

Purdue's Green Enterprise Development Training and SME Certificate

“A Practical Approach To Green Training”



Green
Enterprise
Development



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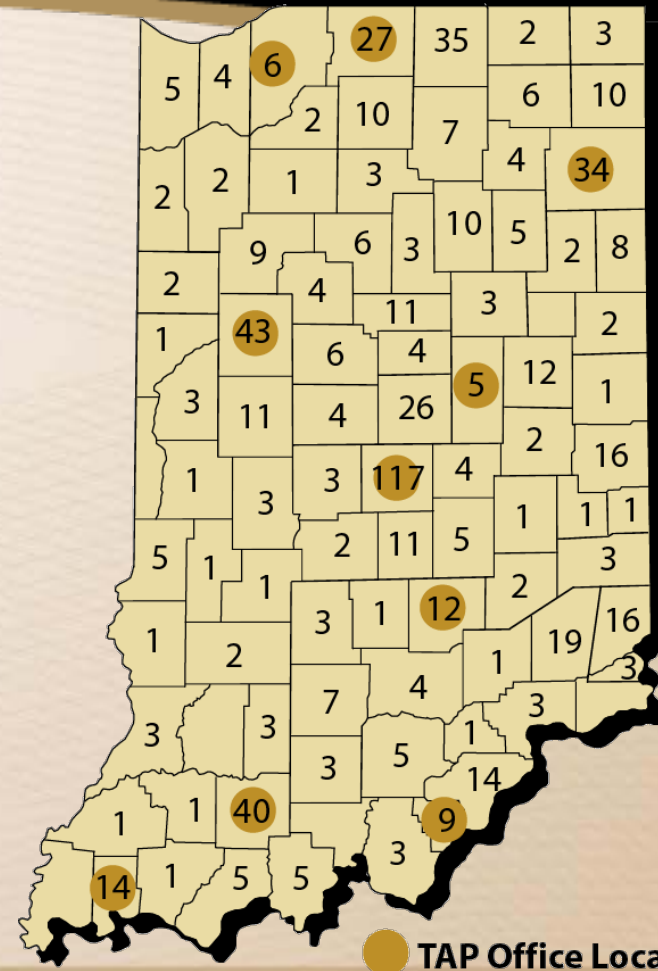
May 6, 2010

Agenda

- About Purdue's Technical Assistance Program (TAP)
- Considerations for a "Green" curriculum
- Foundation
- Making it Practical
- Purdue Training Suite

About TAP

- **Mission**
 - To advance Indiana's economic prosperity, health, and quality of life.



● TAP Office Locations

Numbers indicate employers served by county

Indiana's Growth and Prosperity

Economic Impact Data – July 2008-2009

<i>Increased or retained sales</i>	<i>\$84 million</i>
<i>Cost savings</i>	<i>\$13 million</i>
<i>Capital investments</i>	<i>\$16 million</i>

Employment

<i>Jobs created or retained</i>	<i>688</i>
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Workforce Development

*2008-09 TAP trained **5,104** employees in multiple areas including manufacturing, public health, healthcare, and pharmacy*

Clients Served

*In 2008-09, TAP faculty, graduate students, and staff worked with **703** companies, hospitals, healthcare providers, and governmental units in **86** counties across Indiana*

Green Training Considerations

- Definition of Green Jobs
- Future Legislation
- New Products/Markets
- Making it Cultural
- Certification

Definition of Green Worker

- Who is this infamous “Green Worker” and where can I find one?

A “Green Worker” -

“Has the knowledge and skills to be an active participant in an organization’s efforts to implement sustainability”



Ethan Rogers

Manager Purdue TAP EES

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The Green Worker...

- Understands the issues
- Can identify opportunities
- Can use tools to implement solutions
- Is part of the continuous process
- Can be in any occupation
- Can be technical or non-technical
- Can be hourly or salary
- Can be in any business sector

Current and Future Legislation

- RoHS – 6 Heavy Metals [European]
- REACH – Substances of Very High Concern [European]
- WEEE – E-Waste [European]
- EPA CO₂ Reporting for Large Emitters
- Pending Cap & Trade?

New Green Products/Markets

- Market demand for green products growing
- Appears to be green products in every category
- For established companies, need to align “business practices” with product niches

Making it Cultural

- How do you change a company culture?
- Did we learn anything from “Lean”?
- Need to provide different levels of information to different groups of employees – generalists & specialists

Certificate Exam

- Need for an industry standard
- Should be broad-based in all areas of sustainability
- “Certification” vs. “Certificate”

Partner for Certificates



- Collaboration with SME
 - Validation of the Body of Knowledge
 - Determination of importance
 - Weighting of the contents
 - Developing the Outcome Based Assessment
 - Piloting the Exam
 - Roll-out of Certificate
 - National promotion and support

Foundation

- Start with academic/industry foundation
- Involvement of Purdue faculty
 - Dr. Larry Nies, Env. Engr.
 - Dr. Rod Handy, Mech. Engr. Tech., CIH
 - Dr. Michael Whitt, Mech. Engr. Tech., MBA

Foundation

- Model training after “lean” training
 - Do in-class or on-floor activities
 - Have different training levels - general and specialist trainings

Making it Practical

- Need to help employers get quick impacts
- Need to show practical examples
 - Developed with industry input
 - Have examples “at home” and “at work”
- Need to help companies implement

Final Program Structure

- Green Generalist Training (Green 101) 1-day
 - Audience: General Workforce
 - Approach: Training with Hands-on Simulation
 - **Including new Green Generalist Online**
- Green Specialist Certificate Series 6-days
 - Audience: Plant Engineers, Environmental Managers, Green Team Participants, etc.
 - Approach: Training with Hands-on Simulation or On-site Activity
- SME Certificate Exam Preparation 3-days
 - Approach: Training only for Certificate Exam with Accreditation
 - through Society of Manufacturing Engineers (SME)



Green Generalist Online

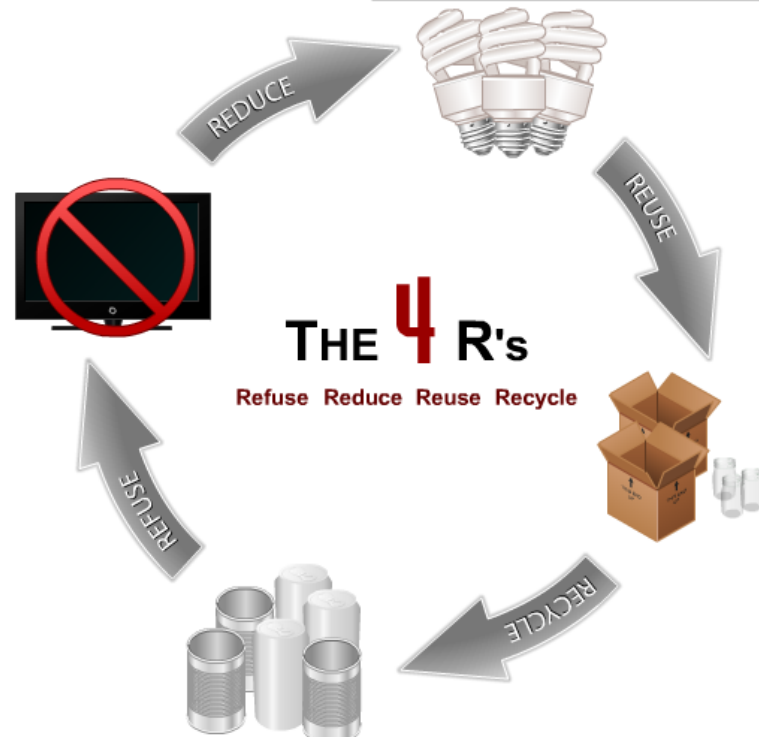
- Similar to Green Generalist
- Available on-demand
- Delivered via the internet
- Includes end of chapter tests

THE FOUR "R" S

Perhaps the most common approach to being green is to follow the Four "R"s:

- Refuse
- Reduce
- Reuse
- Recycle

The purpose of following these four ideals is to extract the maximum practical benefit from products while generating a minimal amount of waste.



Specialist Modules

- Material Use & Solid Waste Management
 - “Dumpster Dive”
- Environmental Business Management
 - “Putting Sustainability into Practice”
- Energy Management
- Supply Water & Waste Water
 - “H₂O Conservation”
- Climate Change & Air Emissions
 - “Pollution Solutions”
- Green Chemistry & Chemical Wastes

Exam Preparation

- SME Certificate Exam Preparation
 - Training only for Certificate Exam
 - Lecture based
 - In depth review of Body of Knowledge materials
 - 3-days
 - Intended to be followed by SME Exam



Purdue TAP Sustainability Portfolio

- Industrial Energy Efficiency Practitioner
- Green Enterprise Development
 - Generalist
 - Specialist
 - Exam Prep
 - Train-the-Trainer
- Waste Stream Mapping
- Energy & environmental surveys, assessments, and kaizen events

Program Outcomes

- Convey key concepts
- Knowledge of implementation tools
- Understanding the business case for sustainability
- Foundation for further Kaizen events
- Prep for SME Exam

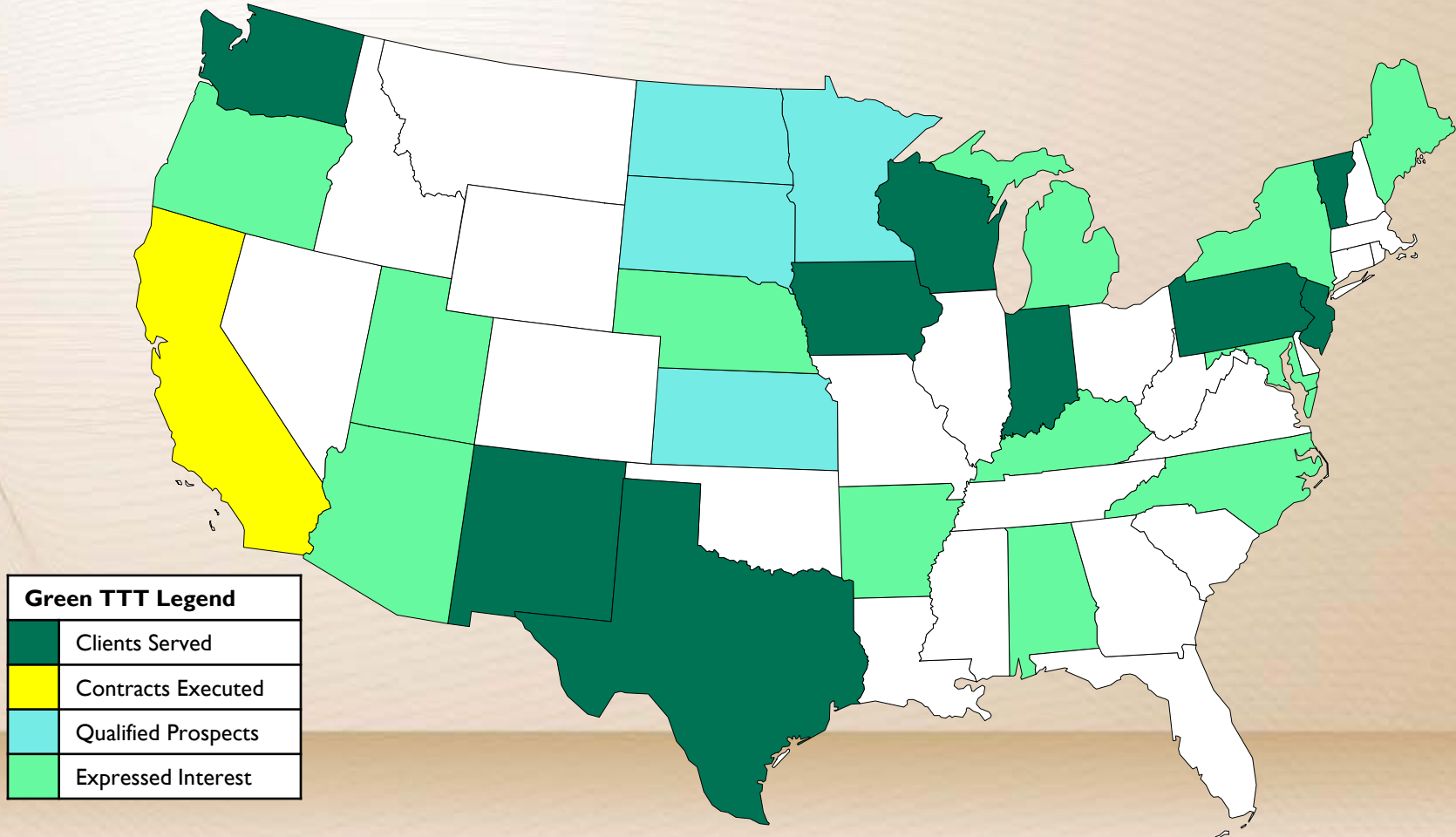


The Next Steps

- Roll-out of all Specialist modules nationwide
- Roll-out of SME Green Specialist Exam
- Incorporation into Purdue TAP services
- Delivery of capability to National Partners
- Evaluation of future modules and accreditations



States Served



Thank You!

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