

## Incorporating Bioenergy in Sustainable Landscape Designs Workshop Two: Agricultural Landscapes

June 24–26, 2014 | Argonne National Laboratory  
9700 S. Cass Avenue | TCS Conference Center  
Argonne, IL 60439

### WORKSHOP OBJECTIVE

The second edition of the Sustainable Bioenergy Landscapes Workshop will convene a discussion on the usefulness and feasibility of using landscape principles to design sustainable bioenergy/row crop systems in the U.S. midwestern agricultural landscape. Through the workshop, participants are expected to develop an understanding of the state of the science, research needs, tools, and methodologies for the demonstration and monitoring of prototype landscape bioenergy systems across the supply chain in the midwestern corn-belt region.

### DAY 1—TUESDAY, JUNE 24, 2014: FIELD TOUR

**8:00 a.m.–4:30 p.m.**

- Argonne field study site—Fairbury, Illinois
  - View a landscape design field study centered around the use of biomass to recover and reuse nitrogen lost by adjacent corn. The demonstration of precision agriculture tools to aide in the placement of bioenergy crops and an illustration of watershed scale conservation initiatives organized by the Conservation Technology Information Center will also be covered in the landscape design field study.
- U.S. Department of Agriculture's (USDA's) National Center for Agricultural Utilization Research (NCAUR)—Peoria, Illinois
  - Learn about research on new bioenergy winter cover crops (pennycress) and tour their pilot-oil extraction facility.
- Chip Energy—Goodfield, Illinois
  - Visit a modular biomass depot facility built with recycled shipping containers where lignocellulosic biomass is collected and processed for further distribution to end users.



Willow buffer being planted in a corn field.

### DAY 2—WEDNESDAY, JUNE 25, 2014: WORKSHOP

**8:30 a.m.–9:00 a.m.**

#### Introduction to the workshop

- Welcome to Argonne—Donald Hillebrand
- Welcome—Alison Goss Eng
- Workshop goals and Bioenergy Technologies Office introduction—Kristen Johnson and Mark Elless
- Round of introductions—All participants
- Recap from Workshop 1: Incorporating Bioenergy into Sustainable Landscape Designs—Virginia Dale

**9:00 a.m.–10:00 a.m.**

#### The midwestern landscape

- Midwest agriculture land use history and pressures on land use decisions—Harold Reetz
- Biomass resources in the midwest region—Kim Mullins
- Environmental concerns in midwest agricultural landscapes—Roberta Parry
- Marginal land in the midwest—Rob Mitchell

**10:00 a.m.–10:30 a.m.**

#### Break and poster session

- Flame Energy—Eric Rund
- Agricultural Watershed Institute—Steve John
- Conservation Technology Information Center—Chad Watts
- Illinois Biomass Working Group—Fred Iutzi
- USDA NCAUR
- Precision Agriculture—Veris
- Chip Energy—Paul Wever

<b>11:30 a.m.–11:30 a.m.</b>	<p>Designing sustainable bioenergy/grain landscapes: Research methods and experiences</p> <ul style="list-style-type: none"> <li>• <i>Designing for environmental and socioeconomic sustainability—Cristina Negri</i></li> <li>• <i>Using future landscape scenarios to communicate among disciplines and stakeholders—Joan Nassauer</i></li> <li>• <i>Sustainable corn stover harvest strategies for midwest agricultural landscapes—Doug Karlen</i></li> <li>• <i>Bridging scales and tools in the field, watershed, county, and region—David Muth</i></li> </ul>
<b>11:30 a.m.–12:30 p.m.</b>	<p>Panel: Assessing impacts, benefits, methods, and results</p> <ul style="list-style-type: none"> <li>• <i>Experiences from the Agricultural Research Service Croplands Conservation Effects Assessment Project program—John Sadler</i></li> <li>• <i>Biodiversity-related ecosystem services in bioenergy landscapes—Claudio Gratton</i></li> <li>• <i>Monitoring approaches to assess sustainability metrics at the field and watershed scale—Jeff Volenec</i></li> <li>• <i>Connecting integrated landscape management with feedstock logistics—Ian Bonner</i></li> <li>• <i>Air quality considerations for bioenergy landscapes—Garvin Heath</i></li> </ul>
<b>12:30 p.m.–1:30 p.m.</b>	Working Lunch: Food and Sustainable Biofuels: Thinking clearly about the issues—Bruce Dale
<b>1:30 p.m.–2:30 p.m.</b>	<p>Policy, economics, and societal interests</p> <ul style="list-style-type: none"> <li>• <i>Promoting Bioenergy Crops: An economic perspective on challenges and opportunities—Silvia Secchi</i></li> <li>• <i>The Biomass Crop Assistance Program—Kelly Novak</i></li> <li>• <i>Economic sustainability and ecosystems services valuation—Randy Jackson</i></li> <li>• <i>The Nature Conservancy’s experiences in the Midwest: Managing agricultural landscapes for wildlife and water quality—David DeGeus</i></li> </ul>
<b>2:30 p.m.–3:15 p.m.</b>	<p>Breakout groups (there will be four breakout groups)</p> <ul style="list-style-type: none"> <li>• <i>Is landscape design the course of action needed to move forward and if so, how can it be implemented?</i></li> <li>• <i>Do we have the design and monitoring tools that we need? What are we missing?</i></li> </ul>
<b>3:15 p.m.–3:30 p.m.</b>	Break and poster session
<b>3:30 p.m.–4:45 p.m.</b>	<p>Panel roundtable: Buy-in across the supply chain</p> <ul style="list-style-type: none"> <li>• <i>Bruce Dale</i></li> <li>• <i>Farmer’s perspectives—Eric Rund, Norm Larson, Bob Stewart</i></li> <li>• <i>Industry perspectives—Mark Henson, Monsanto</i></li> <li>• <i>The POET approach—Alex Johnson</i></li> <li>• <i>Illinois Institute of Rural Affairs and Illinois Biomass Working Group—Fred Iutzi</i></li> </ul>
<b>4:45 p.m.–5:30 p.m.</b>	Breakout groups report to workshop and discussion
<b>5:30 p.m.</b>	Adjourn

**DAY 3—THURSDAY, JUNE 26, 2014: WORKSHOP**

<b>8:00 a.m.–8:30 a.m.</b>	Previous day recap and instructions to breakout groups
<b>8:30 a.m.–9:15 a.m.</b>	<p>Breakout groups reconvene</p> <ul style="list-style-type: none"> <li>• <i>What are the next steps? How can we establish holistic initiatives at watershed or other local scales to demonstrate and promote the benefits of landscape based bioenergy systems?</i></li> </ul>
<b>9:15 a.m.–10:15 a.m.</b>	<p>Certification, standards, and international perspectives</p> <ul style="list-style-type: none"> <li>• <i>Landscape design in the sugarcane based ethanol production systems in Brazil—Regis Leal</i></li> <li>• <i>Developing U.S. Sustainability Certification Standards to measure landscape-level sustainability—Jody Endres</i></li> <li>• <i>Roundtable on Sustainable Biomaterials—Matthew Rudolph</i></li> <li>• <i>Best management guidelines to achieve sustainability of wildlife resources—Aviva Glaser</i></li> </ul>
<b>10:15 a.m.–10:30 a.m.</b>	Break
<b>10:30 a.m.–11:30 a.m.</b>	Breakout groups report to workshop
<b>11:30 a.m.–12:15 p.m.</b>	Plenary discussion and action plan: What are the research needs and tangible next steps?
<b>12:15 p.m.</b>	Adjourn