



WSARE Agricultural Renewable Energy Training Seminar Agenda

MT Weatherization Training Center, Bozeman, MT November 29-30, 2011

November 29: Introduction to Renewable Energy		
Topic	Presenter	Duration
Introduction to Training <ul style="list-style-type: none"> • Purpose of Training • Introduction to E3A Toolkit • Review of Agenda and Speakers 	Sarah Hamlen, MSUE and Tom Pick, NRCS	8:00 to 8:15
Basics of Energy <ul style="list-style-type: none"> • Energy Pyramid as Instructional Tool • Assessing Producer Needs and Objectives 	Sarah Hamlen, MSUE	8:15 to 8:30
Farm Energy Audits <ul style="list-style-type: none"> • Components of Energy Audit • Understanding an Energy Audit & NRCS Energy Audits 	Kip Pheil, NRCS	8:30 to 9:30
Break		15 Minutes
Irrigation Energy Efficiency & Water Conservation <ul style="list-style-type: none"> • Assessing Irrigation Systems for Efficiency and Pumping Requirements • Elements of System that Affect Efficiency • Determine Efficiency of System 	Stefanie Aschmann, NRCS	9:45 to 10:45
Introduction to Renewables <ul style="list-style-type: none"> • Common Renewable Terms • Overview of Energy Sources & Uses • Resource assessment tools 	Milt Geiger, UWE	10:45 to 11:30
Questions Re: Morning Session		11:30 to 12:00
Lunch		
Solar Thermal <ul style="list-style-type: none"> • Overview of Solar Thermal Systems • Sizing, economics, site considerations, etc. 	Susan Biló, MSUE	1:00 to 1:30
Small Wind <ul style="list-style-type: none"> • Overview of Small Wind Systems • Assessment Checklist 	Sarah Hamlen, MSUE	1:30 to 2:00
Solar PV <ul style="list-style-type: none"> • Overview of Solar Electrical Systems • Sizing, economics, site considerations, etc. 	Susan Biló, MSUE	2:00 to 2:30
Micro-Hydro <ul style="list-style-type: none"> • Overview of Micro-hydropower Systems • Assessment Checklist 	Milt Geiger, UWE	2:30 to 3:00
Questions Re: Afternoon Content		3:00 to 3:15
Break		15 Minutes
Stock Water Systems (Solar and Wind) <ul style="list-style-type: none"> • Introduction to Remote Watering Systems • Storage, economics, site consideration 	Kip Pheil, NRCS	3:30 to 4:00
Methane Digesters <ul style="list-style-type: none"> • Assessment Checklist • Key considerations for ag producers 	Sarah Hamlen, MSUE	4:00 to 4:15
Bio Diesel <ul style="list-style-type: none"> • Overview of Biodiesel • Introduction to Biodiesel Spreadsheet 	Joel Schumacher, MSUE	4:15 to 4:30
Wrap up		
Optional Weatherization Training Center Tour and Hands-On Renewable System & Dinner		



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November 30: In Greater Depth...		
Topic	Presenter	Duration
Introduction to Training <ul style="list-style-type: none">• Purpose of Training• Review of Agenda	Tom Pick, NRCS	8:00 to 8:15
Sizing and Design of Small Wind Systems	Dave Ryan, NCAT	8:15 to 9:00
Sizing and Design for Solar PV Systems	Stefanie Aschmann & Kip Pheil, NRCS	9:00 to 9:45
Break		15 Minutes
Sizing and Design of Stock Water Systems with Wind and Solar	Stefanie Aschmann & Kip Pheil, NRCS	10:00 to 11:30
Considerations for Geothermal Systems in Agricultural Buildings	Stefanie Aschmann & Kip Pheil, NRCS	11:30 to 12:00
Lunch		1 Hour
Variable Rate Pump Design <ul style="list-style-type: none">• Pumping plan evaluation	Stefanie Aschmann & Kip Pheil, NRCS	1:00 to 2:00
NRCS Programs <ul style="list-style-type: none">• Considerations for Field Offices• Details of NRCS programs	Tom Pick, NRCS	2:00 to 2:30
Wrap Up		