

Wind Energy Production and Renewable Energy Tax Credits

Tax Expenditure Committee – December 12, 2019

John Good
Research and Policy Division
Iowa Department of Revenue



Outline of Remarks

- ▶ Description and Brief History of Iowa's Credits
- ▶ Analysis of Iowa's Renewable Energy and Wind Energy Production Credits
- ▶ Growth of Renewable Energy In Iowa
- ▶ Summary



Wind Energy Production Tax Credit

- ▶ Iowa Code Chapter 476B
- ▶ \$0.01 per kilowatt-hour of electricity sold or generated for on-site consumption
- ▶ Facility must be between 2 MW and 30 MW
- ▶ Facilities placed in service by July 1, 2012
- ▶ After approval, credit received for 10 years
- ▶ No new facilities can be approved under this program
- ▶ Limited to a total of 50 MW capacity



Renewable Energy Tax Credit

- ▶ Iowa Code Chapter 476C
 - \$0.015 per kWh of electricity
 - \$4.50 per MMBTU of methane or other biogas to generate electricity
 - \$4.50 per MMBTU of heat for a commercial purpose
 - \$1.44 per Mcf of hydrogen fuel
- ▶ Facilities placed in service by January 1, 2018
- ▶ After approval, credit received for 10 years
- ▶ Limited to 363 MW for wind projects and 63 MW for other renewable energy projects
 - ▶ 10 MW is reserved for solar facilities
- ▶ Eligibility of individual wind projects is limited 2.5 MW per owner



Common Characteristics of Both Programs

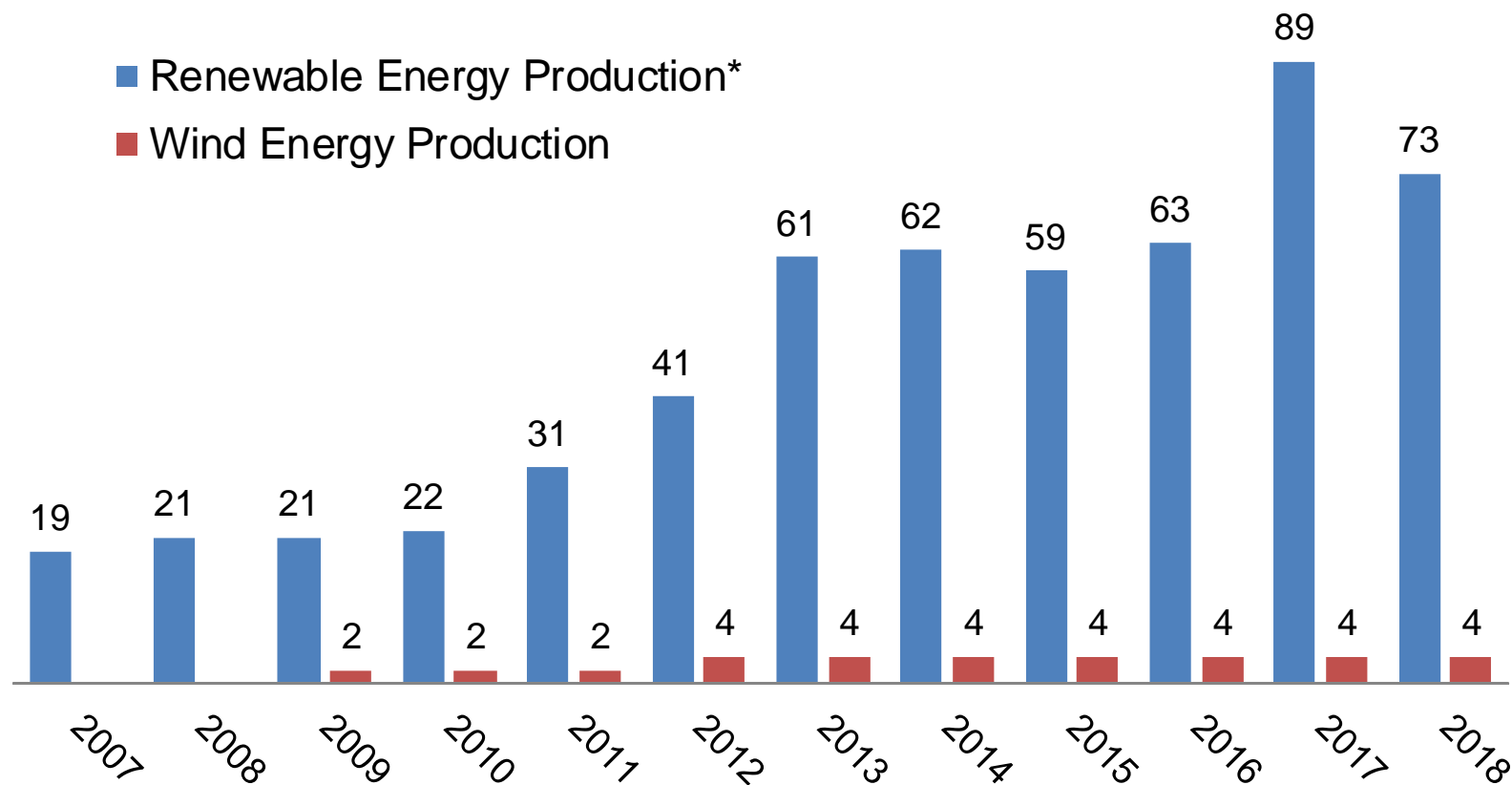
- Enacted in 2005
 - Wind Energy Production Tax Credits first awarded in 2009
 - Renewable Energy Tax Credits first awarded in 2007
- Nonrefundable
- Carryforward 7 years
- Transferable
 - Wind Energy Production transfers unlimited
 - Renewable Energy may be transferred only once



Important Issues Identified in Research on Renewable Energy

- ▶ High fixed costs; relatively low operational and maintenance costs
 - Variable and intermittent nature of wind
 - High costs for system integration and redundancy
 - Technological considerations
 - Storage
 - Transmission
- ▶ Incentives are necessary to achieve optimum investment

Number of Operational Projects Approved for Tax Credits



* Renewable Energy projects include wind and non-wind projects

Source: Iowa Department of Revenue



Electric Power Industry Sectors

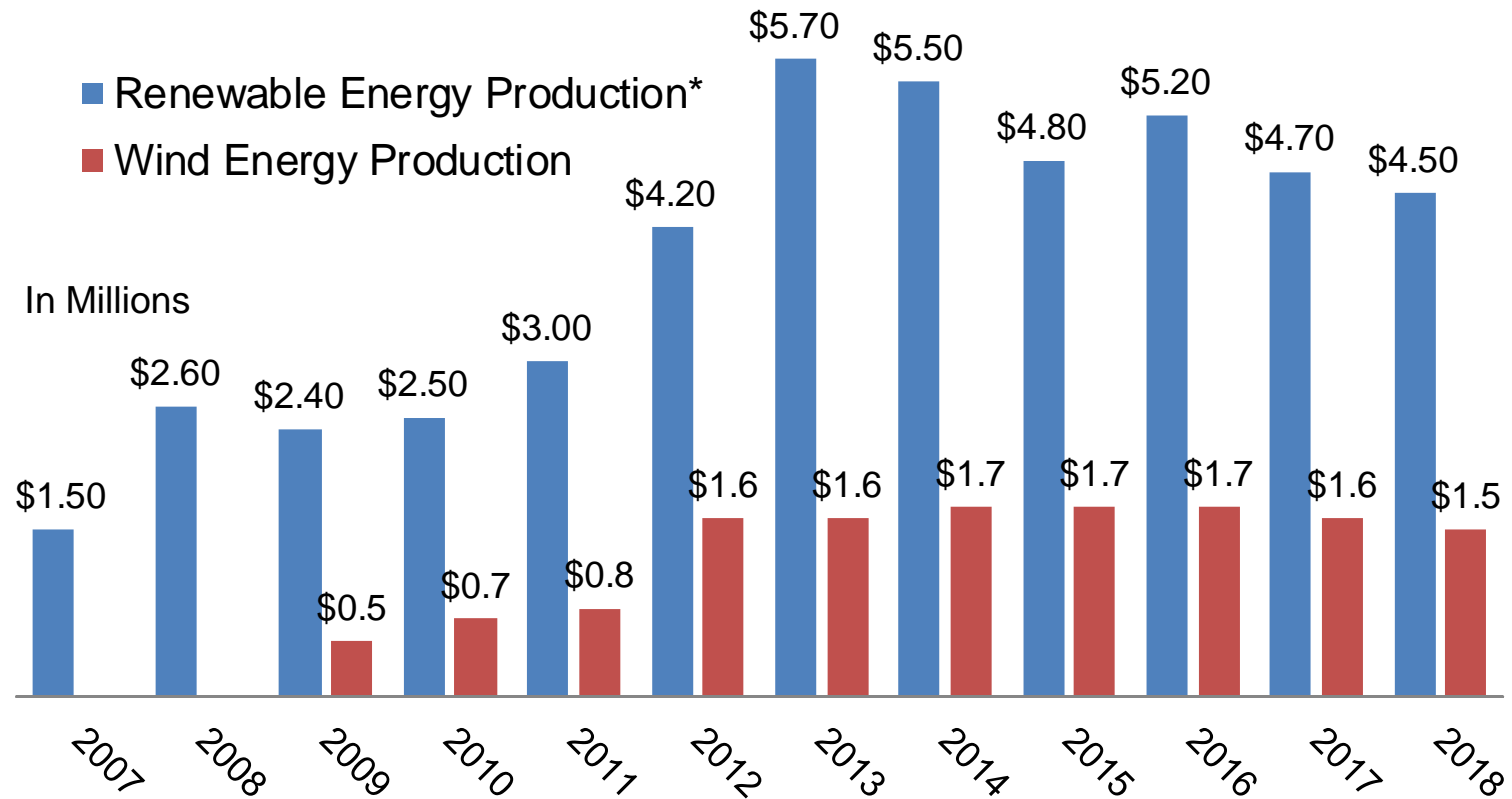
▶ Utilities

- Rate-Regulated Investor Owned Utilities (IOUs)
- Municipally Owned Utilities (MOUs)
- Rural Electric Cooperatives (RECs)

▶ Independent Power Producers

▶ Commercial and Industrial Generators

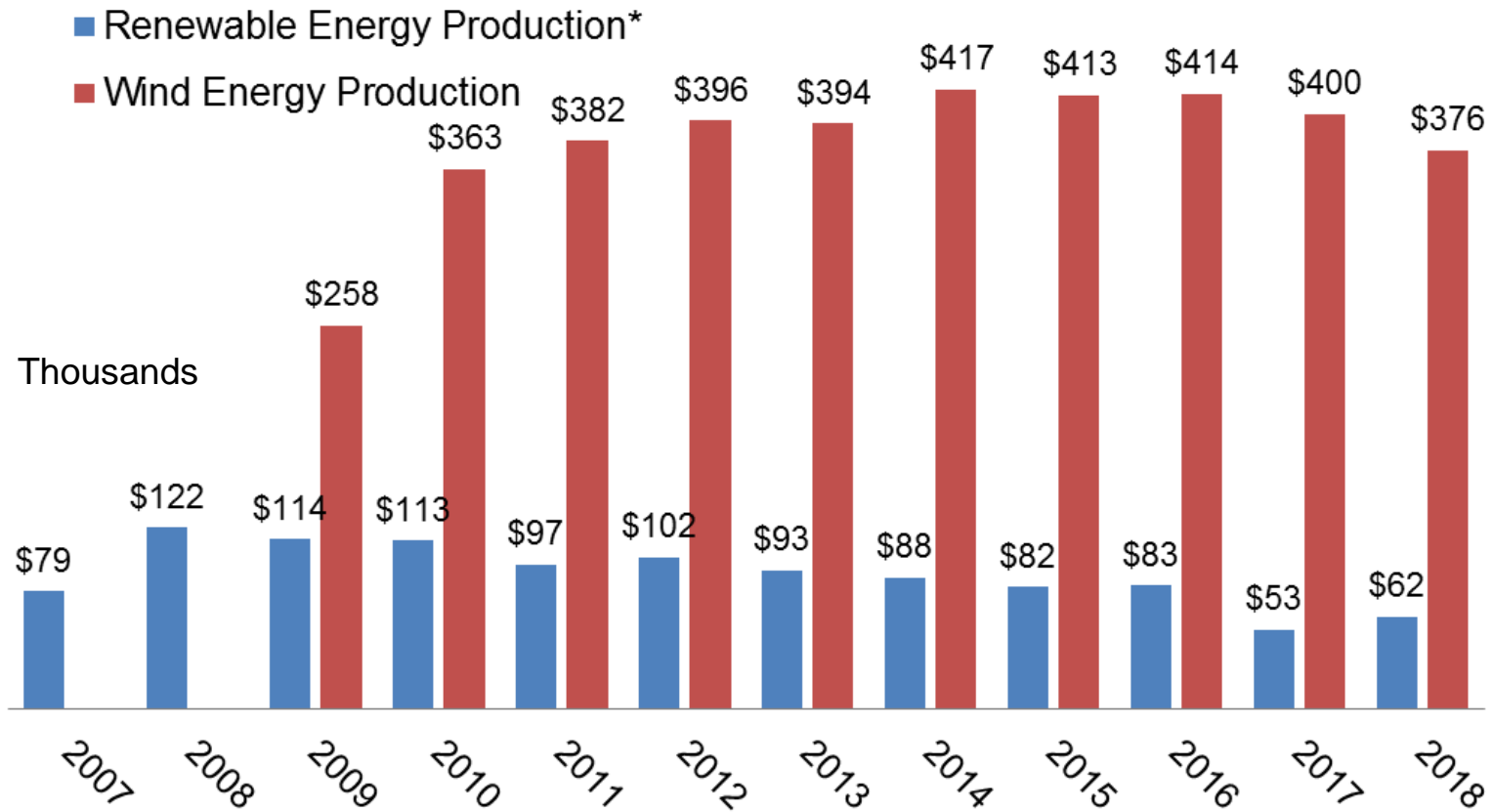
Total Tax Credit Awards



* Renewable Energy projects include wind and non-wind projects

Source: Iowa Department of Revenue

Average Program Award



* Renewable Energy projects include wind and non-wind projects

Source: Iowa Department of Revenue

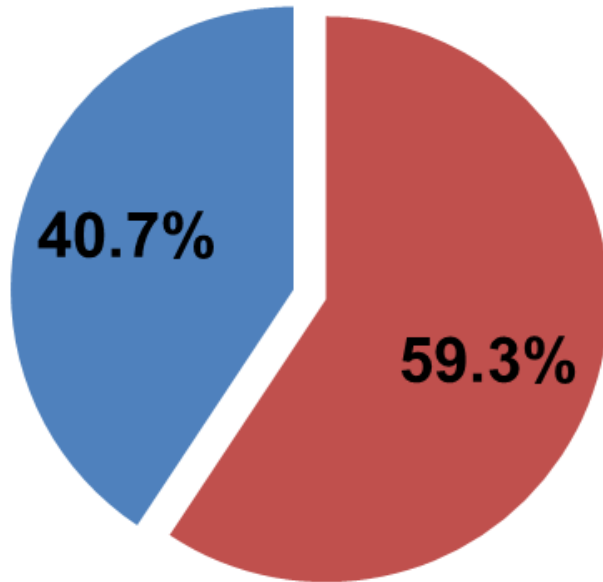
Recipients and Awards by Residence

Wind Energy Production Tax Credit

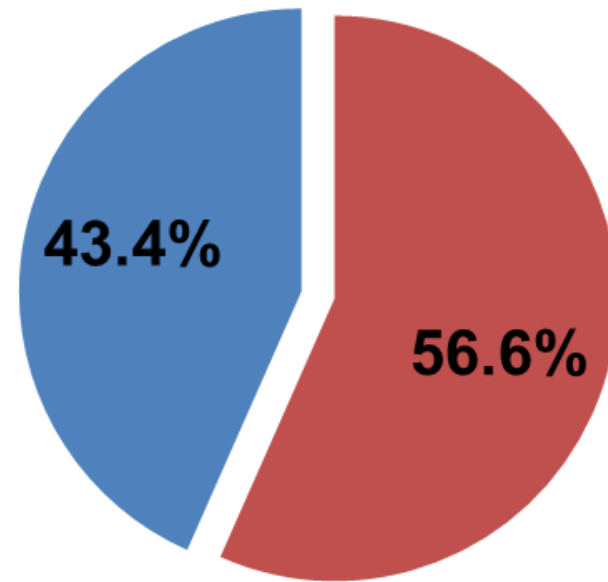
■ Iowa

■ Non-Iowa

Recipients



Awards

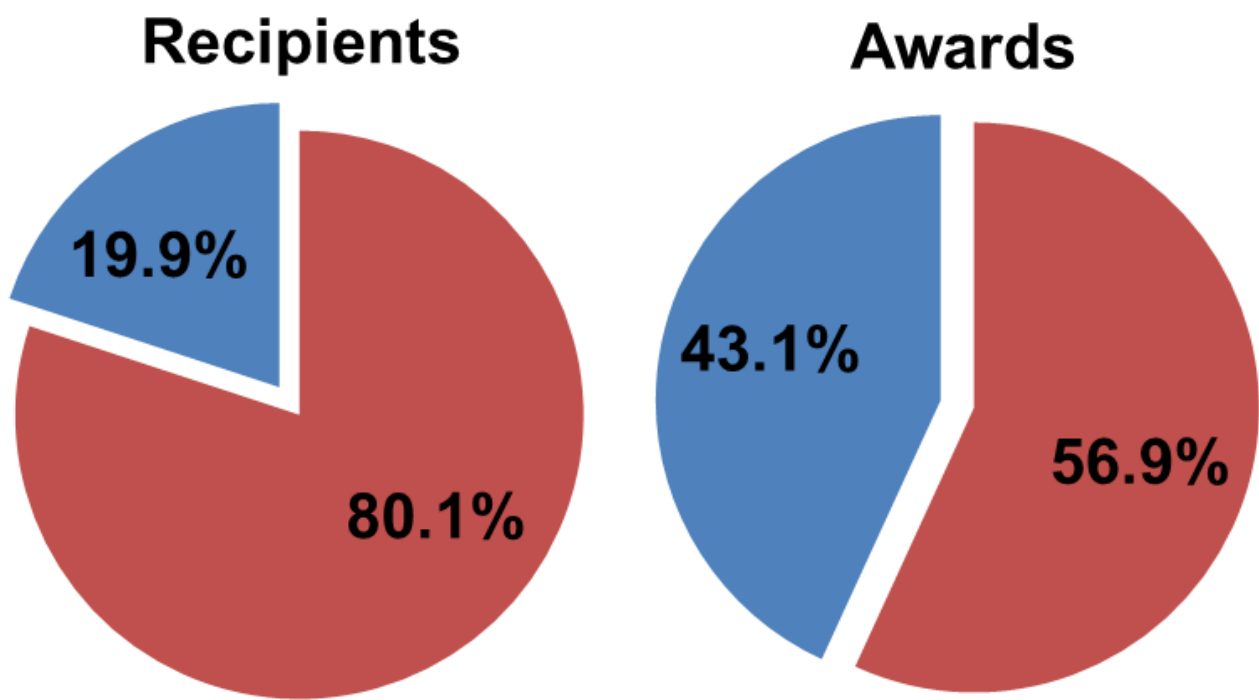


Source: Iowa Department of Revenue



Recipients and Awards by Residence Renewable Energy Tax Credit

■ Iowa ■ Non-Iowa



Source: Iowa Department of Revenue

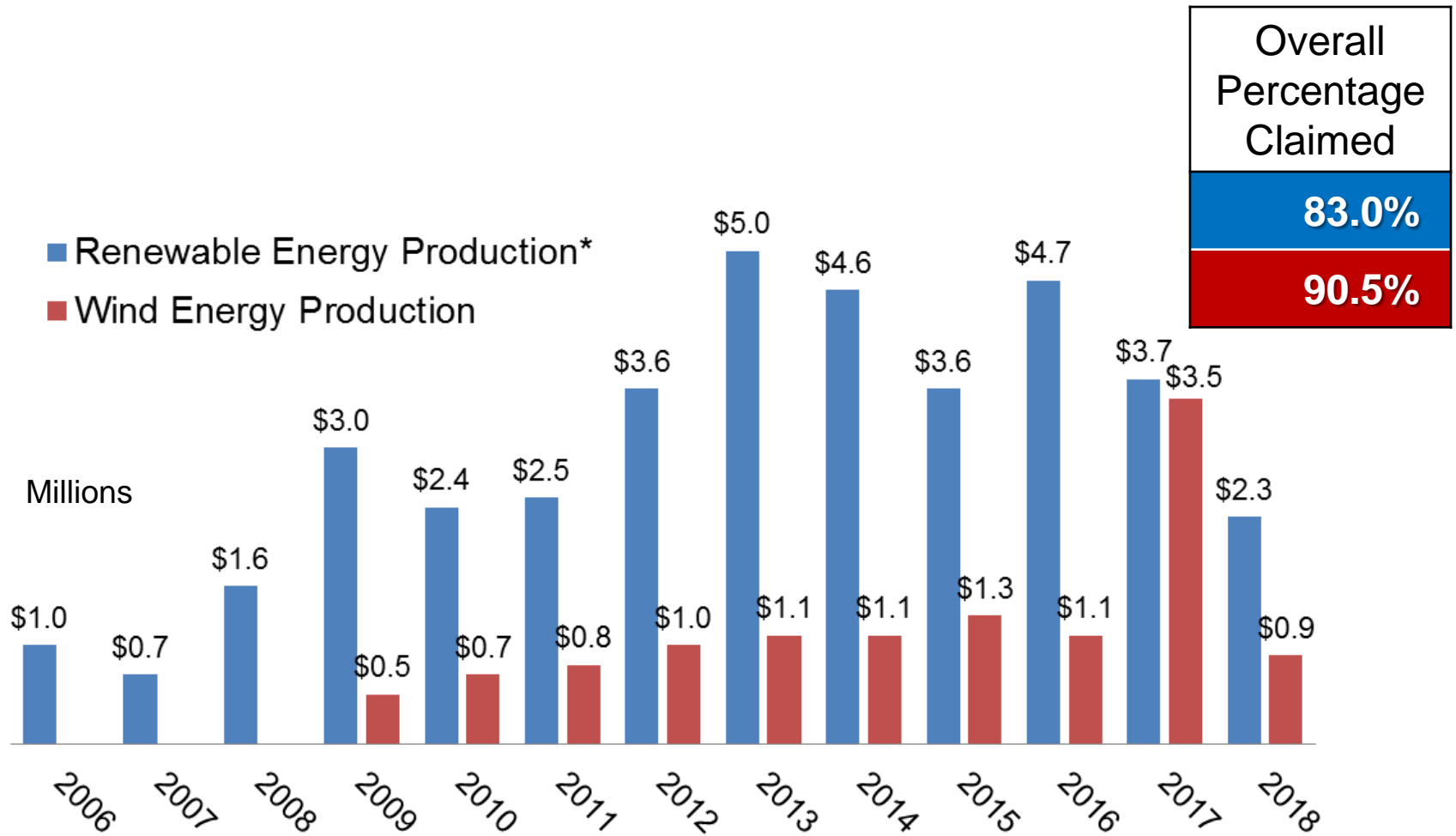


Awards Transfers

WEP and RE Tax Credits

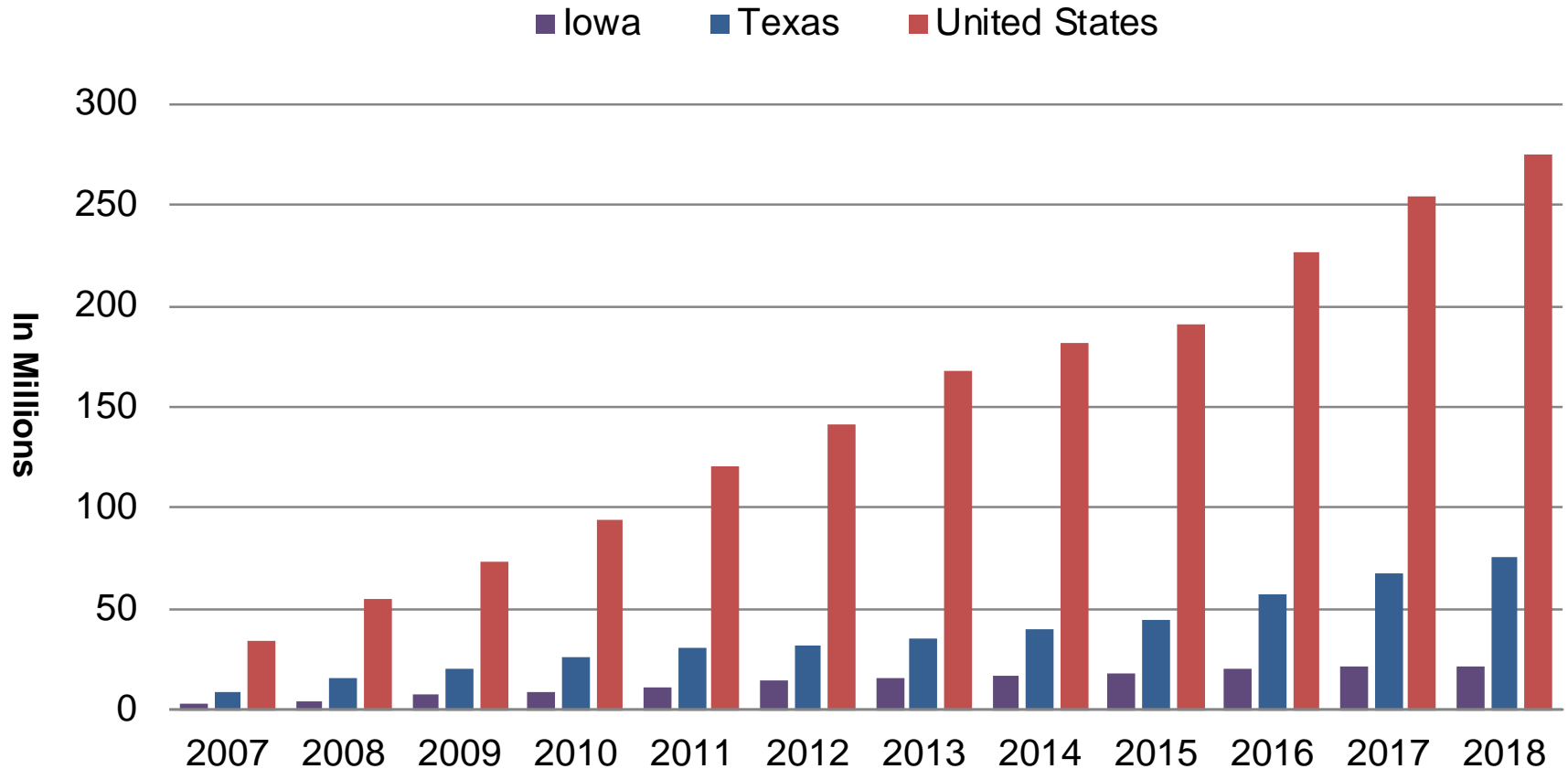
- 99.9% of all WEP credits have been transferred
- Average financial compensation exchanged for WEP Credit is 95 cents on the dollar
- 86.5% of all RE credits have been transferred
- Average financial compensation exchanged for RE Credit is 93 cents on the dollar

Tax Credit Claim Amounts



Source: Iowa Department of Revenue

Net Generated Wind All Sectors



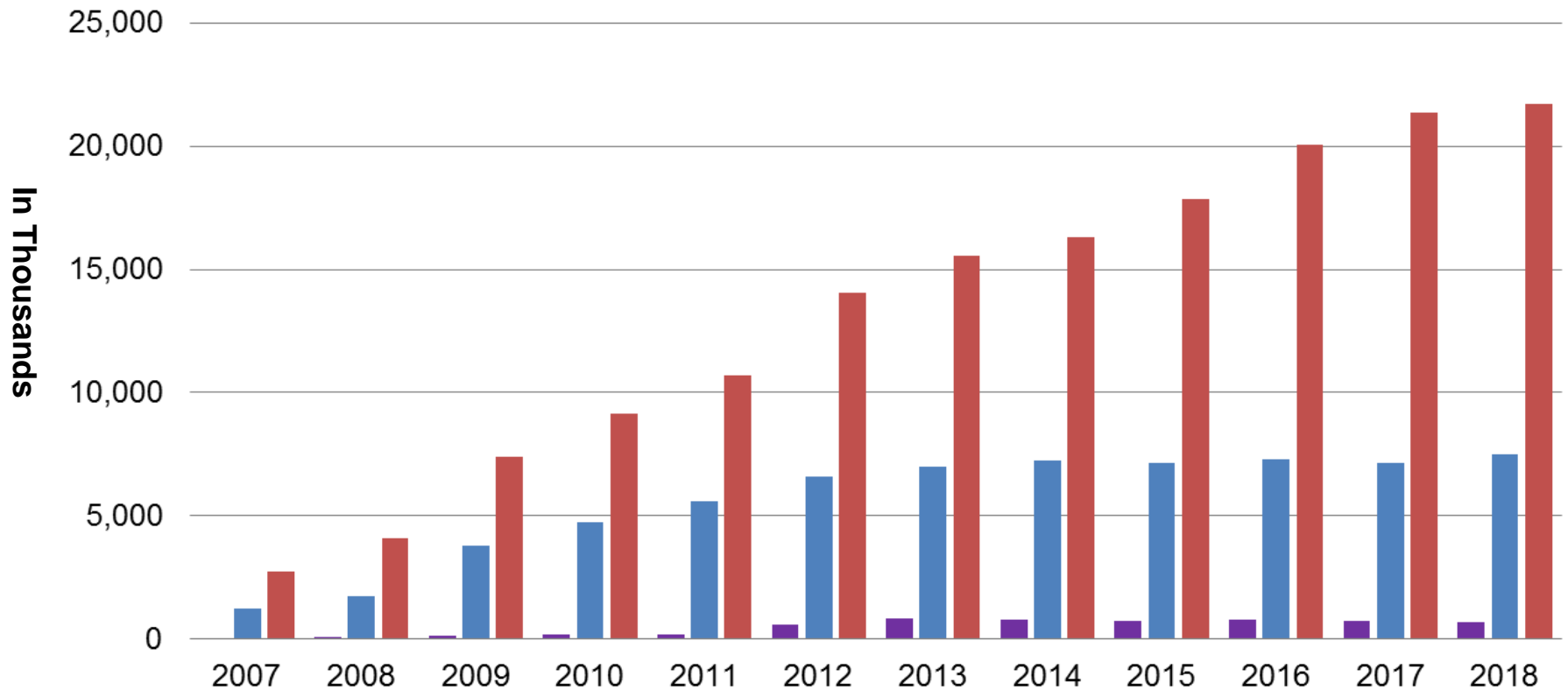
Source: U.S. Energy Information Administration



MWh from Wind

Incentivized Amounts Compared to Totals

■ WEP and RE Tax Credits MWh ■ Total MWh From Wind by IPPs ■ Total MWh From Wind by All Sectors

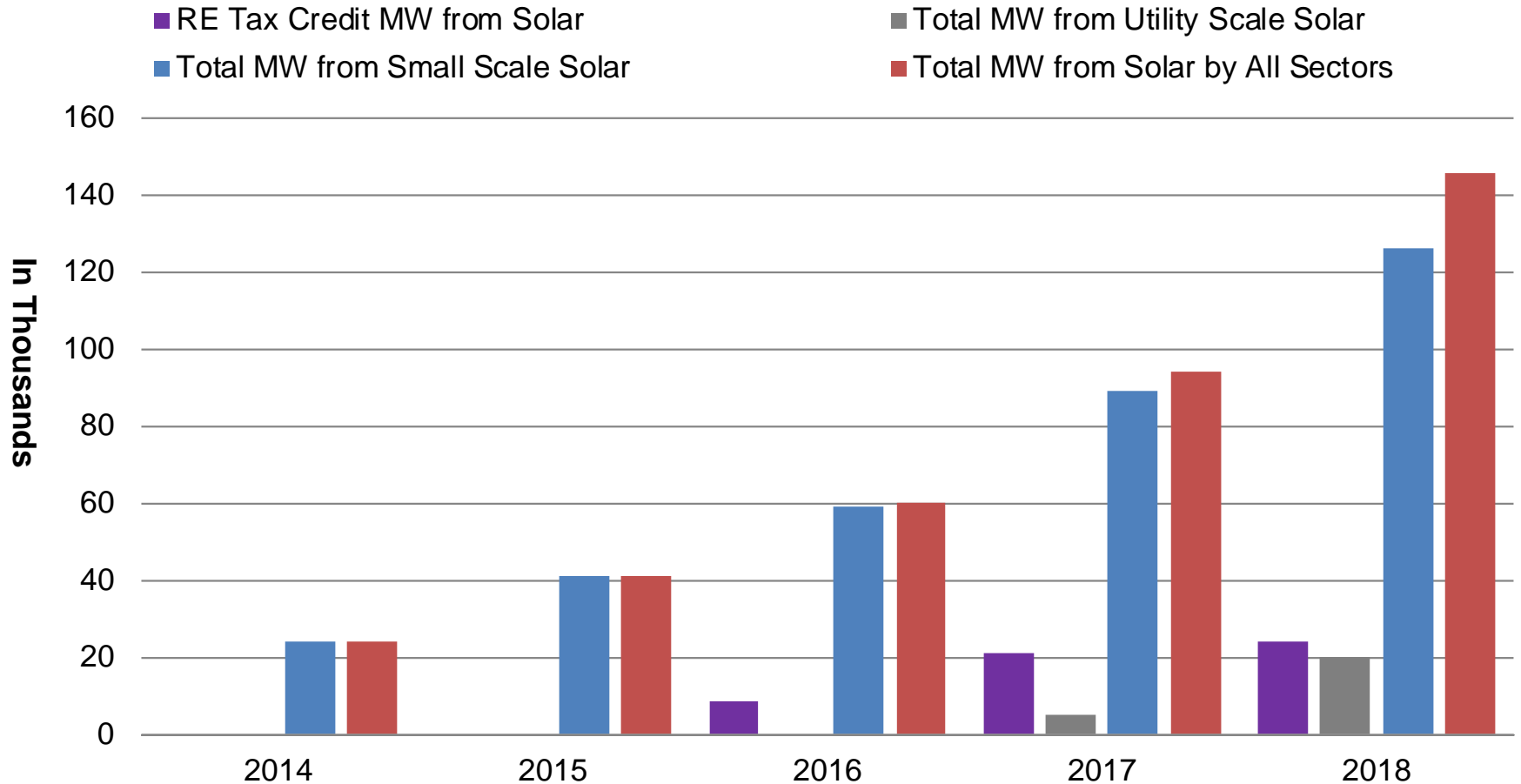


Sources: Iowa Department of Revenue and U.S. Energy Information Administration



MWh from Solar

Incentivized Amounts Compared to Totals



Sources: Iowa Department of Revenue and U.S. Energy Information Administration



Summary

- ▶ Although the WEP Tax Credit and the RE Tax Credit are awarded for energy that is generated and sold, State incentives, including tax credits, are used to offset high upfront costs.
- ▶ Credit Transfer Market has been strong for these two credits.
- ▶ Wind Energy incentives directed to small scale wind producers resulted in minimal share of incentivized MWh produced compared to total wind energy production in Iowa.
- ▶ Solar Energy incentives directed to all eligible producers resulted in a larger share of incentivized MWh produced compared to total solar energy production in Iowa.

Questions?