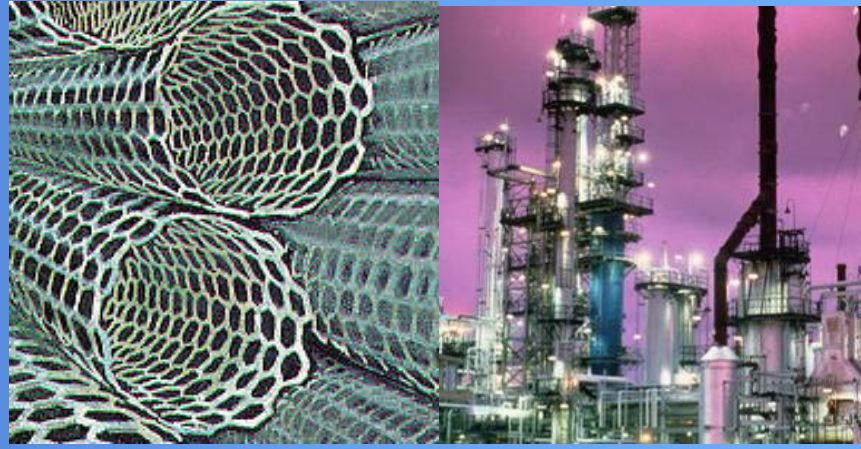
Save ENERGY Now



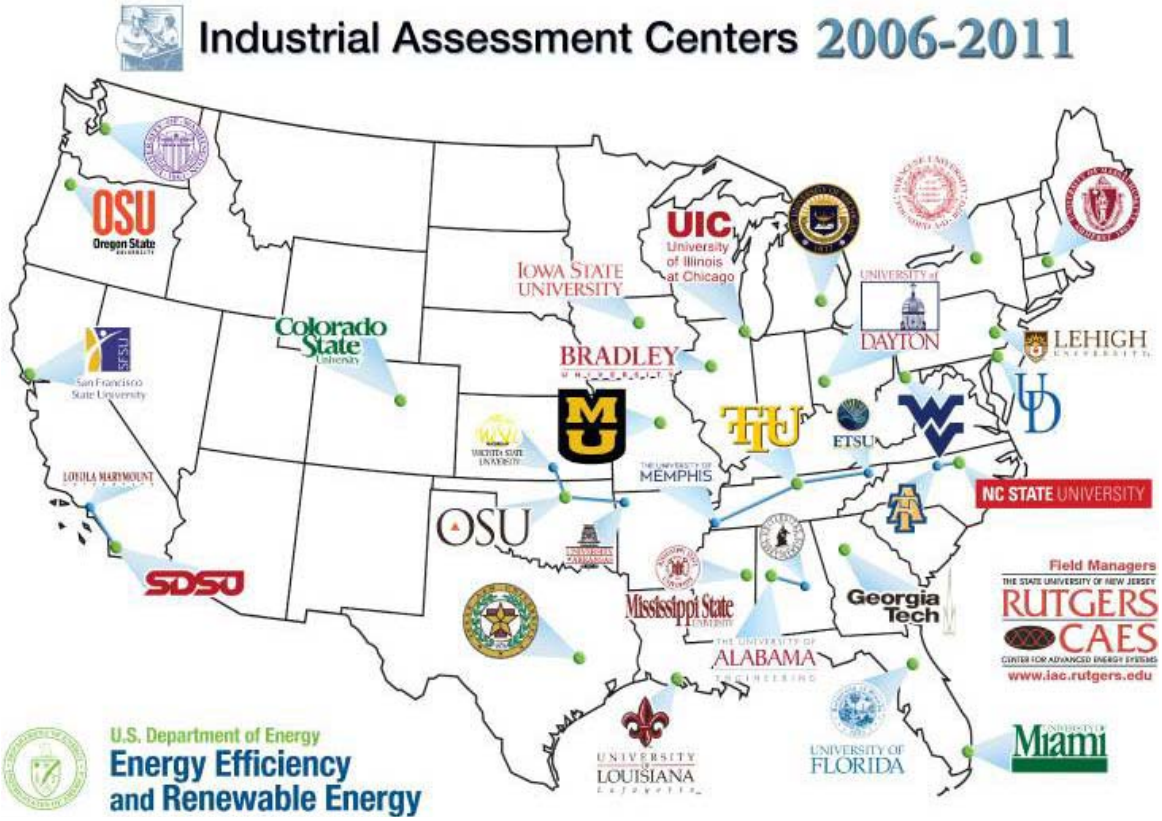
IAC Student Activities Update

IAC Student Meeting
February 4-5, 2010

Thomas Wenning
Industrial Technologies Program
Oak Ridge National Laboratory

Overview

- IAC Metrics & Program Info
- Good News?
- Student Registry and Exit Interviews
- IAC Forum website
- Newsletter
- Certificates
- Linked In IAC Group



IAC Assessments - Cumulative Energy Savings Since 1982

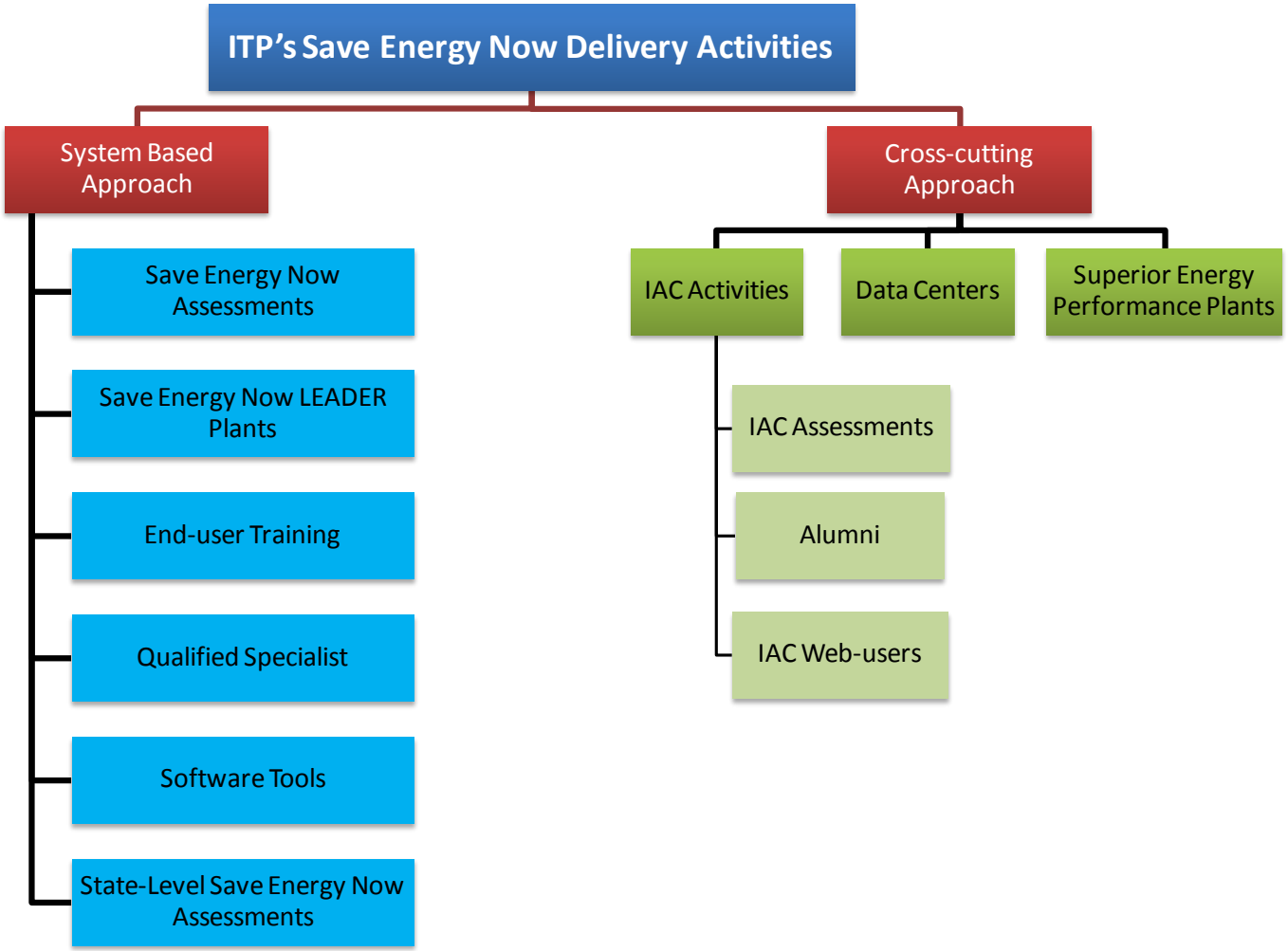
Program Level Summary*

Term	Results
Total number of assessments conducted from 1982	14,500+
Total number of recommendations identified	108,000+
Total implemented energy cost savings	$5 Billion
Median implementation rate	50% of recommendations

* Source: IAC Database - As of January 29, 2010

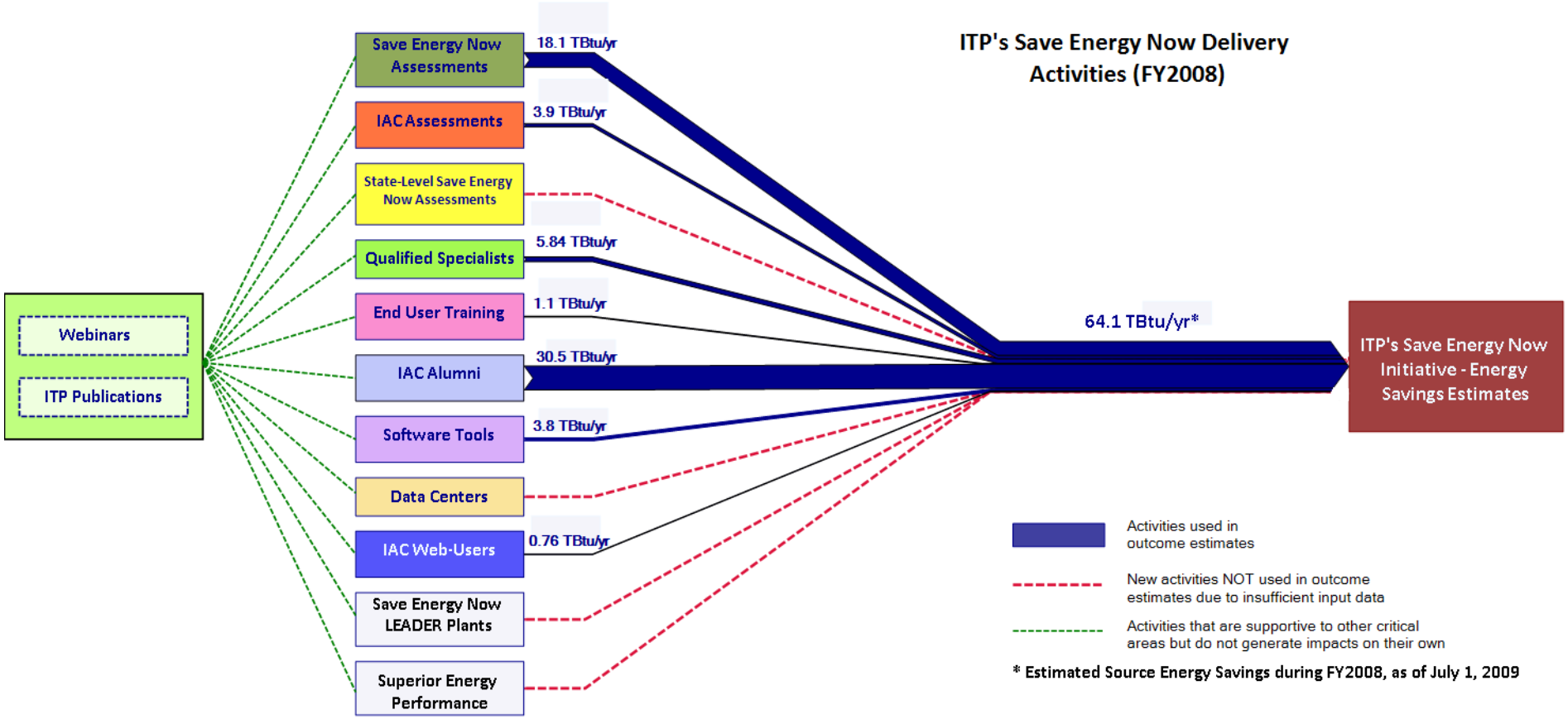
ITP's *Save Energy Now* delivery activities

System-Based and Cross-Cutting Approaches

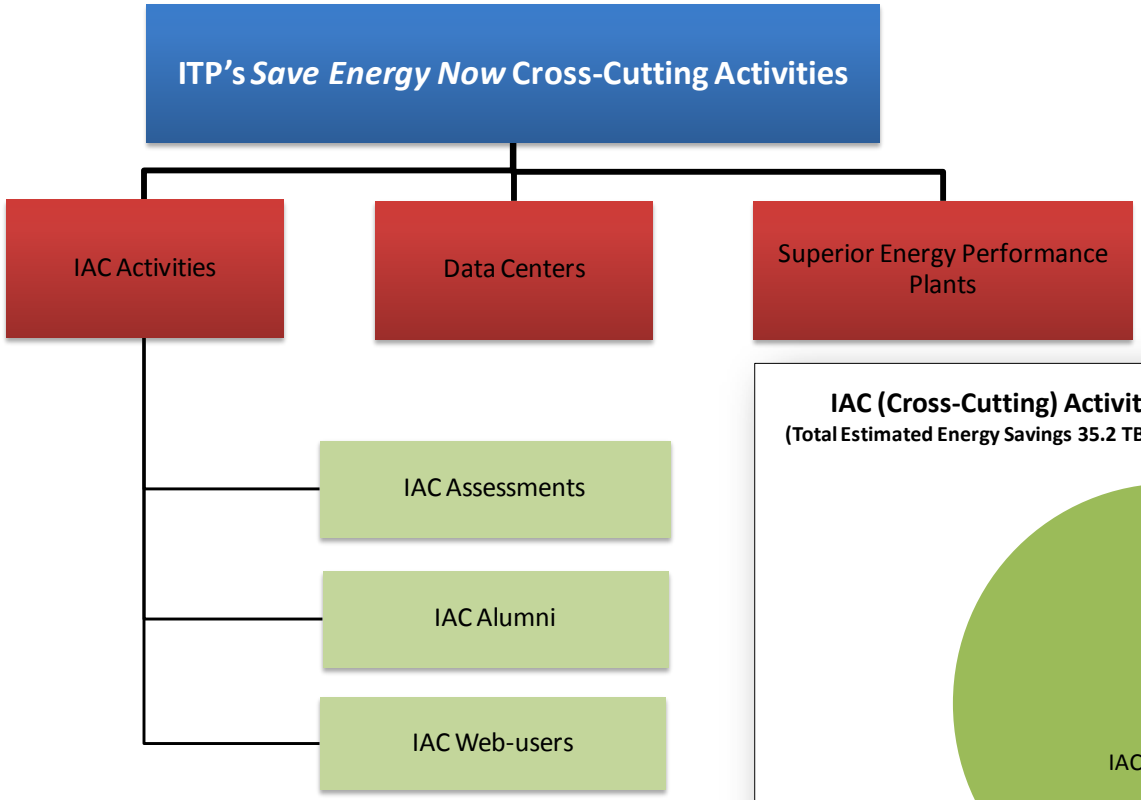


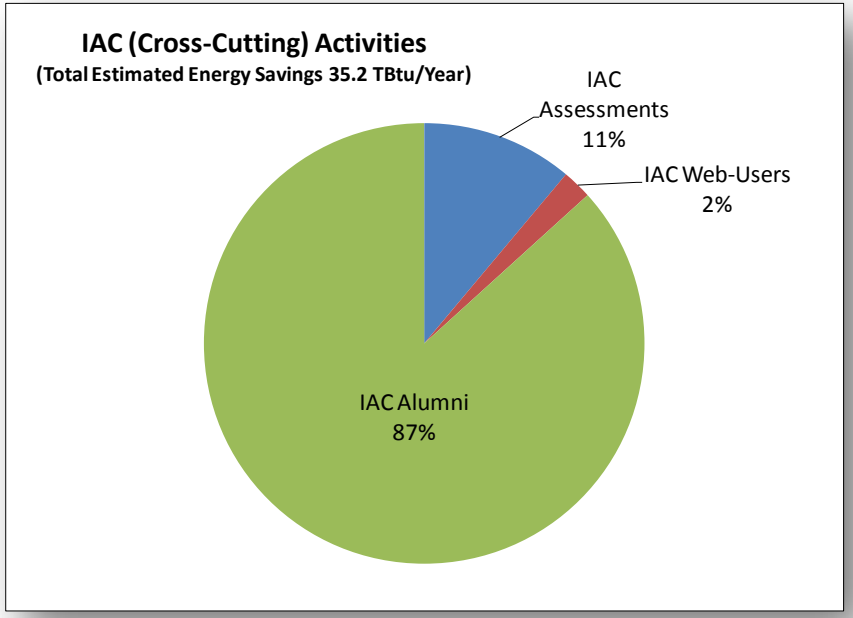
ITP's *Save Energy Now* delivery activities

New Annual Energy Savings Estimates



DOE ITP's *Save Energy Now* Cross-Cutting Activities

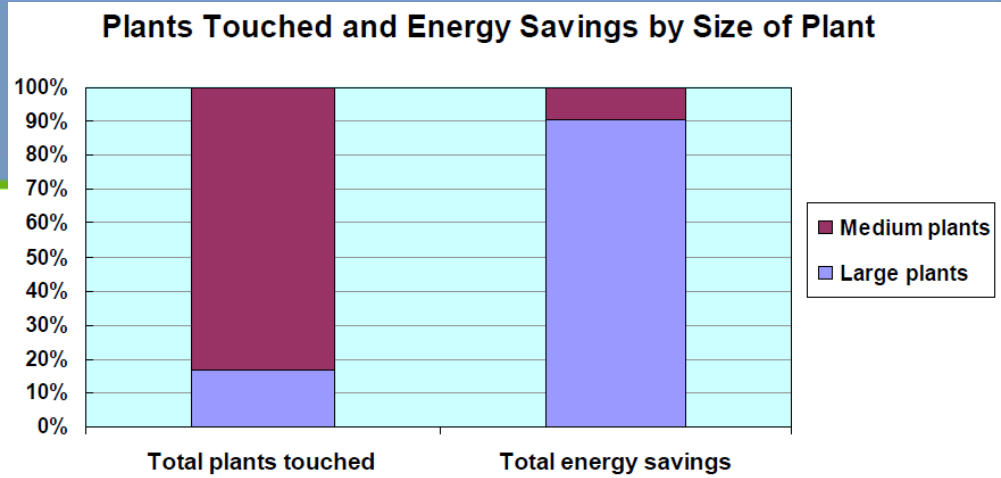




ESTIMATION OF ENERGY SAVINGS OUTCOMES FROM ITP'S *SAVE ENERGY NOW* DELIVERY ACTIVITIES - FISCAL YEAR 2008

Identified Savings Per Plant

Comparison Between IAC and SEN Assessments



IAC Assessments

Results based on 1,184 IAC Assessments (2006-2009)

Average Recommended Source Energy Savings
24,000 † MMBtu/Plant per year

Average Recommended Energy Cost Savings
$178,000 † per plant per year

SEN Assessments*

Results based on 793 SEN Assessments (2006-2009)

System Type (No. of Assessments)	Average Recommended Source Energy Savings (MMBtu/plant yr)	Average Recommended Cost Savings ($/plant per yr)
Compressed Air (127)	29,300†	$177,000
Fans (40)	197,000	$1,200,000
Process Heating (213)	234,000	$1,600,000
Pumps (80)	40,300	$220,000
Steam (313)	257,000	$2,100,000

* Averages for SENAs are significantly impacted by plant sizes

† All the numbers are rounded to the nearest thousand

Save Energy Now Assessments (Large Plants)*

Year	Identified Savings					IMPLEMENTED Savings				
	Plants Reporting	Btus (trillion)		$ (million)	CO2 (million metric tons)	Plants Reporting	Btus (trillion)		$ (million)	CO2 (million metric tons)
		Site	Source				Site	Source		
2006	200	51.3	57.1	$519.0	4.137	181	17.3	17.7	$99.3	1.255
2007	241	29.6	36	$244.3	2.390	173	4.9	5.7	$34.9	0.455
2008	245	36.5	44.1	$286.9	2.336	149	2.6	3.2	$20.4	0.161
2009	107	13.2	15.4	$74.5	0.775	40	0.5	0.6	$4.4	0.026
2006-2009	793	130.6	152.6	$1,125	9.64	543	25.3	27.2	$159	1.9

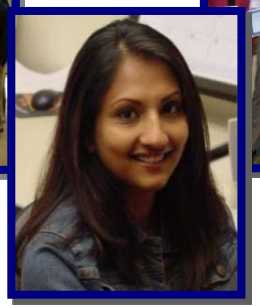
IAC Assessments (Small/Medium Plants)†

CY	Identified Savings					IMPLEMENTED Savings				
	Plants Reporting	Btus (trillion)		$ (million)	CO2 (million metric tons)	Plants Reporting	Btus (trillion)		$ (million)	CO2 (million metric tons)
		Site	Source				Site	Source		
2006	450	8.3	12.5	$92.2	0.7	439	2.0	3.6	$27.0	0.21
2007	383	6.1	9.6	$67.0	0.5	369	1.7	3.1	$26.1	0.16
2008	400	4.4	7.4	$56.3	0.5	334	1.5	2.5	$18.6	0.15
2009	279	4.0	6.1	$38.5	0.4	21	0.05	0.1	$1.0	0.01
2006-2009	1,512	22.8	35.6	$254.0	2.1	1,163	5.3	9.3	$72.7	0.53

* Source: ESAMS Database - As of January 1, 2010 † Source: IAC Database - As of January 28, 2010

Good News for the IAC?

- The regular IAC annual budget remains at or below half of its peak
  - Fewer assessments
  - Fewer students and center staff
- However, the IAC program has benefited from the Recovery Act through additional funding to centers to support assessment and technical assistance
- Many centers have partnered with local entities (States, MEPs, Utilities, etc.) to leverage their IAC capabilities
- It is unclear exactly how the IAC will be impacted, but I am hopeful
- Stay tuned…

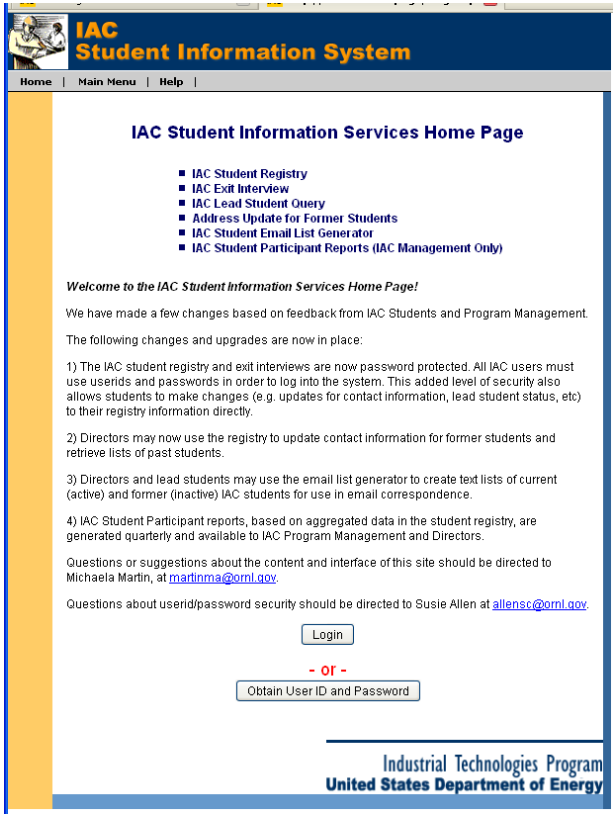


Student Registry and Exit Interviews

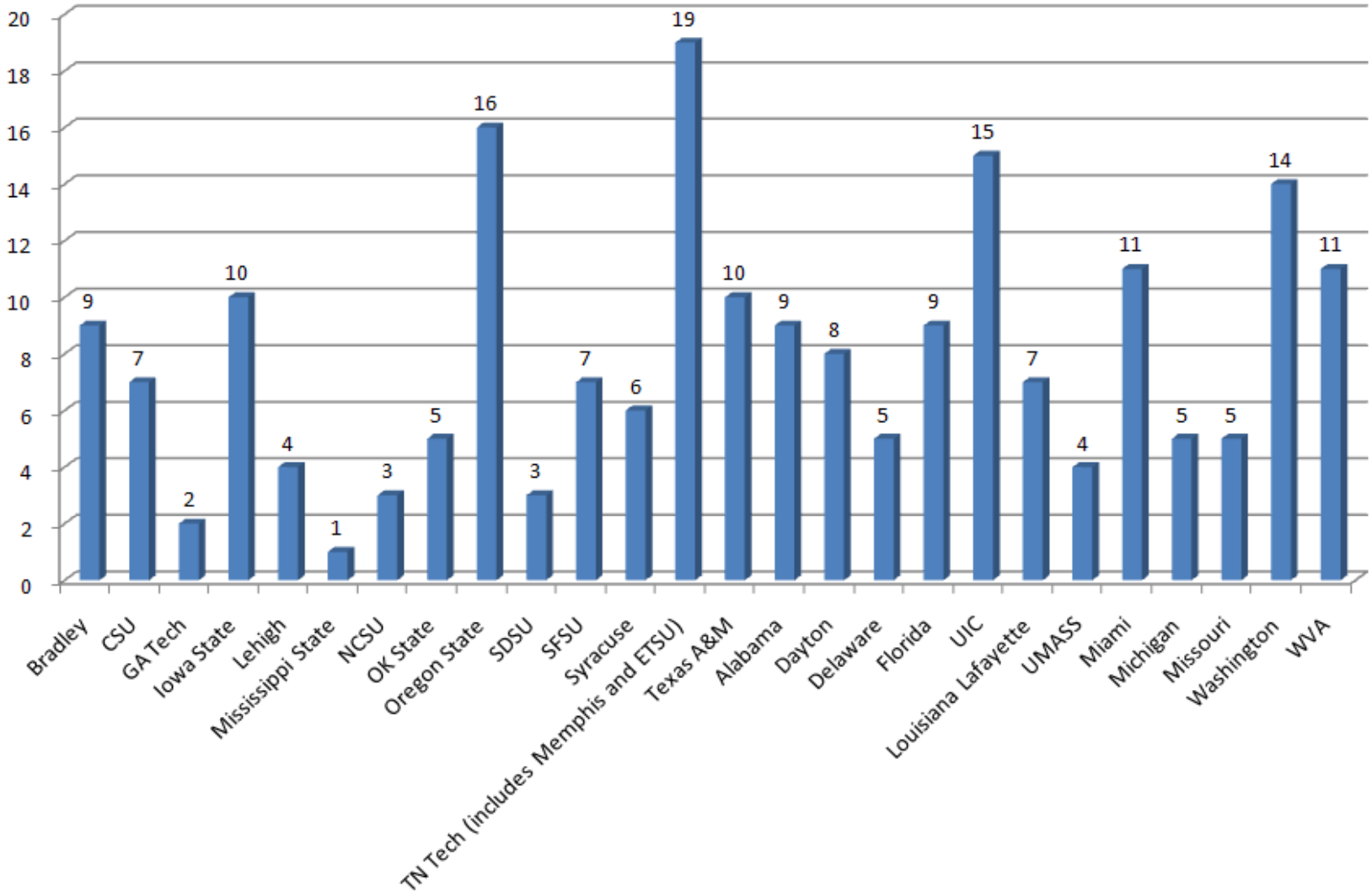
- Located at: **http://www.iacforum.org/**

- Lead Student Responsibilities
  - Ensure that all students complete the registry when entering the IAC
  - Ensure that all students complete the exit interview when departing the IAC
  - Ensure that lead/active/inactive status information on students is current

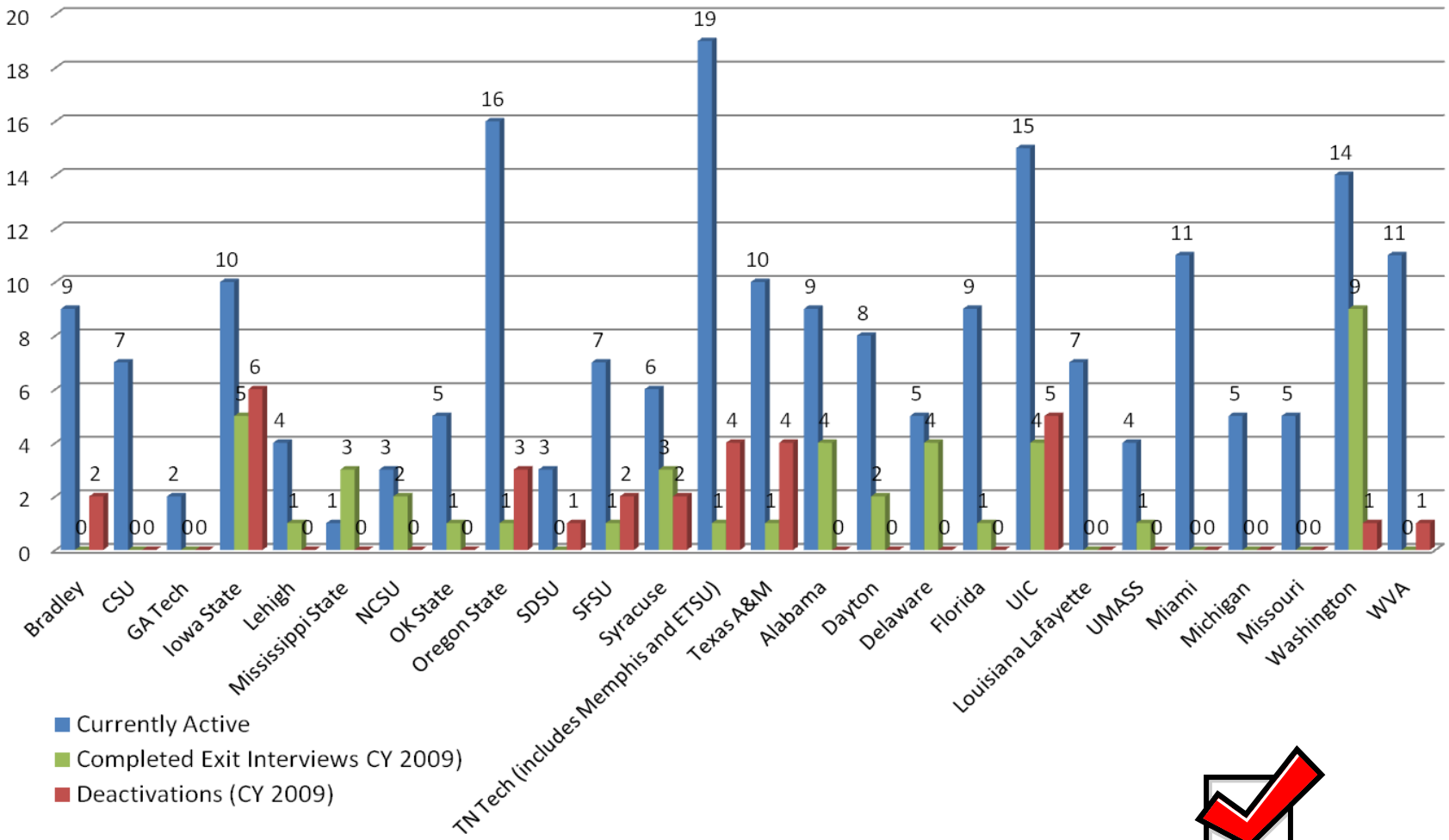
- Lead Student Query should be used to maintain student status information regularly
  - Active/Inactive student status
  - Deactivating students: Lead students should change status of students who departed without an exit interview. Deactivation requires reason for departure and updated contact information.
  - Lead Student(s) appropriately identified
  - Update contact information for alumni



Number of Students Currently Active



Number of Active Students vs Number Completing Exit Interviews or Being Deactivated in CY 2009



– Please review list of active students for accuracy ASAP!

Importance of the Registry

- The IAC is a US government program
- IAC funding is determined annually and is based on:
  - Savings from assessments
  - Number of students trained and energy experts created

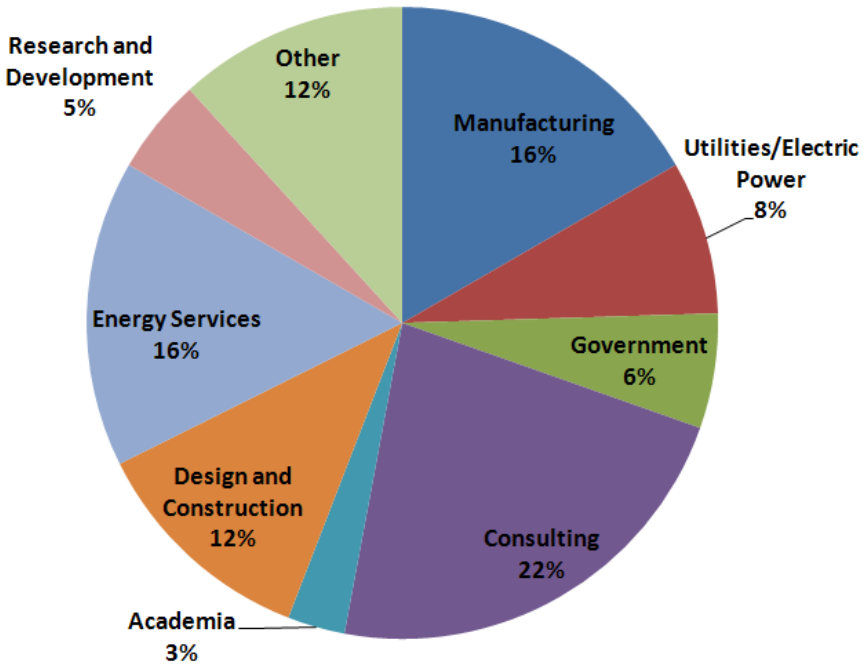
IAC Student Participation and Accomplishments (as of 9/2009)

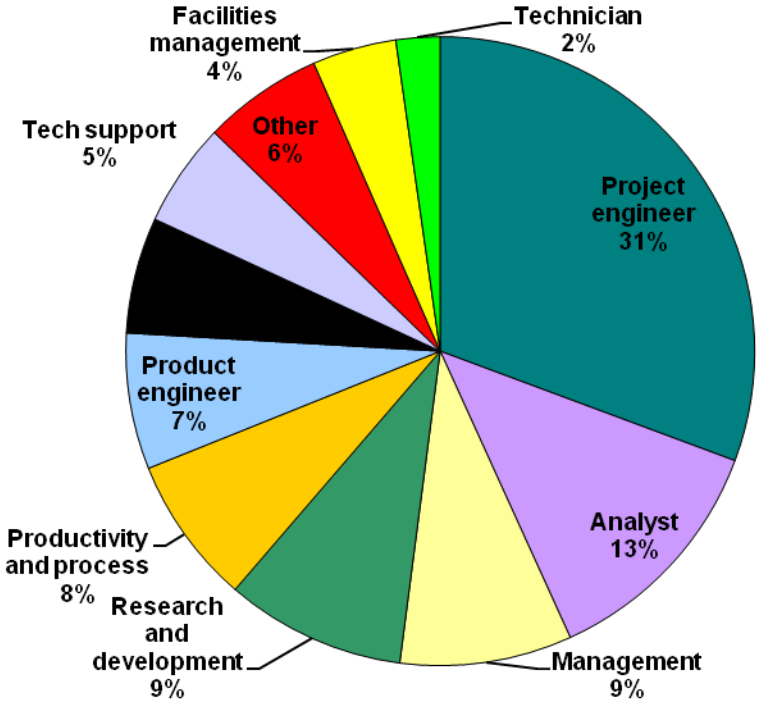
Number of IAC Students Participating and Departing the Program, and DOE-IAC Certificates Issued, by Fiscal Year

	Participating Students	Departing Students	DOE-IAC Certificates Issued
FY 2004	427	137	76
FY 2005	406	168	60
FY 2006	341	161	74
FY 2007	303	120	59
FY 2008	73	99	65
FY 2009 (to date)	224	124	59

Why This Is SO Important

- Registry data defines the number of students in the IAC at any time
- Exit interviews identify the number of students that are departing for careers in energy
- If you believe this program has been valuable to your education and career, please recognize that other engineering students will similarly benefit IF your center diligently updates and maintains your registry!





Alumni Metrics Are Available on the IACForum Website at: www.iacforum.org

Professional IAC-Related Responsibilities Reported by Those with Jobs or Job Offers Upon Departure

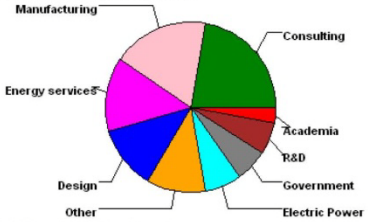
- 60% have Energy or Energy Efficiency responsibilities
- 50% Have Productivity Improvement responsibilities
- 37% have Waste Minimization responsibilities

Professional Certifications Received or Working Towards at Departure

- 33% EIT
- 24% PE
- 9% CEM
- 5% Other

Professional Affiliation of Those with Jobs or Job Offers Upon Departure

- 22% Consulting
- 17% Manufacturing
- 16% Energy
- 12% Design and construction
- 12% Other
- 8% Electric power
- 6% Government
- 5% Research and development
- 3% Academia

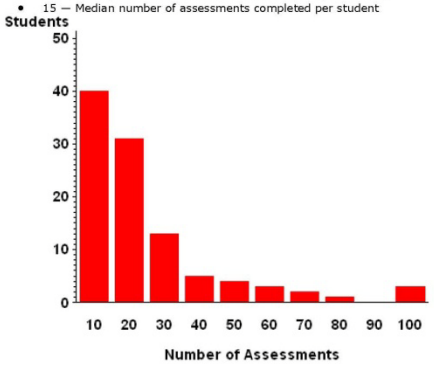


Employment Roles Reported by Those with Jobs or Job Offers Upon Departure

- 28% Project engineer
- 12% Analyst
- 9% Management
- 8% Research and development
- 7% Productivity and process
- 6% Product engineer
- 6% Education
- 5% Tech support
- 5% Other
- 3% Facilities management
- 2% Technician

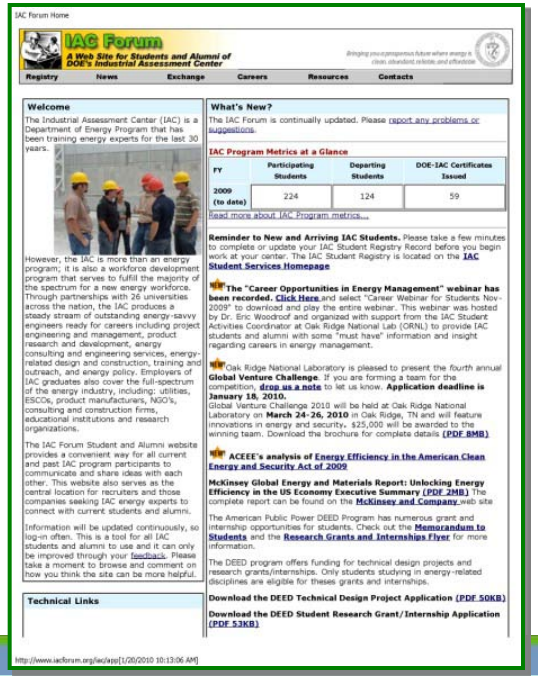
DOE-IAC Student Certificate Results: Number of Assessments Completed

- 18 — Average number of assessments completed per student
- 15 — Median number of assessments completed per student



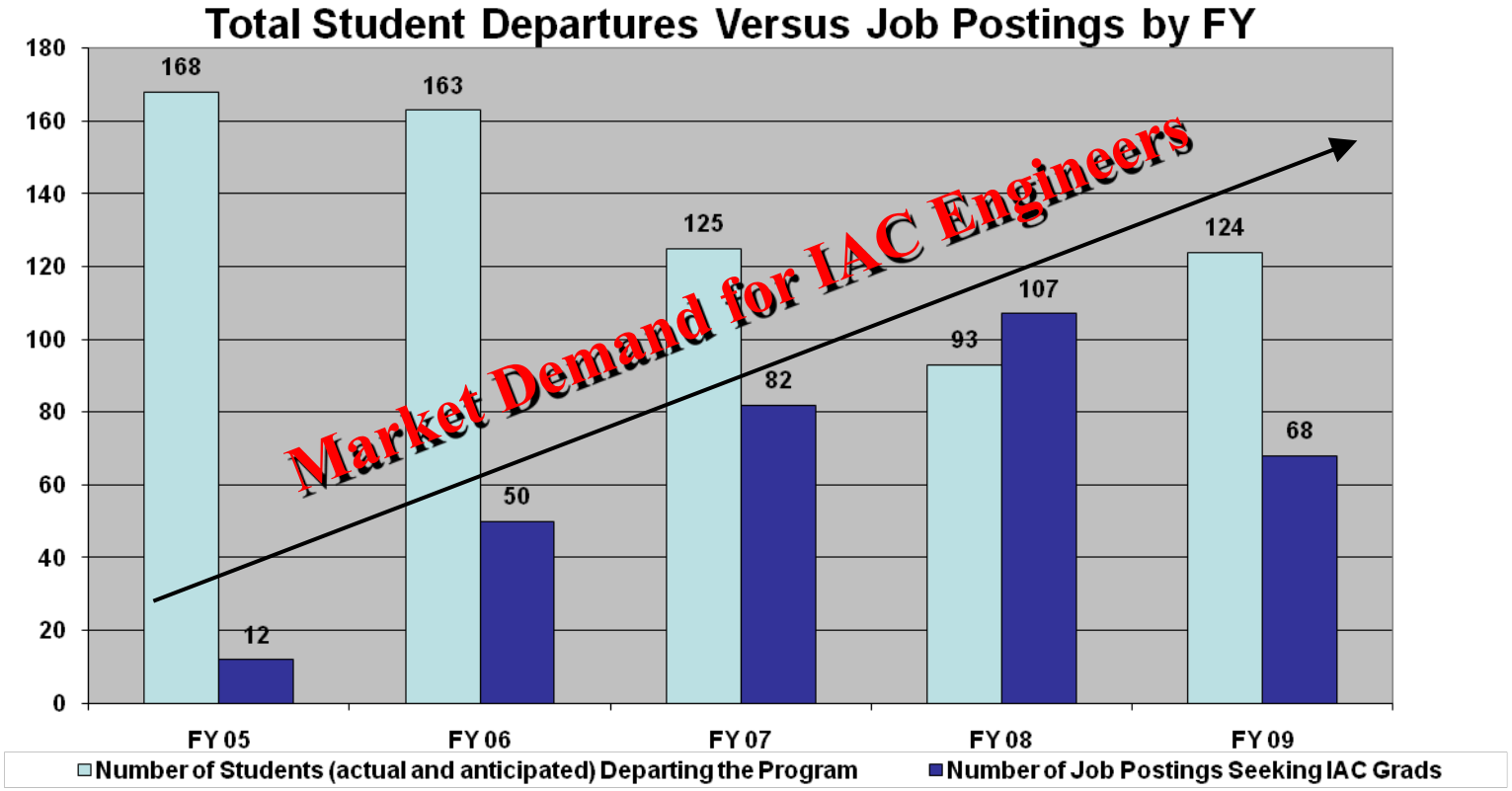
IAC Student Forum Website

- Offers a window to IAC students and alumni for potential employers, policymakers, media, non-IAC schools
- Primary communications tool for students and alumni
- Important announcements are listed on the home page, students should check the site every month
- Many students and alumni use the website to share information about their work
- We are always interested in new articles and highlights
- **Due to get a "facelift" this year!!**
  - **Any comments would be welcome**



IAC Student Forum Website

- The Career section is VERY effective at matching IAC students and alumni with energy-focused employers
  - Please have your students post resumes regularly
  - Please remind your students to check the site frequently for new job opportunities!!



Student and Alumni Newsletter

- January 2010 edition available on website
- Electronically delivered to current and former students
- IAC news briefs from all centers
- Features articles from our student and alumni
- Ideas for articles from students and alumni are accepted all year

INDUSTRIAL ASSESSMENT CENTERS
Student and Alumni Newsletter

January 2010
Visit us at www.IACforum.org and iac.rutgers.edu

Energy Awareness—No Longer Politics as Usual

Amidst this past year's economic downturn, there has been a monumental uprising in energy awareness. Proposed energy and climate legislation and green workforce development have become hot topics in Washington. Granted, healthcare reform and wartime policies are grabbing the headlines; however, energy and climate reform are rapidly gaining strength—a hopeful sign that we are nearing a long-awaited political landscape in which energy issues are no longer swept under the rug. Nearly every presidential speech related to energy is laced with the need to develop a green workforce. Really? "Mr. President, the IACs are here to help!" Although the President has signed off on Executive Order 13514, which mandates consumption and emissions requirements for federal facilities, meaningful energy and climate legislation still has a long way to go. Regardless, all this commotion looks like a positive sign for those concerned about the environment and interested in working in any energy-related field.

Unfortunately, the attention energy issues have been receiving in Washington hasn't yet translated into great news for the IACs. Despite largely underfunded budgets, practically all centers continue to provide exceptionally high levels of service and expertise to the industries that need it most. During this long funding drought, many centers have found creative funding sources including partnerships with states, utilities, and manufacturing programs. And even in today's harsh job market, the IACs are still producing and placing the most highly sought after engineering students.

This newsletter features articles from alumni, students, and energy efficiency organizations on international assessments, interesting work being performed at the centers, current technologies, and an international ESCO market. And due to the continued high demand for IAC graduates, there is a section highlighting organizations that actively recruit our graduates.

This is only my first newsletter; but I look forward to years of continued involvement with the IAC program. I encourage you to keep in touch with Michaela and me. Your stories and successes validate the importance of the IAC program. With all the energy buzz in Washington, it's only a matter of time before the political machine takes notice of the IACs' successes!

Thomas Wenning
IAC Student Activities Coordinator
R&D Staff, Oak Ridge National Laboratory
wenningtj@ornl.gov

Editor's Note: *Thomas Wenning, UD IAC alumnus, is taking over IAC student activities for Michaela Martin, who has accepted a program management role at ORNL but will remain with the IAC in an advisory capacity.*

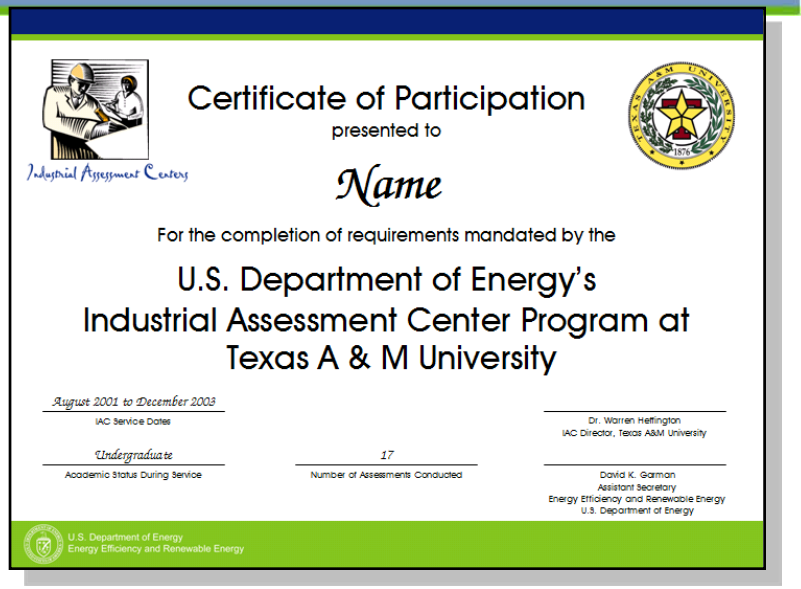
Join Our IAC LinkedIn Group!

An IAC group has been established within the LinkedIn professional networking website to promote and develop a network of IAC students and alumni. As of December 2008, the group has 140 members. Please take advantage of this network to share ideas and identify and pursue new opportunities. Joining the IAC Student and Alumni LinkedIn group is by invitation only. Interested? Please contact Thomas Wenning at wenningtj@ornl.gov or Susie Allen at allensc@ornl.gov.

Contents

IAC Alumni's New Engineering Firm Offers a Unique Service 2
University of Florida IAC Team Visits Chile 2
Variable Exhaust for Vintage High-Rise Residential Buildings 4
Surprises from the UK ESCO Market 5
Save Energy Now LEADER Program 5
SDSU-IAC Alumna Joins CEC's Energy Team 7
UIC Involved with the O'Hare Modernization Program 8
UIC Participates in The Midwest States Save Eergy Now Partnership Program 8
The University of Dayton Industrial Assessment Center: Columbus E3 and Beyond 9
Oklahoma State IAC Continues Long History of Service to Regional Manufacturers 10
University Briefs 11

Student Certificates


Industrial Assessment Centers

Certificate of Participation
presented to

Name

For the completion of requirements mandated by the

U.S. Department of Energy's
Industrial Assessment Center Program at
Texas A & M University

August 2001 to December 2003
IAC Service Dates

Dr. Warren Heffington
IAC Director, Texas A&M University

Undergraduate
Academic Status During Service

17
Number of Assessments Conducted

David K. Garman
Assistant Secretary
Energy Efficiency and Renewable Energy
U.S. Department of Energy

U.S. Department of Energy
Energy Efficiency and Renewable Energy

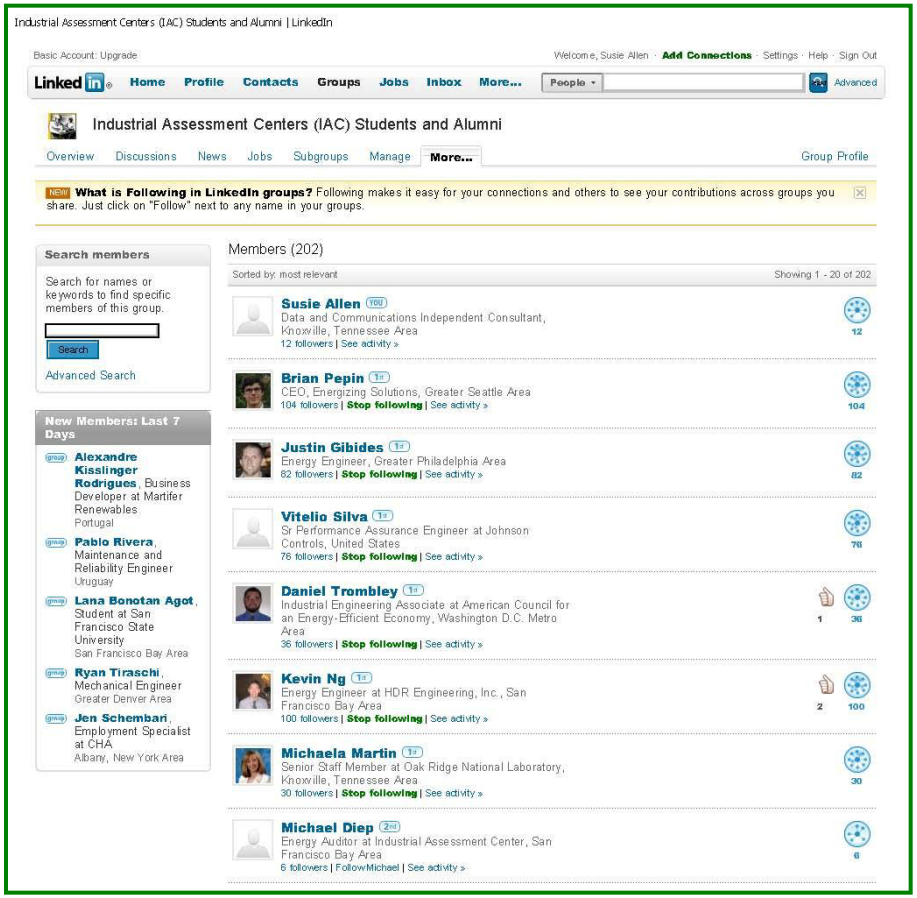
- On-line requests are processed through the certificates link on www.iacforum.org
- Deadlines for requests occur 3 times per year:
  - October 1, March 1, and July 1
- Qualification criteria for students and alumni
  - Minimum of two semesters or summers completed
  - Minimum of 6 assessments conducted
  - Demonstrates 7 of 9 core IAC skills (AR identification, report writing, savings calcs, teamwork, client interaction, utility data analysis, conceptual AR designs, leadership, others)

Student Certificates

- Student initiates request online, Director/AD receives email notification with link and he/she completes the request online and submits request for final processing (*please verify that your Director has received the automated request*)
- Both alumni and students who meet the criteria may apply
- **Students and alumni must be in the IAC registry to receive certificates**
- Certificates <u>are mailed to the Directors</u> within 30 days of the request deadline for distribution

LinkedIn IAC Group

- Established in year 2008
- Professional networking site for IAC students and alumni
- 160 members and counting
- News items, professional profiles, discussions



Questions, Suggestions or Comments on IAC Student Activities?

Contact:

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ORNL IAC Administrative Assistant
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