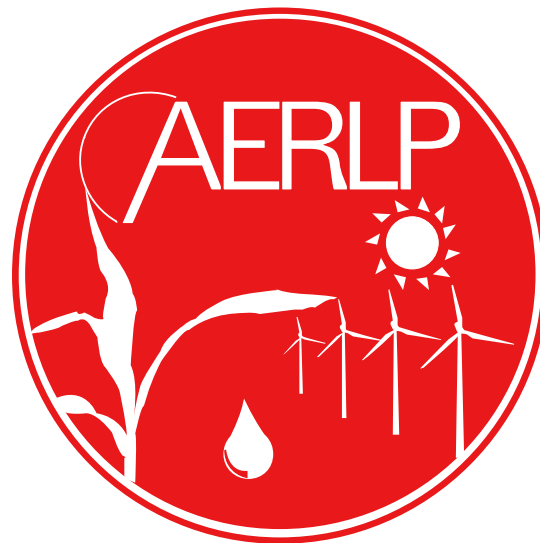


# Alternate Energy Revolving Loan Program (AERLP)



- **William Haman, P.E.**
- **AERLP & Industrial Programs Manager**
- **Iowa Energy Center**



# Who is the Iowa Energy Center?

## ■ A Little History

- Created by the 1990 Iowa Energy Efficiency Act
- Funded by surcharge on intra-state electric & gas sales
  - 0.085% of gross revenues
  - ~ \$2,500,000 annual budget
- Administered by Iowa State University
- Work with Iowa's colleges, universities, & private nonprofits
- Guided by a 13 member advisory council

## ■ Mission is to sponsor and conduct research, demonstration & information dissemination

- Energy efficiency
- Alternate energy systems

# ALTERNATE ENERGY REVOLVING LOAN PROGRAM (AERLP)

**Encouraging the Development of Alternate Energy  
Production Facilities in Iowa**



# AERLP Program Background

- **Created by Iowa legislature in May 1996**
  - 1997 Iowa Code, Section 476.46
  - Amendment to the 1990 Iowa Energy Efficiency Act
- **Encourages development of alternate energy production facilities in Iowa**
- **Funded via**
  - Iowa's investor-owned utilities through 3-year special assessment on gross intrastate revenues
  - 0.085% of gross electric and gas intrastate operating revenues during 1995-1997
  - \$5.9 million base funding
- **Amended in 2002 to permit up to half of the accrued interest income to be spent for program promotion & administration**

# AERLP Program Highlights

## ■ AERLP Funds

- up to 50% of the financed project cost
- \$250,000 maximum
- 0% interest rate
- 20 year maximum term
- negotiated repayment schedule
- repayments revolved back into fund for further loans

## ■ Lender Funds

- matching funds not less than AERLP
- market rate interest rate
- loan term not less than AERLP term
- repayment collection & distribution to AERLP

# Program Eligibility

- **All individuals and groups who want to build alternate energy production facilities in Iowa**
- **Exceptions: gas and electric utilities that are not required to be rate regulated**

# AERLP Eligible Technologies

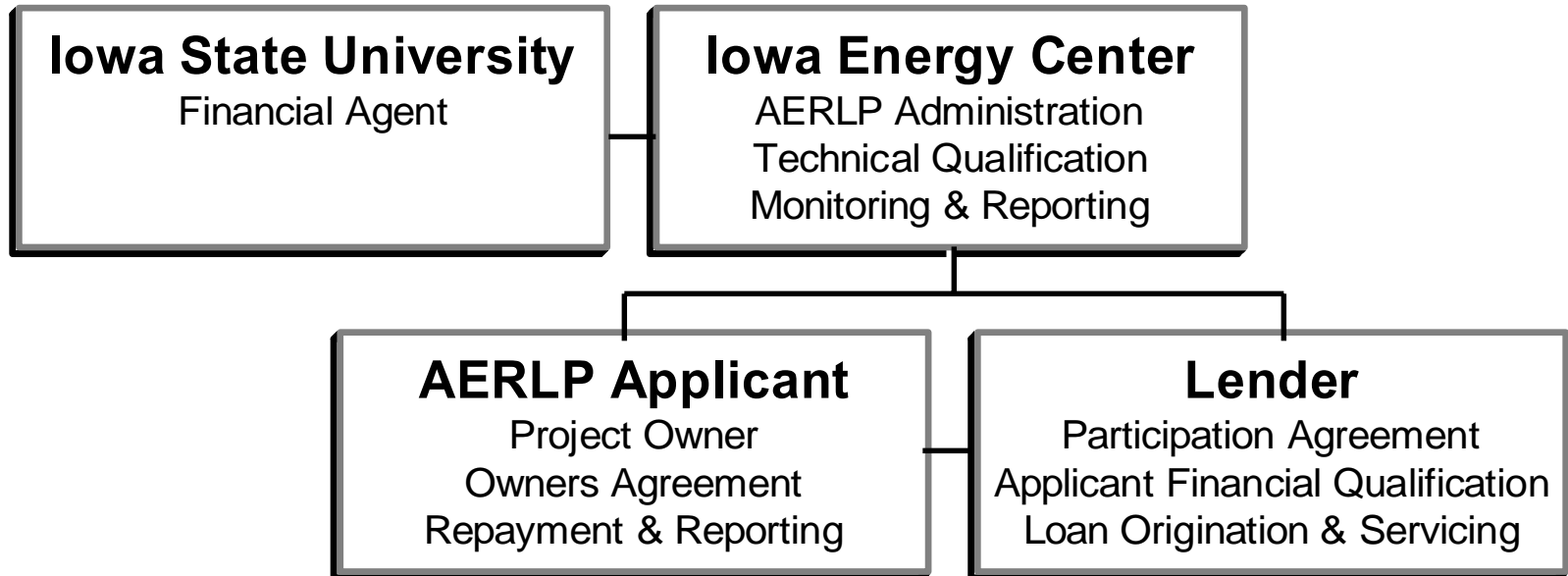
- **Hydroelectric**
- **Wind**
- **Solar**
  - Photovoltaic
  - Hot water
- **Biomass**
  - Waste or refuse to fuels
  - Agricultural crops to fuels
  - Biomass feedstocks to fuels
  - Landfill gas recovery
- **Ineligible Technologies**
  - Passive solar
  - Geothermal systems
  - Heat pumps

# AERLP Description

- **Revolving fund structure**
- **Competitive application process**
- **Funds are leveraged against matching funds**
- **Managed partnership with the banking community**
  - **Technical Qualification by the IEC**
  - **Financial Qualification by the lender**
  - **Lender originates and services a single AERLP loan**
  - **Participation Agreement**
- **Owner reporting requirements**
  - **Owners Agreement**



# AERLP Organization



# Participation Agreement

- **Contracting document between the Energy Center and the lender**
- **Single promissory note**
  - Combines interest bearing and non-interest bearing instruments
- **Defines terms and conditions**
  - Repayment schedule
  - Collateral
  - Default position

# AERLP Owner Agreement

## ■ Owner responsibilities

- **Develop, install and operate alternate energy production facility (AEPF)**
- **Start-up Report**
  - equipment specifications
  - actual project costs
  - reasons for installing and expectations
  - construction difficulties
- **Annual Report**
  - energy production attributable to AEPF
  - operational and maintenance costs
  - general assessment of project
- **Privacy waiver regarding AEPF information**

# Program Application Deadlines

- **Small projects accepted continuously**
  - total financed cost  $\leq$  \$50,000
- **Large projects (total financed cost  $>$  \$50,000)**
  - January 31
  - April 30
  - July 31
  - October 31
- **Loan closing must be completed by the next application cycle**

# AERLP Projects

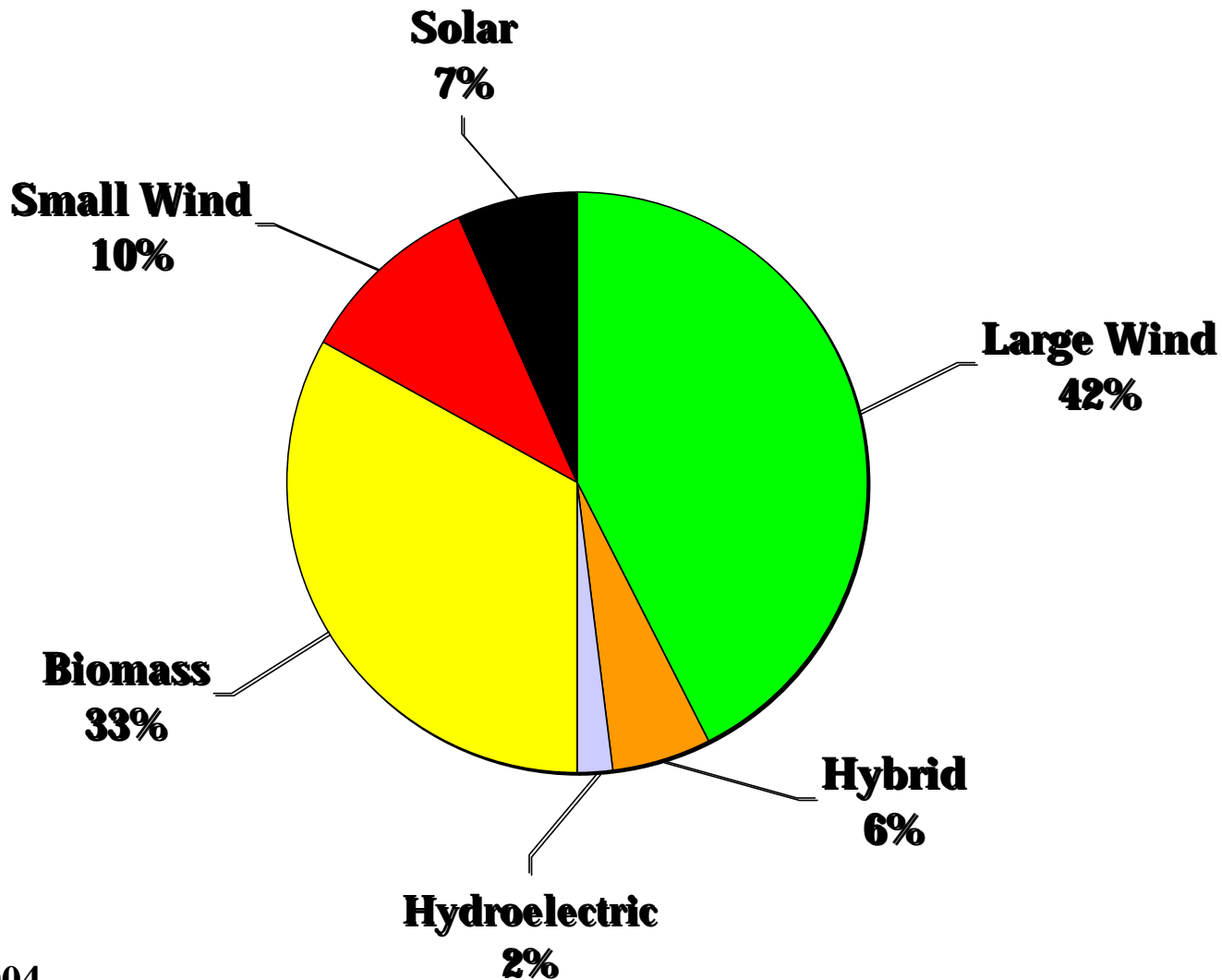
## ■ Residential

- Small wind turbines
- Photovoltaics & solar hot water
- Corn & woodburning stoves/furnaces

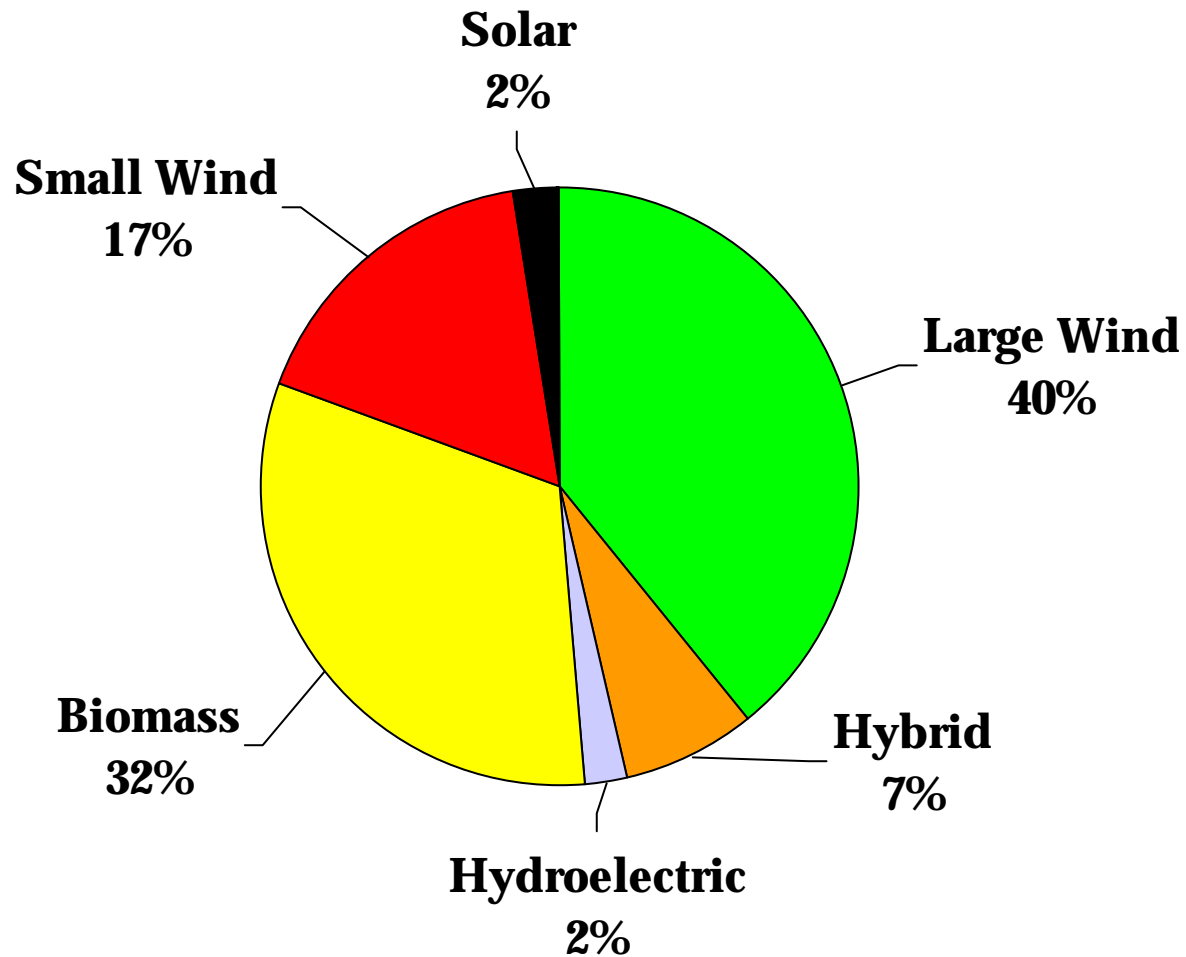
## ■ Commercial & Industrial

- Large wind turbines
- Livestock manure digestion to power
- Ethanol production
- Biodiesel production
- Hydroelectric power
- Refuse waste to heat/power

# Loan Applications by Technology



# Loan Distribution by Technology



# Large Wind Turbine Project



## ■ Project

- Zachary Ridge LLC

## ■ Owner

- Northern Alternative Energy, Inc

## ■ Location

- rural Allendorf, IA

## ■ Equipment

- Gamesa Eolica G80
- 1,800 kw nameplate
- 78 meter (256 ft.) tower
- 39 meter (129 ft) blades, (80 meter dia.)
- 7,500,000 kWh/year
- power for about 700 average homes

## ■ Notes

- largest wind turbine in U.S.
- online in December 2003
- \$1,800,000 construction cost
- \$250,000 AERLP funds



# Small wind turbine project



## ■ Owner

- New Prairie Technologies

## ■ Location

- rural Linn Grove

## ■ Equipment

- Bergey Excel-R (48 volt)
- 10 kw nameplate
- 100 ft. tower
- stand alone installation
- 22,000 kWh/yr capacity
- 6,500 kWh/yr usage

## ■ Notes

- online July 31, 2000
- exploring net metering options
- \$39,000 installed cost
- \$19,500 – 7 yr. term AERLP funds

# Biomass Project



## ■ Owner:

- Siouxland Energy & Livestock Coop

## ■ Location:

- Sioux Center, IA

## ■ Plant details:

- Dry mill corn to ethanol plant
- 20 million gal/yr capacity
- \$17.3 million construction cost
- Major E-85 supplier

## ■ Performance:

- 1.76 million gal/Jan '04
- Supplied to IA, SD, NE, MN, CA, CO, OR, NV, AZ markets

# For More Information

- **Iowa Energy Center's Web site**

<http://www.energy.iastate.edu>

- **Contact Energy Center**

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