



Certifying U.S. Manufacturing Plants for Energy Efficiency

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June 12, 2008



Strategic Goals of Plant Certification

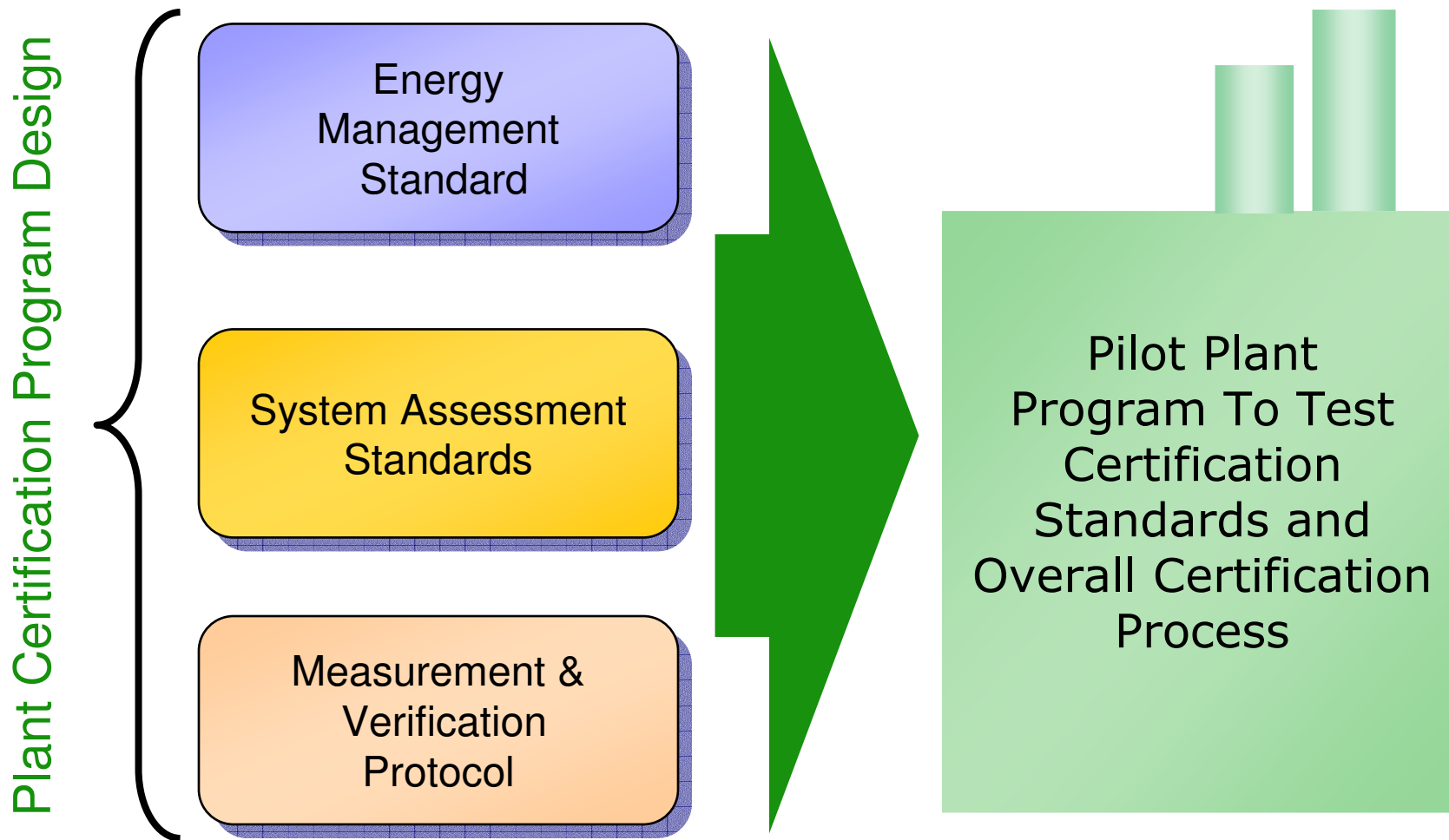
- Fosters an organizational culture of continuous improvement in energy efficiency
- Develops a transparent system to validate energy intensity improvements and management practices, and thus
- Creates a verified record of energy source fuel savings and carbon emission reductions with potential market value that could be recognized both nationally and internationally



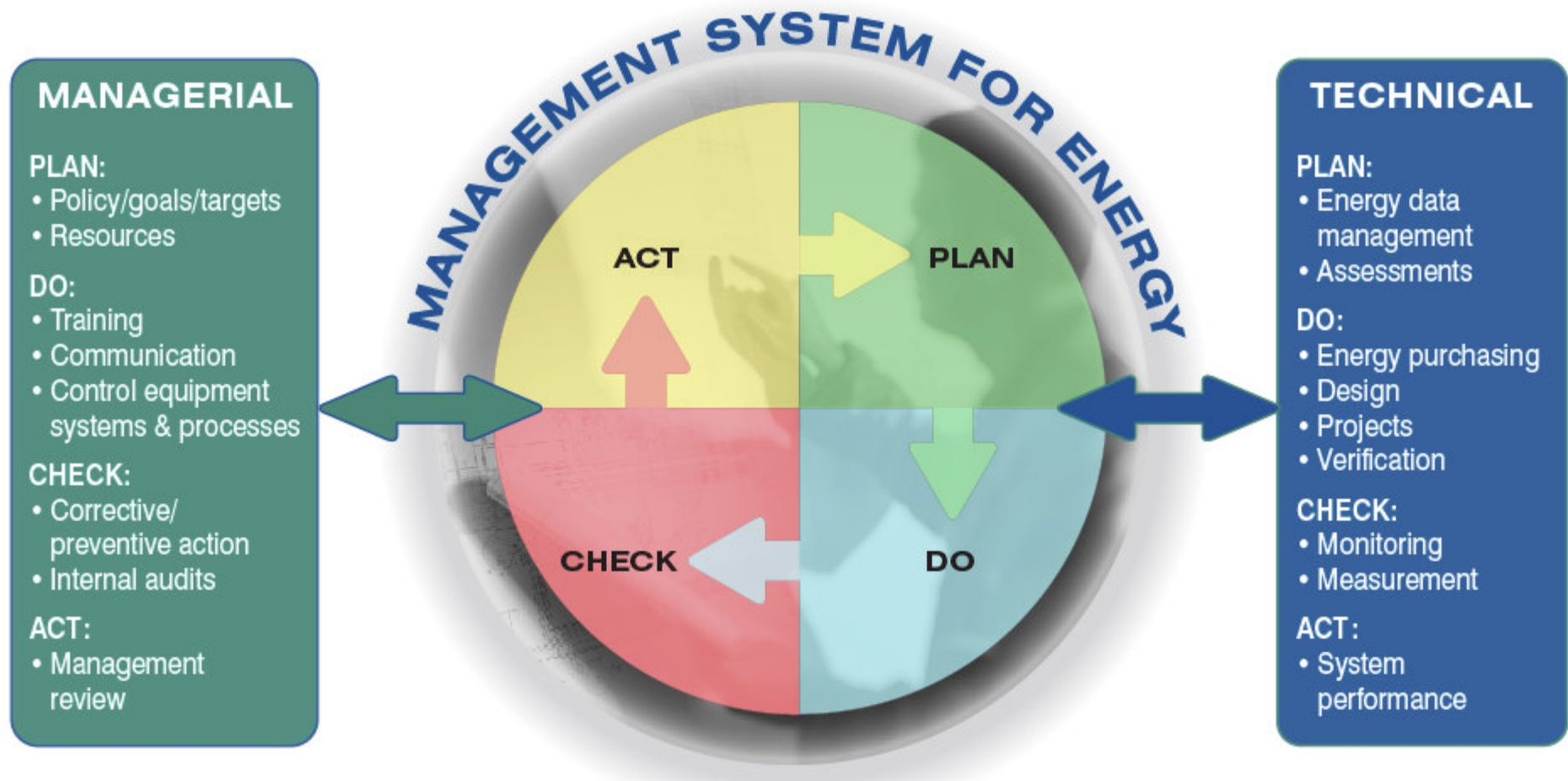
Benefits of Plant Certification

- Establishes systematic means to achieve continuous improvement
 - Standards for energy management and system assessments
 - Tools and resources to assist in implementation
 - Process for validation
 - Focus on reducing energy intensity per unit of output
- Helps plants get on the path to improvement by adopting tools and resources
 - Promotes buy-in to energy efficiency
- Applies to most companies (a wide range of industries)
- Delivers value to all plants, not just those that pursue certification
- Creates a transparent way to compare energy efficiency

Certifying Plants for Energy Efficiency



Basic Elements of ANSI Management System for Energy (MSE 2000:2008)



www.ansi.org

ISO Management System for Energy

■ International Energy Management Standard



- UNIDO Expert Group, Vienna, March 21-22, 2007
- ANSI (U.S.) / ABNT (Brazil) leadership proposal
- ISO Project Committee - PC 242 formed
- First Meeting of ISO PC 242 - September 2008, Washington, DC

■ UNIDO / CSC Working Group Meeting

- Discuss similarities and differences
- Preparatory harmonization
- Detailed & Summary Comparisons developed
- Framework for Action





Requirements for Certification

For **initial certification**, the plant:

- Complies with the energy management standard, and
- Achieves validated energy intensity performance by:
 - Demonstrating energy intensity improvement of >5% over the previous 24 month period OR
 - Assessing any energy system which uses greater than 10% of total plant energy use (not including feedstocks) and demonstrating that the plant has:
 - Implemented >30% of total Btu energy savings opportunities that meet the company's internal rate of return (IRR) and are identified through application of system assessment standards, OR
 - Met or exceeded the Energy Management Best Practice threshold* for systems for which Best Practices exist.

* Energy Management Best Practice threshold is still to be defined



System Assessment Standards

Goals

1. To create and test standards for conducting industrial energy system assessments
 - ❑ Initial portfolio of four (4) standards (pumping, compressed air, steam, and process heating) and corresponding guidance documents that become the industry standard for these system types.
 - ❑ Developed through the American Society of Mechanical Engineers (ASME)
 - ❑ Builds off previous experience through USDOE's Save Energy Now
2. To define a set of skills and a qualifying process required to recognize individuals as Certified Practitioners in the application of each system standard.
3. To identify not-for-profit organizations to
 - ❑ Manage and maintain the quality of the system assessment standards and guidance and
 - ❑ Offer a program to qualify and maintain the professional credentials of Certified Practitioners



Measurement and Verification Protocol

- Verify results and impacts of energy efficiency projects
- Specify parameters required to quantify facility energy efficiency
- Track energy efficiency/intensity changes over time
- Build off experience: IPMVP, utility experience, OSHA Star, etc.
- Balance credibility of validated performance and overall cost to become certified

Future Certification Infrastructure

Overall Plant Certification Standard

Energy Management Standard

System Assessment Standards

Measurement & Verification Protocol

Third Party Certifying Organization (TBD)

Energy Management Practitioners

System Assessment Practitioners

Measurement & Verification Certifiers

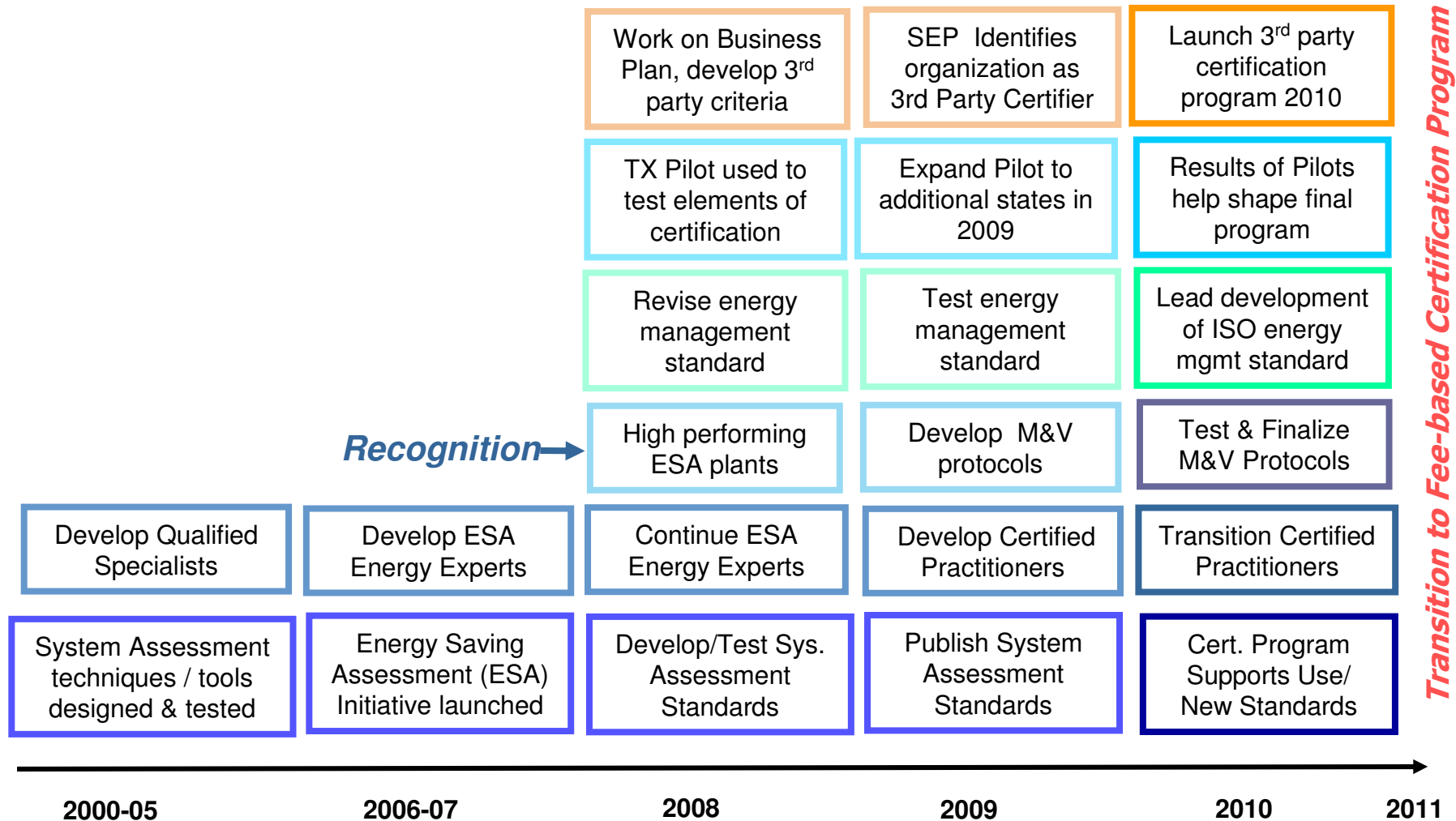
Manufacturing Plants Seeking Certification



Looking Forward: Key Milestones

- **June 2008:** Texas Pilot project begins field testing ANSI energy management standard and system assessment standards
- **Feb. 2009:** Select third-party certifying organization
- **May 2009:** Begin field testing of measurement and verification methodology in pilot plants
- **Dec. 2009:** Begin training certified practitioners in energy management and system assessments
- **Feb. 2010:** First plants are ANSI certified for energy efficiency, based on pilot program results
- **Sept. 2010:** National launch of third-party certification program
- **Sept. 2011:** Third party fee-based, certification business model established

DOE's Industrial Technologies Program Progression to Certification





Opportunity for Partnerships

- DOE/ITP is seeking partnerships with utilities, state, and regional energy efficiency organizations for:
 1. Pilot Plant Certification Program
 2. Creating Energy Management Practitioners
- Benefits
 - Early access to a well-defined turnkey program
 - ANSI-accredited third-party validated energy savings
 - Opportunity to contribute to final program design
 - Help ensure compatibility with state and regional regulatory and programmatic requirements, incentives



Opportunity: Pilot Plant Certification Program

- Sponsor one or more industrial customers to become early adopters for the plant certification program
- Share the cost of these plants participating in second pilot round of training- beginning in 2009
- Plants work with leading US energy management and system optimization experts
- National recognition for plants that become certified
- Opportunity to test and refine program “fit” with incentives, carbon credits, etc.



Opportunity: Creating Energy Management Practitioners

- Sponsor 1-2 individuals from state or region to participate in energy management training
- Only individuals who can be regionally linked with plants participating in the pilots will be considered
- Candidates should have either industrial energy management experience, ISO management system experience, or both
- Trainees will receive expert-level training and coaching from Georgia Tech (GaTech) on the implementation of the national energy management standard MSE 2000:2008
- Trainees will offer hands-on support to plants in their region, co-coaching these plants through the implementation process with reps from GaTech
- Leads to Certified Practitioner in Energy Management

For More Information

www.superiorenergyperformance.net

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