

## 2021–2022 Student Team Submission Requirements

Please submit the following as one PDF document.

- **Project Team Background** (up to 2 pages, single-spaced)
  - Form a team of 2–4 students. These students represent the project team and will all consult on the problem.
  - The Project Team Background should include:
    - Project name, team name, and collegiate institution(s)
    - Team mission statement
    - A short biography for each team member; this should include information such as major, level (freshman, sophomore, junior, senior, graduate), and other relevant background information such as experience with building science, future career goals, and formative experiences that shaped each individual’s contribution to the Challenge.
    - Diversity statement (minimum 1 paragraph, 5–7 sentences): One of JUMP into STEM’s key objectives is to encourage diversity of thought and background in students entering the building science industry. There is a diversity gap in STEM, meaning that certain groups are underrepresented or have been historically excluded from STEM fields. These groups include, but are not limited to, those based on race, ethnicity, and gender—and this gap needs to be addressed. Diversity of thought can be achieved through teams consisting of students from different majors and minors. If there are barriers to entry present that affect the racial, ethnic, and/or gender breakdown of your team, please elaborate. As part of the next generation of building science thought leaders and researchers, you have a unique opportunity to influence this industry. The diversity statement is your opportunity to describe your team’s diversity of background and thought, both generally and as applicable to your chosen Challenge.
  - The Project Team Background does not count toward the 5-page Project Challenge Submission.
  
- **Project Challenge Submission** (up to 5 pages, single-spaced)
  - Select 1 of the 3 Challenges to address.
  - Investigate the **background** of the Challenge and consider related stakeholders. Stakeholders are those who are affected by the problem, a part of the supply chain, or manufacturing of the technology product(s), as well as those who may have decision-making power and are able to provide solutions (technical or nontechnical solutions, such as policies). For example, you could include stakeholders who have previously experienced environmental pollution or a high energy burden. Refer to the U.S. Department of Energy’s (DOE) [Energy Justice](#) and [Environmental Justice](#) initiatives, as DOE plans to deliver 40% of the overall benefits of climate investment to disadvantaged communities.
  - Write a 1- to 2-paragraph **problem statement**, focusing on a specific aspect of the problem and the stakeholder groups affected by or involved in the problem. The stakeholder groups can be from a specific location, socioeconomic status, age, or demographic (e.g., people living in subsidized housing). The problem statement should clearly identify the injustices (energy or environmental) that the stakeholder group experiences. Students should consider social implications related to the identified injustices.
  - Write a **holistic solution** that addresses or solves the specific problem from your problem statement. A holistic solution is one that includes a technical component as well as one or more of the following components, as appropriate: economic, policy, commercialization, codes and

standards, and/or other. Address the requirements for your selected Challenge. Include graphs, figures, and photos. Discuss how your solution will impact your stakeholders, especially those who have experienced the injustices that you described in your problem statement.

- Develop a **technology-to-market plan** or a **market transformation plan**, depending on the chosen Challenge.
  - A technology-to-market plan describes how the team envisions bringing its idea from concept to installation on real buildings, or integrated into the design of real buildings, and includes a cost/benefit analysis. This does not need to be exhaustive and should include comparing the solution to current or existing technologies or practices. Benefits, such as building energy reductions and improved occupant health or productivity, should be evaluated. The plan should also identify at least one key stakeholder barrier for implementation (in addition to cost) and address how the proposed solution will overcome that barrier. The plan should also discuss what key stakeholder(s) should be involved to commercialize the technology and then sell and install the technologies with your target market(s).
  - A market transformation plan describes how the team envisions increasing the adoption and use of the already commercialized idea in the market, including sales or distribution channels, outreach mechanisms, and other relevant details. The plan should also describe who the team would partner with to implement the idea (e.g., utilities) and how the collective team would increase market adoption.
- Include **references**. References will not count toward the 5-page maximum.
- Appendix (optional, no page limit)
  - Teams may wish to add an appendix. This is optional and might not be reviewed by the judges.
  - The appendix has no page limit.

Please submit the following information to the corresponding submission prompts on [jumpintostem.org](http://jumpintostem.org). The abstract and image for Challenge winners and Challenge finalists will be published on the JUMP into STEM website.

- Abstract (up to 250 words)
  - Please include an abstract of your project. The abstract may be displayed on the [jumpintostem.org](http://jumpintostem.org) website.
- Image (file size limit: 5 MB; filetype: .jpg)
  - Please submit an image that represents your project. This can be a photo or a figure from your paper. The image may be displayed on the [jumpintostem.org](http://jumpintostem.org) website.