhouse gas emissions.

# Eligible applicants

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## May Include:

- NAICS company proposing a project in Iowa
- Individual proposing a project in Iowa
- Government entity proposing a project in Iowa
- Non-profit proposing a project in Iowa
- Academic institution proposing a project in Iowa

# Eligibility criteria for financial assistance



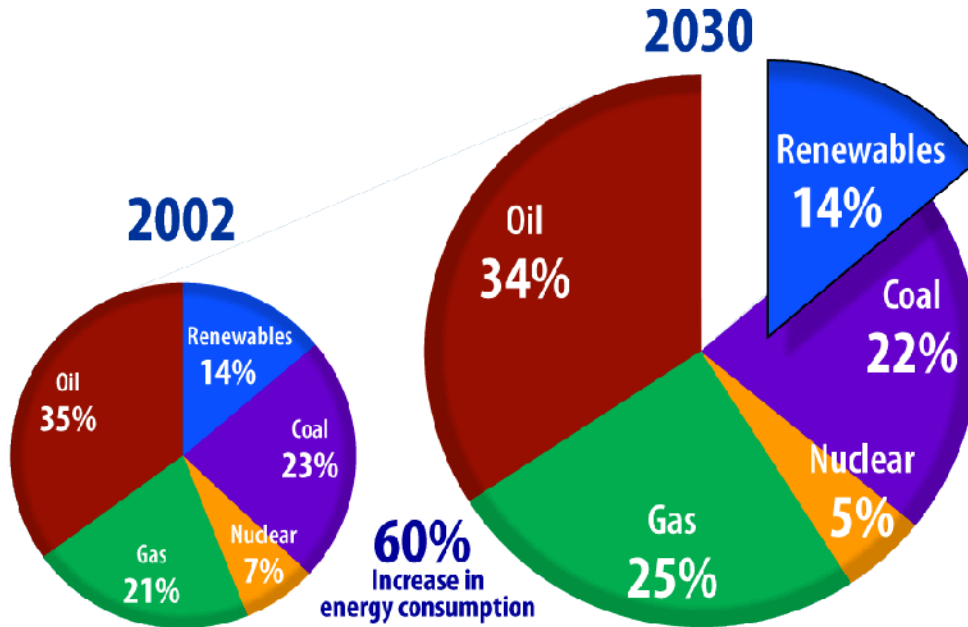
- Commercialization/product development
- Utilization of Iowa crops/products that maximize value of crops used as feed stock in bio-manufacturing products and as co-products
- Reduction of GHG, carbon sequestration
- Private or federal matching funds

# Task: Energy Independence Plan

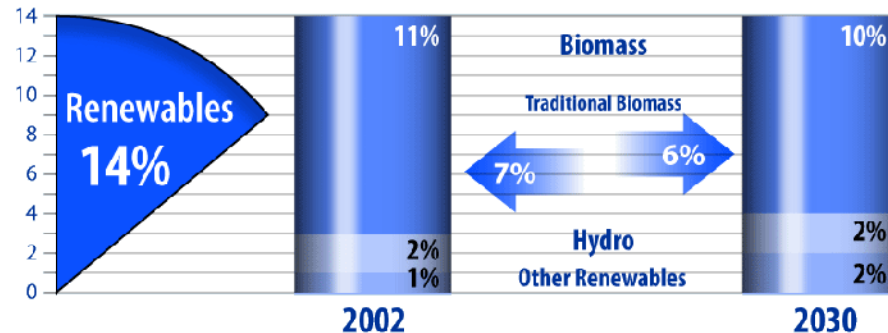


- Due December 14, 2007
- 5-10 pages
- Scope of Energy Independence plan:
  - Statement of where we are now in Energy use, policy, conservation, planning , renewables, etc.
  - Current efforts in Iowa
- Each participant in the Energy Coordinating Council is to be tasked by the Office of Energy Independence.
- List each component of an Iowa Energy Plan in H.F. 918 and format in a template to be given to each E.C.C. Participant.
- Goal of full Iowa Energy plan by 12/14/08

# World Energy Supply & the Role of Renewable Energy

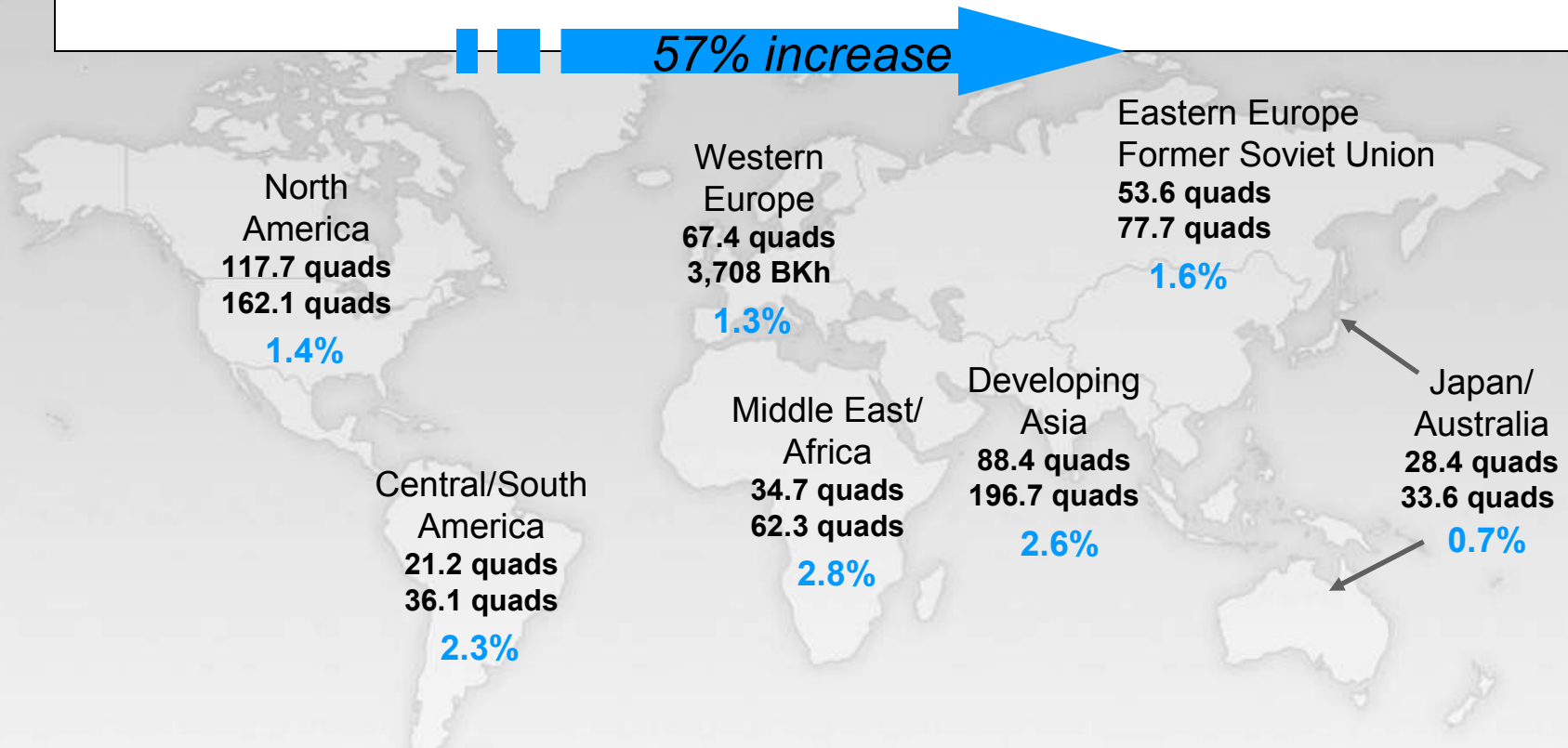


Source: OECD/IEA, 2004



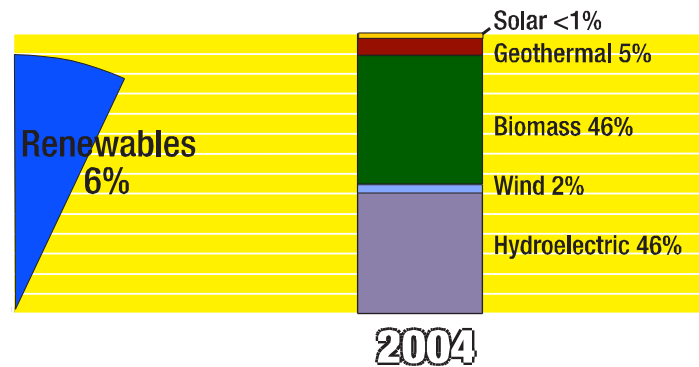
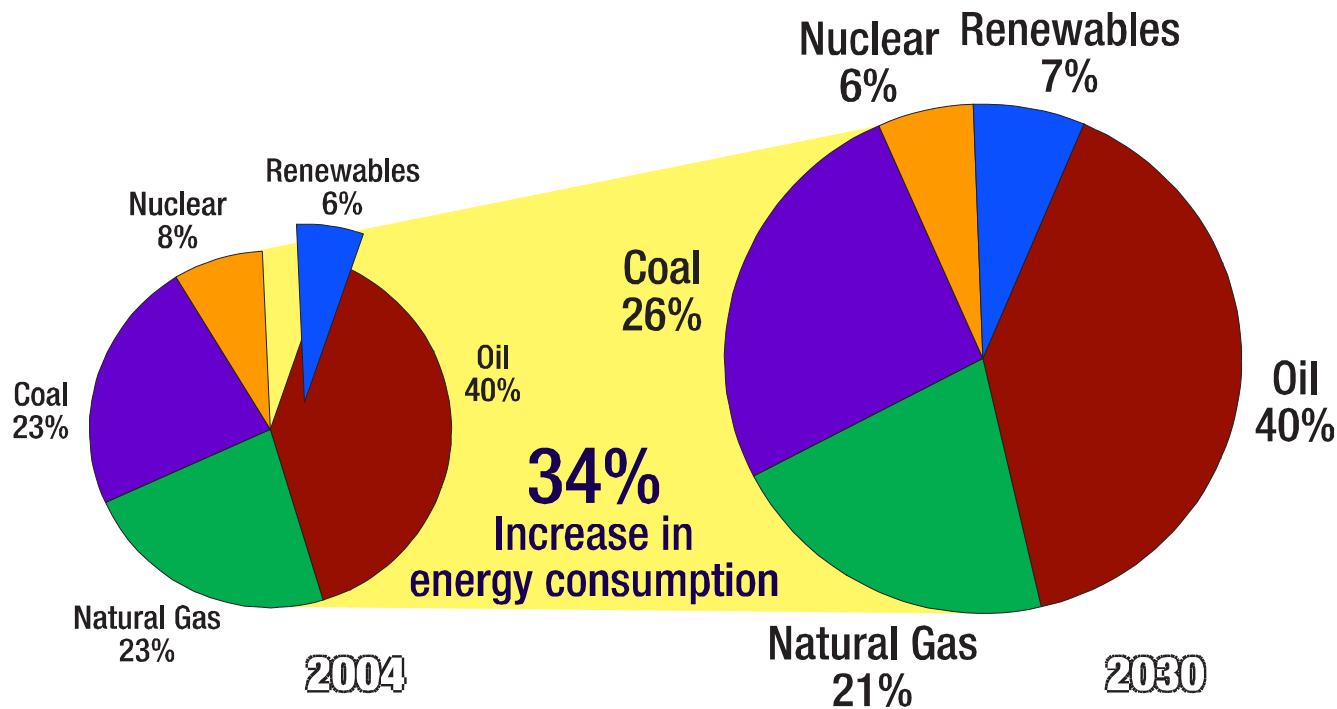
# Global Energy Demand 2002-2025

57% increase



- Total annual average world energy growth – 2.0% from 2002 to 2025
- Growth rates in transitioning economies higher than developed economies
- Natural gas and coal will be near-term fuels of choice for generation
- Distributed generation and renewable energy will offer attractive options

# U.S. Energy Consumption by Source



Source: Energy Information Administration, *Annual Energy Outlook 2006*, Table D4



- Iowa continues to rely heavily on imported energy
  - more than 95% of primary energy sources come from out of state.
- 38% of Iowa's total energy use is being consumed by the electric power sector.
  - Between 2000-2004, coal use slightly declined and Iowa had a increase in use of ethanol and wind energy
- Iowa's energy expenses for principal sources in 2004 was \$10.1 billion



- Biomass decline between 1996-2001, slight increase in 2002.
- Hydroelectric capacity is relatively stable.
- Leading producer of ethanol & biodiesel
  - Ethanol: 27 refineries; 1.9 million gallons current capacity; 1.5 million gallons under construction
  - Biodiesel: 13 refineries; 258 million gallons current capacity; 95 million gallons under construction
- Ranked 3<sup>rd</sup> in wind energy capacity

# State of the State



## Proportions of Energy Resources Used - 2004

<b>Fuel</b>	<b>Iowa</b>	<b>United States</b>
Coal	36.8%	22.5%
Petroleum	36.1%	40.2%
Natural Gas	18.8%	22.9%
Nuclear	4.2%	8.2%
Renewable Energy*	4.5%	6.2%

\*Renewable Energy includes hydro, geothermal, solar, wind & biomass

# State of the State



## Changes in Iowa Energy Usage by Economic Sector

<b>Sector</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2004</b>
<b>Residential</b>	23.9%	22.2%	20.1 %	19.1%
<b>Commercial</b>	12.5%	14.6%	14.7 %	15.1%
<b>Industrial*</b>	39.9%	38.8%	42.2 %	41.1%
<b>Transportation</b>	23.6%	24.4%	23.0 %	21.6%

\*Industrial sector includes agricultural activities



## Iowa's Energy Consumption Rates; 1995 - 2004

- Iowa's total energy consumption - ↑8.6% in 2004
  - Coal consumption - ↑19%
  - Natural Gas – ↓13%
  - Petroleum - ↑18%
  - Nuclear Energy - ↑31%
  - Renewable Energy - ↑12%



## Iowa's Energy Needs, Business as Usual – 2025\*

- Iowa's total energy consumption - ↑ 31%
  - Coal - ↑ 51%
  - Natural Gas – ↓ 3%
  - Motor Gasoline - ↑ 2%
  - Petroleum - ↑ 42%
  - Nuclear Energy - ↑ 25%
  - Renewable Energy - ↑ 35-40%

\*These are not exact calculations; only linear regressions



## Efficiency potential exists everywhere that energy is used!

- Reduces stress on overtaxed infrastructure
- Reduces dependence on imported fuels
- Increases productivity
- Reduces cost of government
- Reduces environmental impact

# Example: Austin Energy



## Energy Efficiency Virtual Power Plant

- “Built” exclusively of energy efficiency materials
  - Enforced energy efficiency building costs
  - Rebates for high efficiency appliances
  - Other programs and policies
- 550 MW in energy savings in about 12 years
- During this time period, Austin’s population doubled & local economy grew by 46%
- Enabled Austin to take a coal-fired power plant off the utility’s planning books.

# Example: Austin Energy



- **Power Saver™ Program—Saving Energy Together**

Rebates and low-interest loans to help residential and business customers conserve energy, save money and improve comfort.

- Programs for Commercial Sources to generate additional power, lower long-term investment costs for electric facilities, and to help protect the environment.

- **GreenChoice®** offers electricity from clean, renewable sources.

# Example: Osage, Iowa



## Energy Efficiency for Economic Development

- Every \$1 spent in Osage generates \$1.90 of economic activity
- Petroleum products → \$1.51
- Utility services → \$1.66
- Energy efficiency → \$2.23
- By doing energy efficiency, Osage was able to attract desirable industries due to reduced energy operating costs



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**Questions & Comments  
are  
Welcomed**