

Energy Information Outline

1) Historical Use and Distribution of Energy in Iowa

a) How much Energy do we use?

i) Energy Use, 1980-2007

(1) Graph 1: Total Iowa use by fuel source

(2) Table 1: Total use and Change in total use over time

(3) Graph 2: Energy use per capita in Iowa and U.S. over time

(4) Graph 3: Total energy use per capita in Iowa and other Midwest States, 2007

b) Where does our energy come from?

i) Fuel Mix 1980-2007

(1) Graph 4: Iowa primary consumption by fuel source

(2) Graph 5: US primary consumption by fuel source

(3) Graph 6: Change in Iowa primary consumption by fuel type 1980-2007

(4) Table 2: Change in Iowa primary fuel consumption 1980-2007

(5) Discussion of uses of individual fuels over time

ii) Energy Balance over time

(1) Graph 7: Imported vs. Homegrown energy consumed 2003-2007

(2) Graph 8: Composition of Iowa Renewable Energy Consumption over time (page 25)

c) How do we use the energy?

i) Energy use by sector 1980-2007

(1) Table 3: Iowa Energy use by Economic Sector over time

(2) Table 4: U.S. Energy use by Sector over time

(3) Graph 9: Iowa and U.S. energy use by economic sector over time

(4) Table 5: Iowa and U.S. energy use growth by sector 1980-2007

(5) Graph 10: Residential use per capita – U.S. and Iowa over time

- (6) Graph 11 : Residential energy use per capita, Midwest states
- ii) Electric Consumption discussion
 - (1) Graph 12: Electric Sector as a percent of total consumption in Iowa over time
 - (2) Graph 13: Iowa Electric Sector generation in Btus over time
 - (3) Graph 14: Iowa Electric Sector consumption by sector over time
 - (4) Graph 15: Electric end users by Customer class, 2007
 - (5) Graph 16: Electric end users by Utility type, 2007
 - (6) Graph 17: Breakdown of electric generation in Iowa by fuel type over time
 - (7) Graph 18: Electric system losses
- iii) Transportation Sector discussion
 - (1) Graph 19: Transp. Energy consumption by fuel type
 - (a) See Table 3 and 4 for total transp. Energy consumption
 - (2) Graph 20: Breakdown of petroleum consumption in the Transp. Sector
 - (3) Graph 21: Biodiesel and Ethanol consumption in Iowa, 2008
 - (4) Graph 22: Iowa Gasoline Consumption - Regular and E10 Ethanol Mix, 1995-2008
- 2) Projection of Iowa's Energy Needs through 2025
 - a) Projections are hard to verify and based on business as usual
 - i) Graph 23: Iowa primary energy Consumption Growth Projection through 2025 (0.5% per year)
 - ii) Graph 24: U.S. and IA electricity consumption projection (GPISD)
 - iii) Graph 25: IA and US gasoline consumption projection (GPISD?)
- 3) Impact of meeting Iowa's energy needs on the economy of the state, including GHG emissions and Evaluation of renewable energy sources, including current and future technological potential
 - a) How has energy impacted our economy up to this point?
 - i) Summary of current expenditures, prices and emissions
 - (1) Graph 26: Iowa and U.S. Primary Energy expenditures over time

- (2) Graph 27: Iowa Energy Expenditures by sector, 1980-2007
 - (3) Graph 28: Iowa Energy expenditures by Fuel Type, 2007
 - (4) Graph 29: Iowa energy prices, 1990-2007
 - (5) Graph 30: Iowa GHG emissions by sector
 - (6) ISU study on leakages/economic impact of importing energy
- ii) Renewable Energy
- (1) 10 GW of wind energy
 - (a) Graph 31: Iowa wind energy generation, 1994-2008
 - (b) Graph 32: Iowa Indexed Electricity Price with 10 GW Wind by 2020
 - (c) Graph 33: Iowa Annual Electric Emissions with 10 GW Wind by 2020
 - (2) Solar
 - (3) Biomass
 - (4) Table 6: Cost of different renewables compared to conventional fossil generation (Navigant)
- iii) Energy Efficiency
- (a) Graph 34: EE savings, 2002-2007 (13)
 - (b) Graph 35: Commercial and Industrial use per dollar GDP – (US, Iowa and Midwestern states over time
 - (c) Graph 36: Impact of 30% EERS in Iowa
 - (d) Graph 37: Iowa Cumulative Electric Sector GHG Emissions, 2005-2030
- iv) Greenhouse gas regime