

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Delta States
State	Louisiana
Discipline Group	Agricultural Engineering
Practice Code/Name	374 - Farmstead Energy Improvement
Scenario ID	10
Scenario Name	Motor Upgrade > 100 HP
Scenario Description	The typical scenario consists of replacing an existing electric motor used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production with a new, high efficiency motor. The motor size is larger than 100 horsepower.
Before Practice Situation	The system is inefficient with a standard efficiency motor.
After Practice Situation	An on-farm energy audit has determined that energy use can be reduced through use of a NEMA premium motor. Associated practices/activities may include: 122-AgEMP - HQ, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.
Scenario Feature Measure	Nameplate horsepower of motor
Scenario Unit	Horse Power
Scenario Typical Size	150

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$12,373.77	\$82.49
Equipment/Installation	\$0.00	\$0.00
Labor	\$429.12	\$2.86
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$12,802.89	\$85.35

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1175	Motor, electric, NEMA Premium, 200 HP	Premium NEMA approved electric motor, 200 Horsepower and all required appurtenances. Materials only.	Each	\$16,107.25	0.5	\$8,053.63
Materials	1174	Motor, electric, NEMA Premium, 100 HP	Premium NEMA approved electric motor, 100 Horsepower and all required appurtenances. Materials only.	Each	\$8,640.29	0.5	\$4,320.15
Labor	230	Skilled Labor	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$26.82	16	\$429.12