

The Energy Cluster Playbook

A comprehensive guide for evaluating the addition of an energy program to your pathways portfolio and evaluating the quality of an existing program.



Developed in partnership by:
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and the Georgia Department of Education Career, Technical, and Agricultural Education

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Part I: considerations for implementing the Energy Cluster.

Thank you for considering implementation of the Energy Career cluster in your high school or college and career academy. GEICC has developed the following playbook to assist education leaders in determining if an energy pathway would be an appropriate part of a school pathway portfolio. These components are meant to be guidelines coupled with discussion from industry members and other forms of input as deemed appropriate

I. Consult with the DOE on Energy Cluster Choices

- a. There are two pathways in Georgia’s Energy Cluster. Schools considering either pathway in the energy cluster should contact Roger Ivey at the Department of Education, rivey@doe.k12.ga.us, to understand the details and requirements of each program and if there is an appropriate fit.
- b. Questions to consider:
 - i. What are the differences between the two pathways?
 - ii. How is each one similar to other pathways that may appeal to broader audiences?
 - iii. Who are the potential candidates you expect to recruit into either pathway?
 - iv. What are expected student outcomes based on each pathway (certifications, employment, post-secondary, etc.)?
 - v. What is the curriculum availability for each pathway?
 - vi. What are the physical requirements for each pathway (lab, equipment, resources, etc.) and associated costs?
 - vii. Educator skills and availability for each pathway?
- c. If a conversation with the DOE has resulted in a decision to continue to pursue one or both pathways, please review the remainder of the playbook.

II. Conduct Needs Assessment

- a. Assemble a Needs Assessment Team with the following partners:
 - i. DOE Pathway Contact, Roger Ivey
 - ii. Influencers
 1. Teachers, school counselors, CTAE directors, WBL Coordinators, Career coaches, middle school educators/counselors, and other relevant school team members.
 2. Community members, partners, etc. that may have influence with a particular group of student populations that would be relevant for the pathway.
 - iii. Direct Industry Partners – Local and Statewide
 1. If you are unsure of who these may be, you can contact GEICC to determine who the appropriate partners may be (<http://www.geicc.org/contact-us/>)
 2. Ensure you engage local partners (local EMCs, MEAGs, municipalities, etc.) and Statewide Partners (Georgia Power, Electric Cities of Georgia, etc.). Depending on the size of the school system – consider a more regional view of industry partners.
 - iv. Related Energy Industry Partners – Local and Statewide

1. Consider a diversity of industries to engage including energy industry partners such as contractors, suppliers, etc. Depending on the size of the school system – consider a more regional view of partners.
- v. Potential Students
 1. Engage existing and future potential students to gauge interest in the type of program. This may result in informal discussions, focus groups, student surveys, or interest and aptitude assessments such as YouScience.
- vi. Parents/Caregivers
 1. Engage existing and potential future parents/caregivers of students (specifically those in the energy industry if they exist) and their willingness and ability to support an energy program and encouraging their student to pursue a career in the energy industry and the associated pathway. This may result in informal discussions, focus groups, and parent surveys.
- vii. Post-Secondary/Alternative Partners
 1. Depending on the pathway the school may pursue, the type of post-secondary school and partnership will vary. However, schools considering offering the pathway should evaluate technical and university paths that students could potentially pursue after completing the respective pathway and engage leaders from those institutions accordingly.
 2. This may also include College and Career Academies.
 3. Engage retired employees from the energy industry as appropriate.
- b. Conduct a Needs Assessment evaluating the following criteria:
 - i. **Energy and related industry workforce needs.**
 1. Educators should conduct an exhaustive assessment to determine the workforce needs within a reasonable geographic boundary (smaller or larger depending on population density).
 2. These workforce needs should be representative of a diverse group of industry and related partners and job functions - and not rely on a single company or single job function.
 3. Workforce data should reflect a combination of projections including current, 5-year, and 10-year to ensure existing and future career potential for students.
 4. What are general employment trends in the geographic region – commute patterns, etc. and how do those impact workforce opportunities for students and support the overall workforce development efforts of a particular community.
 5. Engage tools such as the Georgia Career Pipeline from the Department of Education and other entities such as the local Chamber of Commerce, Economic Development groups, etc.
 - ii. **Diversity and quantity of potential employers.**
 1. Ensure a diverse and large group of potential employers/energy industry/related industry partners.
 - iii. **Student population interest and aptitude.**

1. This step may be complete from section 1 – but could possibly require additional or more exhaustive focus groups, surveys, interest/aptitude assessments, etc. to ensure students with the appropriate skill sets and interests exist within the school system to pursue an energy pathway and related career or post-secondary experience.
 2. If there is an interested population with the appropriate aptitude, what determine the recruitment strategy for this population to ensure the pathway engages the appropriate student population and maintains appropriate enrollment numbers. If the aptitude exists but there is no student interest, determine recruitment strategy to for getting students to consider a career in the energy industry.
 3. What is the mechanism for tracking students pre and post-pathway to evaluate effectiveness of program?
- iv. **Caregiver support and interest.**
1. This step may be complete from section 1 – but could possibly require additional or more exhaustive focus groups, surveys, etc. to ensure caregivers support the pathway and would encourage their students to pursue the energy pathway.
 2. If caregiver support is identified, what is the ongoing plan for engaging caregivers to ensure continued support for the identified pathway?
- v. **General community support and interest.**
1. Considering that the addition of an energy pathway would be included in an overall pathway plan, other key community members such as Chamber representatives, school board members, local elected officials, civic organizations, etc. as appropriate should be engaged to ensure support for the pathway.
- vi. **Available curriculum and related resources.**
1. Evaluate existing curriculum and application to the desired pathway to evaluate long-term implementation plans of the pathway from Class 1 to Class 3.
 2. Ensure that available curriculum and related resources (lab equipment and supplies, etc.) will appropriately complement the investment and capacity of the school system.
 3. See appendix for additional information on grants and support from DOE. Ensure program stand-up and timeline for engaging in the grant processes is in sync (up to 18 months).
- vii. **Pre and Post Pathway Opportunities for Students**
1. What kind of programs exist for students prior to entering high school to expose them to the energy pathway and careers? These should be documented if they exist and if not, they should be described with a plan for implementation.
 2. What kind of post-secondary and/or career opportunities exist for students after they complete the pathway? These should be documented if they exist and if not, they should be described with a plan for implementation.

3. Do other, similar programs already exist at the current school or another school that is available to the same student population?
 4. How are employability skills being addressed in the program? See appendix for additional information on employability skills training.
- viii. **Educator staffing, credentials, and professional development resources**
1. What is the implementation plan for ramping up an educator and energy pathway program?
 2. Is there an identified educator with the appropriate background and credentials to deliver the pathway content effectively?
 3. Is the school and educator aware of professional development experiences to enhance the pathway delivery experience and support the educator? Is the school committed to ensuring continued professional development dedicated to the energy pathway delivery?
 4. Consider engaging retired energy industry employees and potential waivers that are in place to employ those educators with local district HR representatives.
- ix. **Physical resources, lab space, and equipment**
1. Is there sufficient physical space for the energy pathway lab? What is the funding and space plan to ensure adequate lab creation?
 2. Evaluate the lab equipment list and an associated plan for funding and development. Should include potential vendors and sketch of space.
- x. **Proposed Advisory Council Structure and Members**
1. A documented plan for how to manage advisory councils, meeting schedule, members to recruit, and how to maximize the value of the council to support the pathway and students.
 2. Consider contacting the DOE and/or GEICC (Georgia Energy and Industrial Construction Consortium) for advisory council suggestions and support.
- xi. **Awareness of general funding and support mechanisms**
1. Documented plan for funding from school budgets, grants, industry, etc. to enable successful implementation of the pathway.
 2. Also includes grant opportunities for students as they pursue next steps after and/or during pathway completion.
 3. Existence of or creation of CTSO organizations to support pathway students.
 4. Engagement of existing schools offering the pathway to understand best practices.

Part II: evaluation, support, and management of existing energy pathway programs.

Thank you for choosing to implement the energy cluster at your school! The following guidelines have been developed to assist in evaluating the existing health of an energy pathway at any school and appropriate industry engagement.

- I. **Existing Pathway recruitment, enrollment, and post-pathway evaluation:**
 - a. Student recruitment strategy:

- i. What is the strategy for attracting existing students into the pathway?
 - ii. How does the program determine which kinds of students to encourage to pursue the energy pathway (career and skills/aptitude alignment – YouScience?)
 - iii. What is the strategy for engaging feeder schools and attracting future students into the pathway?
- b. Student enrollment data
 - i. How many students are currently enrolled in the pathway, by course and grade?
- c. Pathway completion, credentials received
 - i. How many students have completed the pathway? (current school year and total)
 - ii. How many students have taken and passed the EOPA? Was any additional credential received?
 - iii. How many students also completed another pathway and if so, what was it?
- d. Post-pathway tracking
 - i. What is the mechanism for tracking students once they complete the pathway?
 - ii. How many students entered the workforce directly and what industry/company/job functions did they pursue? How many pursued energy-related careers and non-energy related careers?
 - iii. How many students pursued post-secondary certificates/degrees/diplomas and if so, which programs and schools?
 - iv. What is the mechanism for tracking students beyond graduation to determine if the pathway is actually feeding industry as designed – even if not directly after school but possibly 1-5 years afterwards?
 - v. Which post-secondary schools engage in the recruitment of energy pathway students – which schools and which programs?

II. Pathway Experience – Curriculum and Supplemental Resources

- a. What is the current curriculum used to implement the pathway?
- b. Is the program NEEN certified for the current year?
- c. What kinds of hands-on experiences are provided to students to enhance the pathway experience? Special labs, class projects, competitions, etc.
- d. What kind of tours/field trips, etc. are conducted to enhance the pathway experience?
- e. How has the industry engaged to provide real-world context for the pathway (i.e. career fairs, speaking in class, virtual visits, etc.)?
- f. Which CTSOs are available and offered for pathway students to engage?
- g. What, if any, grant or similar funds have been pursued to support pathway efforts and what have they been used to support?
- h. Have any students pursued the GEICC scholarship? If so, how many have applied/received?
- i. What is the pathway engagement with Careers in Energy Week?
- j. Are pathway students engaged in any internship and/or WBL/job shadowing experiences and if so, how many and what do those experiences look like?
- k. Are students made aware of opportunities associated with the pathway including: grant money, scholarship money, dual enrollment potential, etc.
- l. What is the current status of the pathway lab/equipment and what are plans for the next school year?

- m. How does the pathway/pathway students engage with career events in the community/the school to expose students to career opportunities?

III. Pathway Educator

- a. Is the pathway educator the same and if not, what is the contact information for the new educator? What is the background/experience/credentials of the new pathway educator?
- b. Is the pathway educator NEEN certified? This includes: attendance for EIF Teacher Training, how to register for NEEN, how to use the materials and instructor training for delivering content effectively to students.
- c. Has the pathway educator attended any energy pathway-specific professional development?
- d. Did the pathway educator attend the GEICC professional development experience?
- e. Is the school counselor/career coach/similar function engaged with the energy pathway to assist students in pursuing the pathway as appropriate?
- f. Does the pathway educator engage in any other best practice sharing experiences or related experiences to enhance the delivery of the pathway for students?

IV. Pathway Advisory Board/Industry/Community Support (consider [this ACTE resource](#), “Building Advisory Boards that Matter”).

- a. Work with local CTAE directors to facilitate training (for example, Business and Industry training offered by Carl Vinson institute).
- b. Describe the members, meeting frequency, content for pathway advisory boards meetings.
- c. What have been significant outcomes from advisory board efforts for the year?
- d. What are desired outcomes for future advisory board efforts for the next year?
- e. What is the feedback from advisory members on existing and near-future workforce trends to ensure alignment with pathway outcomes for students?
- f. What is industry engagement in pathway feeder schools to encourage interest in the energy pathway at the high school level?
- g. Are any other advocacy/community/civic groups engaged in supporting the pathway and if so, what does that look like? (Chambers, workforce development boards, etc.)

Thank you for supporting the energy workforce of the future.

