



**Building Envelope Innovation Prize**  
Secondary Glazing Systems

**Office Hours**  
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# Presenter Introductions

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# Housekeeping

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Under “Select a Speaker,” click “Same as System”
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## To Ask a Question:

- Select the Q&A button at the bottom of your screen and type in your question
- Questions may be answered live, but all questions will be answered in writing on HeroX.

## Having Trouble With the Webinar?

- Technical difficulties: Chat the webinar host for additional support
- A video/audio recording of this webinar and the slide deck will be made available on HeroX shortly after the event.

# Agenda

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- 1 Prize Background & Overview
- 2 Phase 1 – Design Concept
- 3 Commonly Received FAQs
- 4 Audience Q&A





## Prize Background & Overview

# Prize Background

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- Awards up to **\$2 million** to encourage production of **high-performance, cost-effective secondary glazing systems** to improve efficiency of commercial windows
- Targets novel solutions for upgrading inefficient windows to **enable building decarbonization** and optimize building envelopes for electrification
- Helps establish, support, and expand innovation in window systems and catalyze teams to rapidly develop and **deploy cost-effective solutions** in the secondary glazing systems market
- Competitors will secure **equity-focused pilot(s)** in low-income multifamily or underserved public sector buildings as a component of their commercialization plans.

# Prize Goals

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Produce high-performance secondary glazing systems for inefficient windows



Improve equitable access to efficient retrofit technologies by reducing product and installation costs



Increase comfort and resilience for buildings

# Eligibility Requirements

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The competition is open to individuals; private entities (for-profits and nonprofits); nonfederal government entities such as states, counties, tribes, and municipalities; and academic institutions, subject to the following requirements:

- An individual prize competitor (who is not competing as a member of a group) must be a U.S. citizen or permanent resident
- A group of individuals competing as one team may win, provided that the online account holder of the submission is a U.S. citizen or permanent resident. Individuals competing as part of a team may participate if they are legally authorized to work in the United States
- Private entities must be incorporated in and maintain a primary place of business in the United States
- Academic institutions must be based in the United States.

**Refer to the [Official Rules](#) for the complete eligibility requirements.**



## PHASE 1

### **DESIGN CONCEPT**

- Up to 5 semifinalists
- \$50,000 for each semifinalist team
- ~4 months

## PHASE 2

### **PROTOTYPE**

- Up to 3 finalists
- \$200,000 for each finalist team
- ~6 months

## PHASE 3

### **COMMERCIALIZATION**

- Up to 2 winners
- 1st place: \$750,000;  
2nd place: \$400,000
- ~12 months

# Eligible SGS Technology Requirements

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All SGS technology products must meet the following requirements to be eligible for the prize:

- Only **commercial SGS products** are eligible for this prize
- Only SGS products that **target commercial scale** are eligible for this prize
- Both static and dynamic SGS products are eligible for this prize
- SGS technology product must meet the **minimum required performance levels** described in *Table 1. Minimum Requirement and Goal for SGS Window Performance Installed in an Interior Overlap Mount Configuration Over a Single-Pane Clear Aluminum Window* of the Official Rules.

**Refer to the Official Rules for the complete SGS technology eligibility requirements.**

*Table 1. Minimum Requirement and Goal for SGS Window Performance Installed in an Interior Overlap Mount Configuration Over a Single-Pane Clear Aluminum Window\**

<b>SGS Description</b>	<b>U (BTU/hr-ft<sup>2</sup>-° F)</b>	<b>Target Solar Heat Gain Coefficient (SHGC)</b>
Static	Required: Equal to or less than 0.35 Goal: Equal to or less than 0.22	Not Applicable
Dynamic (High Transmission)	Required: Equal to or less than 0.35 Goal: Equal to or less than 0.22	Required: Not Applicable Goal: Equal to or greater than 0.35
Dynamic (Low Transmission)	Required: Equal to or less than 0.35 Goal: Equal to or less than 0.22	Required: Not Applicable Goal: Equal to or less than 0.19

*\*in reference to AERC's Baseline Window D*



**Phase 1 – Design Concept**

# Phase 1 – Design Concept

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- Provide a concept narrative and design for a secondary glazing system product, including details on cost and energy performance
- Award will be based on energy and technical performance modeling, cost metrics, and construction plans
- **Teams can join only during Phase 1**, as Phases 2 and 3 will be down-select processes
- Up to five (5) winners will be awarded under Phase 1:
  - Receive a **\$50,000 cash prize** each
  - Be eligible to compete in Phase 2.



# Cover Page

List basic information about your submission in a one page, PDF:

- Project title
- Team name
- Short description
- Key project members (names, contacts, and links to their LinkedIn profiles)
- Other partners (if any)
- Your city, state, and nine-digit zip code

Required	✓
Scored	✗
Public	✗

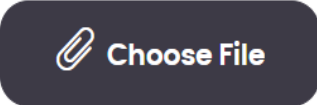
## Section 4: Submission Package

### Cover Page \*

List basic information about your submission on a one-page PDF, including:

- Project title
- Team name
- Short description
- Key project members (names, contacts, and links to their professional online profiles)
- Other partners (if any)
- Your city, state, and nine-digit zip code.

Supported File Types: **PDF**




 Choose File

To be completed via HeroX

# Submission Summary Slide

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- The summary slide should be a PowerPoint slide submitted as a PDF and will be made public
- Make your own public-facing, one-slide submission summary that contains technically specific details but can be understood by most people
- There is no template.

Required	
Scored	
Public	

# Engineering Drawings

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Required	✓
Scored	✓
Public	✗

- Provide a visual representation of your prototype design
- The prototype design schematic can be a labeled photo, a diagram, or other visual that demonstrates the physical dimensions and all major components of your team's design, including how the frame details and how the SGS system will connect with the frame into which it is integrated
- Competitors must submit the design drawings in PDF format
- Competitors are recommended to also include THERM (.THM) and WINDOW (.MDB) files, but this is optional
  - Additionally, .DWF and .DWG files will be accepted
  - All files, besides the PDF format, must be zipped into one folder (file size limit 50 MB) to be submitted
- Not to exceed five pages.

# Design Concept Narrative

Answer each of the four questions (do not exceed 5 pages) :

1. Who is on the team?
2. Describe your SGS design concept and how it addresses window retrofit needs?
3. What are the unique technical specifications that make this product capable of meeting the outlined prize goals?
4. What are the characteristics of the product market?

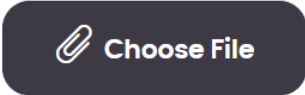
## Design Concept Narrative (Maximum five (5) pages) \*

Please submit a narrative description of the problem you are aiming to address, your technical solution, your team, and why you are well positioned to succeed in turning your proposed solution into a reality. The aggregate response must not exceed 5 pages, including captions, figures/graphs, or references.

For additional submission details, please see the Official Rules document (<https://www.herox.com/envelopeprize/resource/1436>).

Required	✓
Scored	✓
Public	✗

Supported File Types: **PDF**




 Choose File

To be completed via HeroX

# Letters of Commitment or Support

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- Competitors may attach one-page letters (of support, intent, or commitment) from relevant entities to provide context
- Letters of support from partners or others that are critical to the success of your proposed SGS solution will likely increase your score
- Do not submit multipage letters—upload one PDF for each letter and combine multiple pages into a single PDF document.

Required	
Scored	
Public	





# Phase 1 – Design Concept Scoring Overview

- A panel of expert reviewers will read, score, and comment on each submission
- After reviewing all elements of the submission package, reviewers will assign a score between 0 and 6 for each of the judging criteria statements
- Reviewers will review submissions and provide input to the Department of Energy Building Technologies Office (BTO). BTO is the final judge and will make selections based on expert reviewers scores, comments and program policy factors.

0	1	2	3	4	5	6
No response	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

A full list of Program Policy Factors can be found on page 52 of the [Official Rules](#)

# How to Read the Scoring Rubric

Topic and Total Points Possible:	Suggested Content Competitor Provides:	A score on a scale of 0–6 is provided, per judging criteria statement:
<p><b>Question 1: <i>Who is on the team?</i> (12 points possible)</b></p>	<ul style="list-style-type: none"> <li>A short description of each team member’s qualifications and expertise. Include all currently known team members. Note: submissions do not need to have a full team committed for a successful Phase 1 submission</li> <li>An outline of team member contributions and definition of roles and responsibilities in team’s future successes.</li> </ul>	<ul style="list-style-type: none"> <li>The team demonstrates notable entrepreneurial and team-building qualities and has a high likelihood of achieving commercial success</li> <li>The team does not have any major gaps in expertise or missing partners that may limit the success of the technology.</li> </ul>
<p>Question to topic to address (total points possible for the section)</p>	<p>On the left-hand side is suggested content you could provide to address the judging criteria.</p> 	<p>On the right-hand side are the judging criteria that reviewers will use to score your submission.</p> 

# Phase 1 – Design Concept Scoring Criteria

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Submission Item	Maximum Points Possible
Cover Page	<i>Not scored</i>
Submission Summary Slide	<i>Not scored</i>
Engineering Drawings	18 points
Narrative	138 points
Letters of Commitment or Support	<i>Not scored</i>
<b>Total</b>	<b>156 points</b>

# Phase 1 – Cash Prize & Receiving Funds

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## Section 5: Payment Question (who will we pay?)

**If you receive an award for Phase 1 – Design Concept of the Building Envelope Innovation Prize, who will receive the award? \***

Please enter the full exact, legal name of the INDIVIDUAL/ENTITY you wish to receive the full award payment. This should match the name on your tax documentation (Line 1 of a W-9 Form or the business name registered with the IRS). While this is not binding, any change made to the payment recipient will delay payment as much as 3 months and require additional documentation for auditing purposes internal to NREL.

*If you receive an award for Phase 1 – Design Concept of the Building Envelope In*<sup>0/3000</sup>



## Commonly Received FAQs



# Frequently Asked Questions (FAQs)

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- 1. Are the minimum requirements in Table 1 page 12 Center of Glass (COG) performance values or whole units? If whole unit, how do we factor in the frame performance of base windows which is not known?**

These are full unit performance installed in an interior overlap mount configuration on AERC Baseline Window D (single-pane clear aluminum window).

- 2. Are the THERM models available for the window shown in Appendix A?**

Yes, the THERM models are available for the window shown in Appendix A and for the AERC Baseline Window D. You can find these files under 'Resources' in HeroX.

- 3. What version must the THERM and Window files be in?**

Please use the latest versions of WINDOW and THERM software that have been certified and approved by NFRC – THERM 7.8.71 and WINDOWS 7.8.71. The THERM 7.8.74 files listed on HeroX are compatible with THERM 7.8.71. Competitors can use either version for submission.

# Frequently Asked Questions (FAQs)

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## **4. Should competitors build their SGS design based off the AERC Baseline Window D, or the Appendix A Window shown in the Official Rules document?**

Competitors should submit their Phase 1 – Design Concept in accordance with *Table 1. Minimum Requirement and Goal for SGS Window Performance Installed in an Interior Overlap Mount Configuration Over a Single-Pane Clear Aluminum Window* of the Official Rules, which utilizes AERC Baseline Window D. For Phase 2 – Prototype, LBNL will be testing competitor’s prototypes based on the Appendix A window shown in the Official Rules document.

## **5. We would be a component (substrate) supplier and could supply multiple parties who may submit for the award. Is there anything to prevent us from being able to participate if we are supplying more than one team with a substrate solution for the prize?**

A single competitor or team may submit a maximum of one (1) submission. Multiple submissions from the same lead organization will not be accepted. However, a suborganization, such as component supplier, may partner, as a team member, with multiple lead organizations on their submission.

# Next Steps

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1. Follow the challenge on HeroX: <https://www.herox.com/envelopeprize>
2. Read the Official Phase 1 Rules:  
<https://www.herox.com/envelopeprize/resource/1436>
3. Email [envelope.prize@nrel.gov](mailto:envelope.prize@nrel.gov) with any questions
4. Submit your Phase 1 submission by **June 13, 2024, at 5 p.m. ET.**

**These slides and presentation recording will be posted on HeroX in the coming weeks.**



**Questions?**