

BREAKOUT I SESSION B

Saving Energy, Building Careers: MSU's Training and Assessment Programs

Kristen Cetin – Director, MSU Industrial Training and Assessment Center

Sean Huberty – Teaching Specialist, Construction Management, Lansing Community College

Nicole Millsap – CTE Director, Lansing Tech

Tom Muehlenbeck – Weatherization Coordinator/Instructor Trainee, MDHHS

September Ward – Admissions Training Specialist/Registrar, MDHHS

Nicole Johnson – Student, Michigan State University

Nick Fay – Student, Lansing Community College

Saving Energy, Building Careers: MSU's Training and Assessment Programs

May 14, 2026

Kristen Cetin - MSU (faculty)
Sean Huberty - LCC (faculty)
Nicole Millsap - Lansing Tech (CTE Director)
Tom Muehlenbeck (MDHHS)

September Ward (MDHHS)
Nicole Johnson - MSU (Student)
Ed McCoy - LCC (student)

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5 min - **Overview of ITAC/BTAC** (goals, timeline, progress to date, education and assessments overview etc...)

MSU (Kristen)

7 mins - **School Administrator/Workforce Needs Perspective**

Lansing Tech (Nicole M) - about the CTE program, the importance of credentials and how having this experience has been helpful for students, value of credentials, how the EIF Credentials the high school student have completed can be transferred to LCC as credit

MDHHS (Steve/Kris) - about the importance of growing the energy workforce, the need for professionals in this space, how credentials help strengthen students' resumes to support going into the workforce

7 mins - **Instructor Perspective** - speak to efforts to adapt courses/content to another audience (MDHHS) and to include additional content (LCC), challenges overcome/improvement made, benefits for real-world practice doing assessments, working with real equipment, advice for others interested in doing something similar

MDHHS (Steve/Kris)

LCC (Sean)

7 mins - **Student Perspective** - what their participation has been like and their perspective on how participation has helped them understand what they want to do, experience they've been given, credentials they have received. How is this helpful to the companies they have been working with? Plans next and how program has helped them arrive at that decision/get them there

MSU Student (Nicole J)

LCC Student (Ed)

5 min - **Closing** - Overall goals/next steps: the idea for this is to use this pilot to translate into a sustainable program and also one that others may be able to use/get insights from to build their own programs to support workforce and small businesses, etc...discuss these next steps and hopes for future

MSU (Kristen)

8 min - **Q&A**

1 min - **Close Out**

Overview of BTAC & ITAC

Program Overview

The Michigan Building Training and Assessment Center (MI-BTAC) is a **DOE-supported program** based in Lansing, Michigan, co-located with Michigan State University's Industrial Assessment Center (MSU ITAC). The goal of MI-BTAC is to **develop and demonstrate** a replicable **energy career pathway** that prepares students for technical roles in building energy efficiency.

Industrial Assessment Centers (IAC) and Building Training and Assessment Centers Selections



MI- BTAC Team



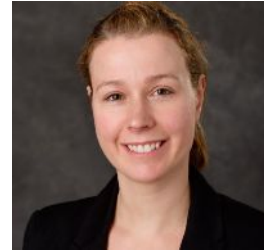
Kristen Cetin
Lead PI



Debrudra Mitra
Staff



Aanchal Gupta
PhD Student



Annick Ancil
Co-PI



George Berghorn
Co-PI



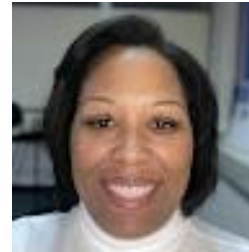
MI- BTAC Team



Ryan Gallagher
HVAC Adjunct
Associate
Professor



Sean Huberty
HVAC Instructor



Nicole Millsap
Director of CTE

Carl Martin
CTE Instructor
Lansing Technical
High School

Mark Pogliano
Principal
Lansing Technical
High School



MI- BTAC Team



September
Ward
MiTEC
Registrar



Tom
Muehlenbeck
MiTEC
Instructor



Steve
Schuster
Weatherizati
on Technical
Manager



Maddy
Kamalay
Weatherizati
on Manager



Melanie
Sanford
Deputy
Director



Kris
Schoenow
Executive
Director

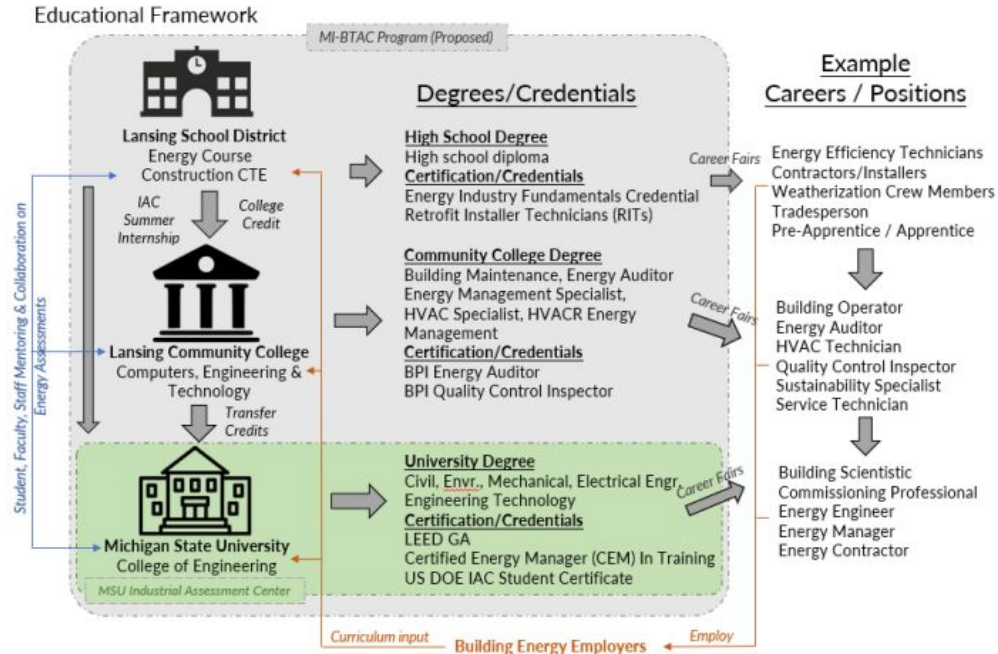
Program Goals

Education and Training:

- Educate and train **60+** high school and college-level students in energy-related topics, including hands-on technical experience and at least ½ receiving industry-recognized certifications
- Build a **future workforce pipeline**

Energy Assessments and Building Impact:

- Increase the efficiency of **small commercial and K-12 buildings**, explicitly targeting the **Lansing** area through conducting **16+** no-cost assessments
- Encourage energy and productivity improvements by working with regional utilities and groups to put assessment recommendations into practice.



Accomplishments to Date

Education and Training:

- Establish high school and community college training program
- Pilot curriculum with first cohort of students at high school, community college, and university students
- **42** students across MSU, LCC, and Lansing Tech
- **27+** students with 1-2 credentials (BSP, EIF 2.0, ITAC)

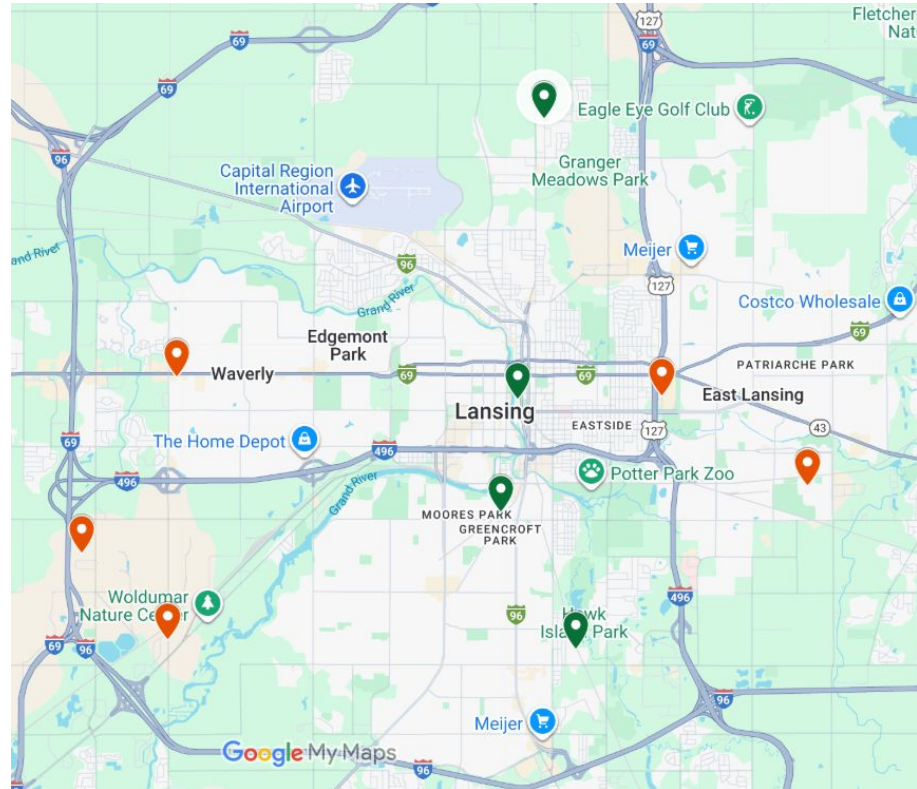
Energy Assessments and Building Impact:

- Completed **8** ASHRAE Level II energy assessments for small/medium buildings in the Lansing area (*education buildings, data center, houses of worship, retail, non-profits, etc...*)
- Students participate & complete all assessments

2025-2026 Assessments

Green – complete

Orange – report in progress/close to completion



School Administrator / Workforce Perspective

CTE: Bridging Education and Industry



4-Year Tracks

College Credits

Employability Skills

Industry Credentials

Work-Based Learning

Credentials That Open Doors

Three Training Components:

Energy Industry Fundamentals 2.0 (CEWD)

<https://getintoenergy.org/courses/energy-industry-fundamentals-2-0/>



Building Science Principles (BPI)

<https://www.bpi.org/certificates/building-science-principles/>



Commercial & Industrial Energy Audits (MSU/ITAC)

<https://iac.university/center/MU>



12 student participants (2025-2026)

Learning by Doing: Energy Skills at Work



Air Sealing & Smoke Testing



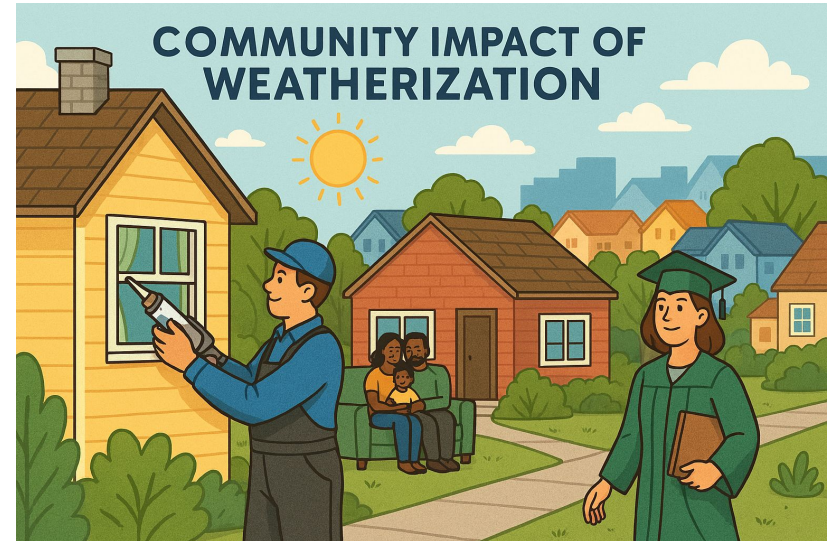
Caulk Gun Practice



Energy Efficiency Job Shadow

Workforce Needs Perspective - MDHHS/MiTEC

Growing the Weatherization workforce in Michigan is crucial for several reasons:



WEATHERIZATION JOBS!



ENERGY AUDITOR



PROGRAM MANAGER



INSTALLERS AND CREW LEADS

QUALITY CONTROL INSPECTOR



Workforce Needs Perspective - MDHHS/MiTEC

In summary, a robust weatherization workforce is not only essential for supporting individual households but also plays a vital role in advancing Michigan's broader economic and environmental goals.

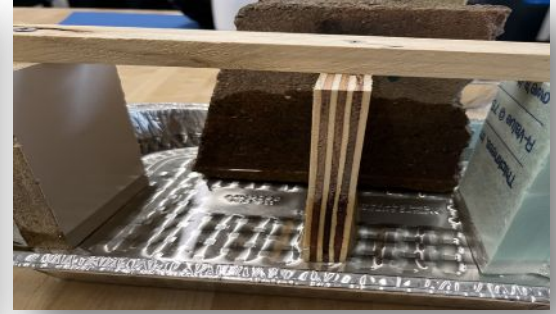
Ultimately, the weatherization sector offers students a promising and meaningful career path—one where they can make a real impact on energy efficiency, sustainability and the state's future.

Instructor Perspective

Instructor Perspective

Because MiTEC is an accredited training center for adult Weatherization contractors around Michigan, we chose to adjust the curriculum for highschool level students to learn and understand Building Science.

MiTEC used the Building Performance Institute's (BPI) Building Science Principles certificate to base the training on. This allowed the students to achieve an accredited Certificate of Knowledge for the Building Science Principles course.



Success

Students took an online exam at the end of the semester.

With a passing score they receive the:

BSP Certificate of Knowledge



Instructor Perspective-Lessons Learned

- Reduce lecture time and increase the time spent doing hands on activities to help students retain information.
- Use of printed materials and work sheets to illustrate concepts.
- Include interactive activities with conceptual themes instead of knowledge checks to increase student engagement.
- It would be beneficial to have access to a residential building for real-world situations.

Instructor Perspective: *Lansing Community College*



Sean Huberty
HVAC Instructor

Successes:

Successfully integrated existing course material with BTAC material – **12** LCC students completed

13 LCC students participated in energy assessments

Further Opportunities:

Acquired an unoccupied home for practice and testing purposes; more practice with equipment like blower door and duct blaster



Student Perspective

Student Perspective



Nicole Johnson
Michigan State University Alum
Energy & Sustainability Analyst II (1.5 years)
Lead the Marketing and Outreach Team

Participation Outcomes:

- Client communications
 - Understanding motivations for energy assessments/implementing ARs
- Summer project
 - Finding rebates to lower upfront costs

Future Plans:

- M.S. in Sustainability Management at USF
- Aim to help companies and municipalities implement cost effective sustainability frameworks

Student Perspective

Experience and Key Takeaways:

- ITAC Certificate
 - Minimum of 6 energy assessments completed
 - Competency in 8 areas associated with energy engineering
- Leadership
 - Student lead and co-lead on 3 assessments
 - Lead of Marketing and Outreach Team



Student Perspective

Ed McCoy

Lansing Community College (LCC)

Energy and Sustainability Analyst

Participated 8+ Energy audit

Why I Chose the BTAC Program

- I'm in the HVACR program at Lansing Community College
- I have construction background - not necessarily energy related
- I wanted to learn better solutions for equipment to run more efficiently

Student Perspective

The Experience of Participating

- Building evaluations
- Seeing lots of different kinds of equipment and machinery
- Report writing - determining cost, savings, payback, and emissions savings



What I'm Taking from the BTAC Program

- Better understanding of HVACR systems; how to design and run them more efficiently
- Better communication skills
- Knowledge that I can pass on to my clients so they can make more energy efficient decisions when building



Next Steps

Education and Training:

- Year 2 of curriculum with 2nd cohort of students
- **Train 20+** students across MSU, LCC, Lansing Tech + credentials
- Support & track internship/ job attainment for students

Energy Assessments and Building Impact:

- Completed **8+ more** energy assessments in Lansing
- Students participate & complete all assessments

Sustainability Plan: Develop and implement a **sustainability plan** for long term operation of BTAC program



Thank you!

Interesting in **collaboration** with our teams? **hiring** talent? **Speaking** to students?

Interested in an **assessment** or know an organization/company that is? -
<https://itac.msu.edu/clients>

cetinkri@msu.edu – Kristen Cetin

itac@msu.edu – ITAC/BTAC team email



THANK YOU!

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