OCTOBER 1, 2025

Hydrogen Innovation Fund 2025 Call

Partnerships, Research & Sustainability, IESO

ieso
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Purpose of Today's Webinar

Purpose: To provide an overview of the 2025 Hydrogen Innovation Fund Call for Applications (2025 HIF Call) and seek stakeholder and community feedback on the draft Application Guidelines

Agenda:

- HIF Overview and Timelines
- 2025 HIF Call Objectives
- Project Categories
- Stream 1: Electricity System Integration
- Stream 2: Broader Sector Applications
- Next Steps & Feedback

Overview and Timelines: Stream 1 & Stream 2

The Hydrogen Innovation Fund

The Hydrogen Innovation Fund (HIF) enables the IESO and project proponents to test existing and emerging technologies to objectively determine how hydrogen resources can support electricity system integration, and broader energy applications.

- Open to for-profit and non-profit incorporated entities
- Investment in projects up to three years in length
- IESO funding supplemented with proponent and partner funding
- 14 projects funded since 2023, 4 projects ongoing

2025 HIF Call

On July 31, 2025 the Ministry of Energy and Mines (MEM) directed the IESO to launch a new $30 million round of funding for the HIF, which will have double the budget of the 2023 HIF call.

The 2025 Call aims to support projects focused on two separate $15 million streams:

1. **Stream 1 - Electricity System Integration**

Demonstration projects supporting integration of hydrogen into the electricity grid to increase electricity supply, capacity, or storage.

2. **Stream 2 - Broader Sector Applications**

Demonstration projects directly or indirectly enabling broader applications of low-carbon hydrogen, such as new industrial and transportation sector applications.

Timelines

1. Open Application Window (November 4, 2025 - February 11, 2026): Applicants form teams, develop their project proposals, and submit applications.
2. Application Evaluations (February - April 2026): Evaluate applications per the evaluation process.
3. Project Selections (May 2026): Applicants are notified of the funding decision on their application.
4. Contracting (May - July 2026): The IESO and successful applicants enter into a HIF Contribution Agreement. Applicants whose projects are selected for funding may also be notified of any Indigenous consultation identified by the Ministry, as appropriate.
5. Project Execution (August 2026 – August 2029): Projects commence and start to incur costs.

* Proposed timelines are subject to change.

2025 HIF Call Objectives Stream 1 & Stream 2

Objectives – Stream 1

The objective of Stream 1 is to support projects that help to increase integration of low-carbon hydrogen technologies into Ontario's electricity grid.

- Enhance **electricity system flexibility** through innovative integration of hydrogen-based load, generation, and storage with the electricity grid.
- Support **hydrogen production technology advancement** in areas such as production, efficiency, cost, purity, etc.
- Support and accelerate **decarbonization and emissions reduction** of Ontario's electricity system and economy.
- Support hydrogen sector development and evolution through **collaboration and knowledge sharing** of lessons learned and key project findings.

Objectives – Stream 2

The objective of Stream 2 is to support the advancement of Ontario's hydrogen economy and provide benefits to communities, including Indigenous communities.

- Support and accelerate **decarbonization and emissions reduction** of high-emitting priority sectors in the province, such as cement, chemicals, steel, and heavy-duty transportation.
- Support **economic growth and job creation** in the province and support innovation in local manufacturing of low-carbon hydrogen solutions.
- Promote **hydrogen technology integration advancements** in areas such as transportation, manufacturing and heavy industry.
- Support hydrogen sector development and evolution through **collaboration and knowledge sharing** of lessons learned and key project findings.

Project Categories

Project Categories

Stream 1 **Electricity System Integration**	**Stream 2** **Broader Sector Applications**
1A - Grid support services from hydrogen production loads	2A - Low Carbon Hydrogen production and usage in industrial sectors
1B - Customer sited peak demand management	2B - Low Carbon Hydrogen usage in the transportation sector
1C - Hydrogen Energy Storage	2C - Integrating hydrogen within a broader hydrogen economy

Project Categories – Stream 1 (1/2)

Grid support services from hydrogen production loads	1.A.1 Demonstration of how a hydrogen production facility participates in the energy, operating reserve, and capacity markets in Ontario.
	1.A.2 Demonstration of how a hydrogen production facility might participate in peak-reduction and/or capacity programs.
	1.A.3 Demonstration of how a hydrogen production facility would provide ancillary services to the IESO, such as frequency regulation.
	1.A.4 Integration with renewable energy or large industrial loads for active power smoothing and demand management.

Project Categories – Stream 1 (2/2)

Customer sited peak demand management	1.B Demonstration of how behind-the-meter hydrogen fueled electricity generation or hydrogen related-load can support customer-sited demand management such as peak shaving, load shifting, electricity pricing arbitrage, capacity market participation, etc.
Hydrogen energy storage	1.C Performance of energy storage using hydrogen including round trip efficiency, hourly price-quantity pairs, charge/discharge profile (i.e., when is it economic to charge and discharge), ramp rate, availability, energy management, storage duration, operational/logistical constraints, etc.

Project Categories – Stream 2 (1/2)

Low Carbon Hydrogen production and usage in industrial sectors	2.A.1 Demonstration of how hydrogen production technologies can support the decarbonization efforts of a hydrogen off-take partner.
	2.A.2 Demonstration of decarbonization applications by building pathways to enable low-carbon hydrogen integration as an alternative to fossil fuels, such as feedstock in steel production, ammonia, etc.
Low Carbon Hydrogen usage in the transportation sector	2.B.1 Demonstration of developing a fuel cell vehicle, or other innovative solutions, in displacing diesel-powered engines with hydrogen, such as heavy-duty trucks, rail, etc.
	2.B.2 Demonstration of integrating a hydrogen fueling station to enable hydrogen adoption with the heavy-duty transportation sector.

Project Categories – Stream 2 (2/2)

Integrating hydrogen within a broader hydrogen economy	2.C.1 Demonstration of regional hydrogen hubs which strategically locate the production, storage and use of hydrogen through collaboration between suppliers, end-users and industry.
	2.C.2 Demonstration of circular economy models, such as industrial symbiosis using hydrogen byproducts, linking heat and fuel systems, water reuse and integration, etc.
	2.C.3 Demonstration of ecosystem-level transformation through advancement of regulatory innovation, community and Indigenous engagement in hydrogen value chains, etc.
	2.C.4 Demonstration of novel technologies in hydrogen storage or hydrogen transportation and cross cutting innovation, such as smart monitoring systems, hybrid storage systems, modular storage, etc.

Stream 1 – Electricity System Integration

IESO Evaluation Process

Stage 1: Eligibility Screening

To be eligible for funding, the project must meet the following project type and timeline requirements:

CRITERIA	REQUIREMENT
Project Location	Ontario
Project Length	36 months maximum
Data Collection	6 months minimum
Technology Readiness Level (TRL)	7 or higher

Stage 1: Eligibility Screening – Project Applicant and Partners

To be eligible for funding, the project must meet the following applicant and partner requirements:

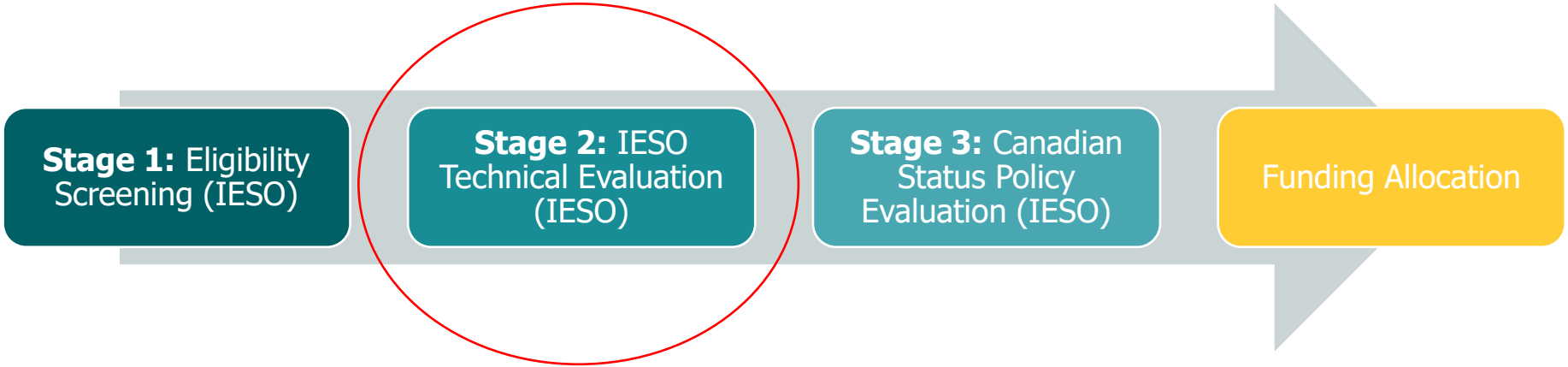
CRITERIA	REQUIREMENT
Applicant	Non-profit and for-profit incorporated entities (local distribution companies, technology companies, fleet owners/operators, academic institutions, and public sector organizations) Main beneficiary of the project
Partners	Minimum of one partner

Stage 1: Eligibility Screening - Project Funding

Applicants are required to submit a budget as part of their application, detailing the project financials including a breakdown of how each expense is funded. Eligible projects must meet the following funding requirements:

CONTRIBUTION	REQUIREMENT
IESO	$1 million to $4.5 million and up to a maximum of 50% of total project value
Applicant	Minimum cash contribution of at least 15% of total project value
Applicant and Partners	Minimum combined cash contribution of at least 30% of total project value

Stage 2: IESO Technical Evaluation



Stage 2: IESO Technical Evaluation

As part of Stage 2, the IESO's Technical Review Committee (TRC), a group of internal subject matter experts across various IESO business units, will evaluate the applications against the IESO's evaluation criteria categories.

Applications must achieve a minimum of 70 points to proceed to the next stage of the evaluation.

CATEGORY	**POINTS**
1. Project Team and Engagement	30
2. Project Design	30
3. Project Impact and Innovation	40
TOTAL	**100**

Stage 2: Project Evaluation Criteria (1/3)

CATEGORY	EVALUATION CRITERIA	WEIGHT
Project Team & Engagement	The proposal clearly demonstrates that the project team possesses a diverse and complimentary skillset with sufficient expertise to successfully execute the project.	15
	The project team has demonstrated experience in delivering innovative, large-scale strategic projects.	10
	Relevant, early and meaningful engagement with municipalities, and/or communities and Indigenous communities are evident.	5

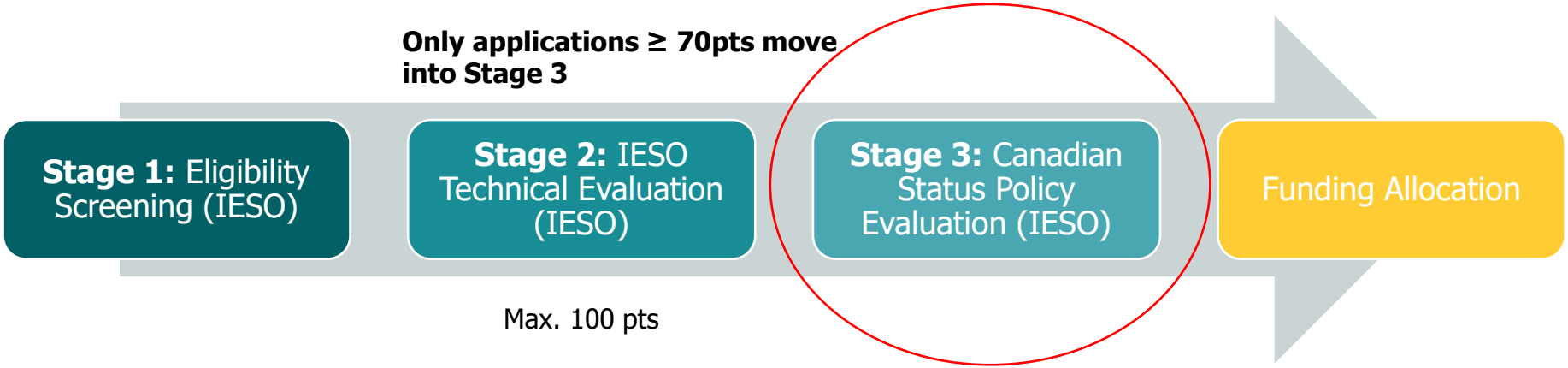
Stage 2: Project Evaluation Criteria (2/3)

CATEGORY	EVALUATION CRITERIA	WEIGHT
Project Design	The project's scope and schedule are clear, reasonable, and logically structured to meet Stream 1 objectives. The work plan and tasks are well defined and support successful project execution.	20
	Budget items are appropriately allocated to proposed project activities, and risk is appropriately distributed among the partner(s).	5
	The approach to measure and validate at least two relevant KPIs for each project objective is clearly stated and uses publicly recognized/standardized methodologies where appropriate.	5

Stage 2: Project Evaluation Criteria (3/3)

CATEGORY	EVALUATION CRITERIA	WEIGHT
Project Impact and Innovation	The project outlines innovative technology, utilization model, service, or business approach not yet deployed in Ontario. The project outlines a clear and credible plan for maturing the proposed technology and its competitive advantage over alternatives.	15
	The project demonstrates savings to ratepayers, produces efficient market outcomes and/or enhances electricity system reliability/operability.	15
	The project demonstrates net annual GHG emissions reductions over the course of the project. The project evaluates the potential GHG emissions impact if the proposed solution is to be implemented at scale.	10

Stage 3: Canadian Status Policy Evaluation



Stage 3: Canadian Status Evaluation

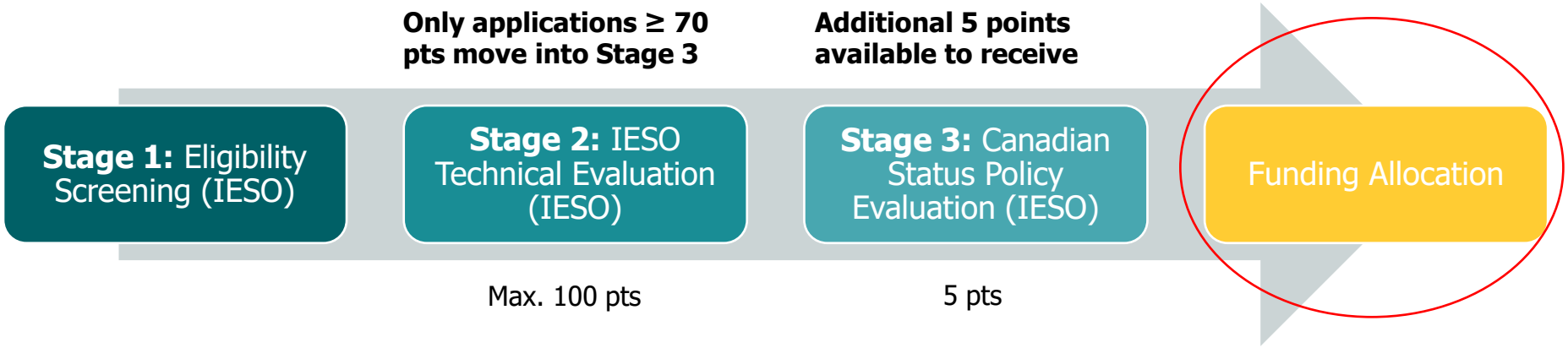
- In response to ongoing international tariff and trade tensions, the Government of Ontario introduced the Protect Ontario by Unleashing our Economy Act, 2025, which among other things, provides the government the authority to prioritize businesses with Canadian ownership in Ontario's energy sector. This will be addressed in the HIF through evaluation criteria connected to having and maintaining "Canadian Status".
- Eligible Projects are awarded 5 points.
- To be eligible to receive evaluation points for having Canadian Status, the applicant must provide supporting documentation through the form of an attestation from an authorized representative of the applicant, that confirms that the applicant, and where applicable, the person that ultimately controls it, satisfies the Canadian Status definition.

Stage 3: Canadian Status - Definition

The applicant's Canadian status policy will be evaluated using the following definition and approach:

ELEMENT	DESCRIPTION
Canadian Status Definition	Companies must have and retain Canadian Status for a minimum of six months following the execution of the HIF contribution agreement.
Evaluation	The applicant company must include an attestation from an authorized representative confirming the applicant company satisfies the Canadian Status criterion.
Scope	Canadian Status criteria apply only to the applicant and not to the project partners.
Change of ownership	If a company receives rated criteria points for having Canadian Status, they are required to retain Canadian Status for at least six months following the execution of the HIF Contribution Agreement.

Funding Allocation



Funding Allocation based on ranked list of project scores up to 105 total points

Key Performance Indicators (KPIs)

- KPIs have been developed to measure the ability of successful projects to meet the objectives of Stream 1, and to measure the overall success of the 2025 HIF Call.
- Applicants will be asked to outline their methodology for each KPI to present how the objectives of the call will be achieved, using publicly recognized/standardized methodologies where appropriate.
- Applicants are encouraged to propose additional KPIs aligned with demonstrating the achievement of the HIF objectives.

Key Performance Indicators

KPI	KPI DESCRIPTION	PROPOSED UNIT	PRIMARY RELEVANT OBJECTIVE
GHG Emissions Reduction	Quantifies the reduction in GHG emissions throughout the course of the project resulting from the decarbonization of applications by switching to low-carbon hydrogen.	tonnes of CO2 or CO2e	Decarbonization and Emissions Reduction
TRL Advancement	Quantifies the advancement of the technology readiness level.	delta TRL	Hydrogen Technology Advancement
Knowledge-sharing Events	Quantifies the number of events held/publications made to support knowledge transfer.	# of events and publications	Collaboration and Knowledge Sharing
Grid Services	Quantifies the number of different grid services demonstrated via the IESO-prescribed testing framework.	# of services	Electricity System Flexibility

Project Testing (1/2)

- In addition to projects demonstrating and testing out their own innovative distribution level services or program elements, which are highly encouraged, the IESO is seeking to subject projects to wholesale/bulk system level testing.
- The IESO is providing a standardized testing framework to assist in measuring the bulk electricity system impacts and transmission-distribution coordination in a consistent manner.
- The next slide provides a high-level overview of the different types of tests that may be included in the final testing framework.

Note: All HIF tests are simulated, meaning they take place outside of the real-time IESO administered energy, capacity, and ancillary services markets.

Project Testing (2/2)

Test	Description
Energy/ Operating Reserve	Demonstrate ability to follow a five-minute energy schedule* and respond to Operating Reserve activation notice*
Capacity/ Demand Response	Demonstrate delivery of a maximum fixed capacity (energy injection or demand reduction) for four hours
Regulation	Demonstrate ability to follow a fluctuating dispatch signal* as closely as possible
Ramping	Demonstrate maximum ramp-up and ramp-down rates

 *Simulated

Stream 2 – Broader Sector Applications

Stream 2 - Evaluation Process

Stage 1: Eligibility Screening

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Technology Readiness Level (TRL)	7 or higher

Stage 1: Eligibility Screening – Project Applicant and Partners

To be eligible for funding, the project must meet the following applicant and partner requirements:

CRITERIA	REQUIREMENT
Applicant	Non-profit and for-profit incorporated entities (local distribution companies, technology companies, fleet owners/operators, academic institutions, and public sector organizations) Main beneficiary of the project
Partners	Minimum of two partners

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Applicants are required to submit a budget as part of their application, detailing the project financials including a breakdown of how each expense is funded. Eligible projects must meet the following funding requirements:

CONTRIBUTION	REQUIREMENT
IESO	$1 million to $4.5 million and up to a maximum of 50% of total project value
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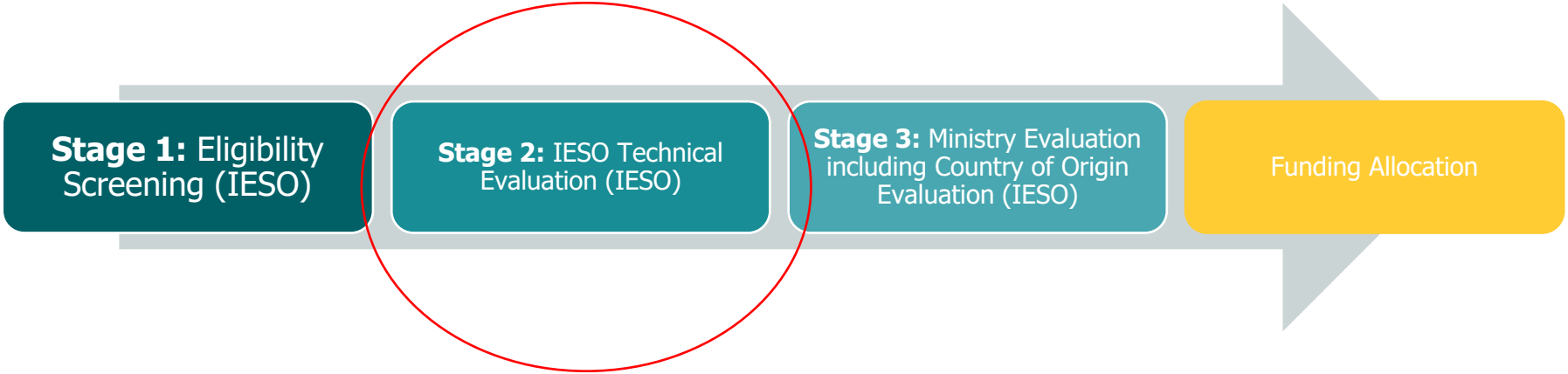
Stage 2: IESO Technical Evaluation



Stage 2: IESO Technical Evaluation

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Applications must achieve a minimum of 70 points to proceed to the next stage of the evaluation.

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1. Project Team and Engagement	30
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3. Project Impact and Innovation	40
TOTAL	**100**

Stream 2

Stage 2: Project Evaluation Criteria (1/3)

CATEGORY	EVALUATION CRITERIA	WEIGHT
Project Team & Engagement	The proposal clearly demonstrates that the project team possesses a diverse skillset with sufficient hydrogen expertise to successfully execute the project.	13
	The number of project team members is three or more and is contributing greater than 60% of non-IESO funding (cash and in-kind).	2
	The project team has demonstrated experience in delivering innovative, large-scale strategic projects.	10
	Relevant, early and meaningful engagement with municipalities, and/or communities and Indigenous communities are evident	5

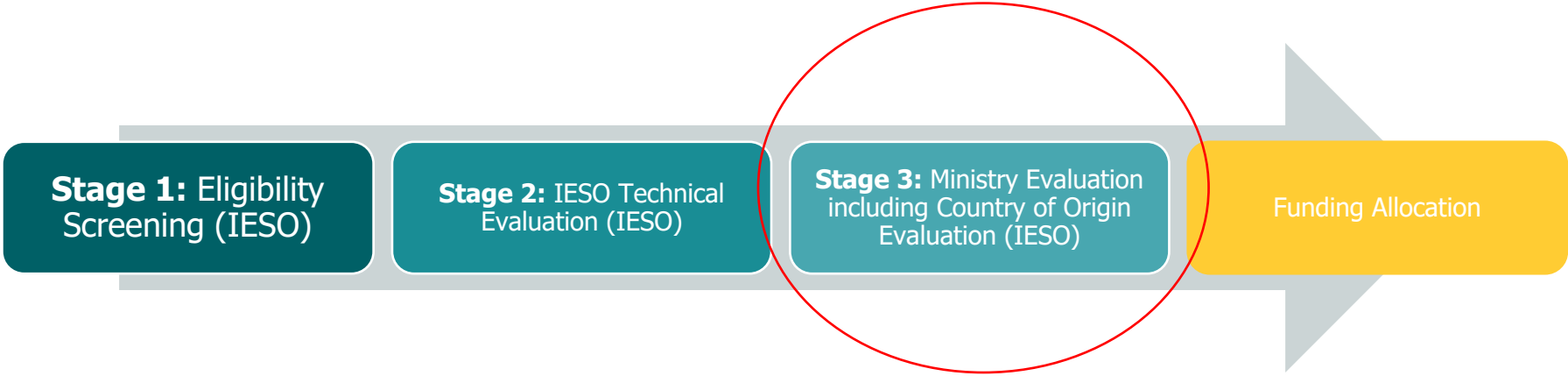
Stage 2: Project Evaluation Criteria (2/3)

CATEGORY	EVALUATION CRITERIA	WEIGHT
Project Design	The project's scope and schedule are clear, reasonable, and logically structured to meet Stream 2 objectives. The work plan and tasks are well defined and support successful project execution.	20
	Budget items are appropriately allocated to proposed project activities, and risk is appropriately distributed among the partner(s).	5
	The approach to measure and validate at least two relevant KPIs for each project objective is clearly stated and uses publicly recognized/standardized methodologies where appropriate.	5

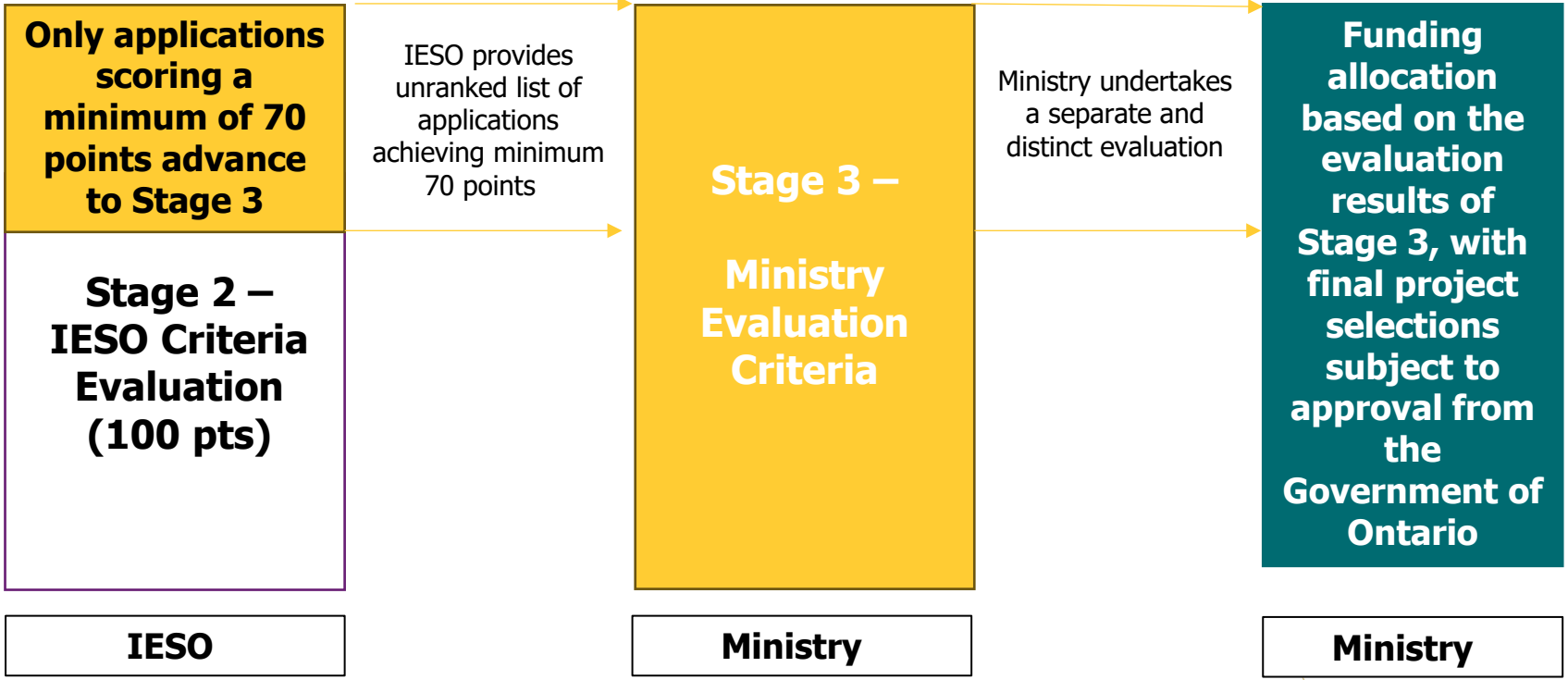
Stage 2: Project Evaluation Criteria (3/3)

CATEGORY	EVALUATION CRITERIA	WEIGHT
Project Impact and Innovation	The project outlines innovative technology, utilization model, service, or business approach not yet deployed in Ontario. The project outlines a clear and credible plan for maturing the proposed technology, and clearly articulates its competitive advantage over alternatives.	15
	The project supports and influences Ontario's low-carbon hydrogen sector evolution and demonstrates a barrier or gap that the proposed solution will address.	15
	The project demonstrates net annual GHG emissions reductions over the course of the project. The project evaluates the potential GHG emissions impact if the proposed solution is to be implemented at scale.	10

Stage 3: Ministry Evaluation



Stage 3: Ministry Evaluation



Stage 3: Ministry Evaluation Criteria (1/5)

CATEGORY
1. Decarbonizing Hard-to-Abate Industries
2. Job Creation, Retention and Upskilling in Ontario
3. Hydrogen Infrastructure Development in Ontario
4. Enabling Sustained Domestic Demand for Low-Carbon Hydrogen
5. Supporting Ontario-Based Small and Medium Businesses
6. Canadian Status **(same as in S1)**
7. Regional Representation

Stage 3: Ministry Evaluation Criteria (2/5)

CATEGORY	EVALUATION CRITERIA
Decarbonizing Hard-to-Abate Industries	The project advances hydrogen use in sectors for which low-carbon hydrogen is recognized as having significant potential as a cost-effective decarbonization option, including but not limited to applications in steel manufacturing, cement, ammonia production and heavy transportation, and does not promote hydrogen use in industries for which electrification is a more cost-effective alternative. The project demonstrates market potential to reduce GHG emissions through broader adoption by target sector, or other applicable sectors.

Stream 2

Stage 3: Ministry Evaluation Criteria (3/5)

CATEGORY	EVALUATION CRITERIA
Job Creation, Retention and Upskilling in Ontario	The project would directly retain and create jobs in Ontario and support long-term job growth, including indirect creation of new jobs. The project would support existing Ontario workers obtaining certification in skilled trades needed for development of the hydrogen market.
Hydrogen Infrastructure Development in Ontario	The project establishes permanent infrastructure to grow the hydrogen market, attracting follow-on investment to benefit future projects enabling hydrogen production, storage or distribution. Infrastructure would be dedicated to only hydrogen. The project encourages hydrogen hub development through proximity to other projects and strategic connections with key stakeholders.

Stage 3: Ministry Evaluation Criteria (4/5)

CATEGORY	EVALUATION CRITERIA
Enabling sustained domestic demand for low-carbon hydrogen	Producers/Distributors/Technology Developers: The project demonstrates potential to lower costs or improve efficiency in generating, compressing, storing or transporting low-carbon hydrogen to enhance domestic market pull. Technology Installations/Hydrogen Users: The project has in place or indicates strong potential for offtake agreements for low-carbon hydrogen. This could be through partnership agreements that support future end use. Project sector or application has significant potential for near- and medium-term demand for hydrogen, supported by technology readiness, economics infrastructure, and end users.

Stage 3: Ministry Evaluation Criteria (5/5)

CATEGORY	EVALUATION CRITERIA
Supporting Ontario-Based Small and Medium Businesses	Proponent is a small- or medium-sized business (less than 500 employees) with operations in Ontario. The project would lead to measurable benefits for other Ontario small- or medium-sized businesses, such as along the hydrogen or related supply chains.
Canadian Status	The applicant company provide an attestation from an authorized representative confirming the applicant company satisfies the Canadian Status criterion (as defined for S1).
Regional Representation	Project is located outside the GTA to support regional economic development.

Key Performance Indicators (KPIs)

- KPIs have been developed to measure the ability of successful projects to meet the objectives of Stream 2, and to measure the overall success of the 2025 HIF Call.
- Applicants will be asked to outline their methodology for each KPI to present how the objectives of the call will be achieved, using publicly recognized/standardized methodologies where appropriate.
- Applicants are encouraged to propose additional KPIs aligned with demonstrating the achievement of the HIF objectives.

Key Performance Indicators (Stream 2)

KPI	KPI DESCRIPTION	PROPOSED UNIT	PRIMARY RELEVANT OBJECTIVE
GHG Emissions Reduction	Quantifies the reduction in GHG emissions throughout the course of the project resulting from the decarbonization of applications by switching to low-carbon hydrogen.	tonnes of CO2 or CO2e	Decarbonization and Emissions Reduction
TRL Advancement	Quantifies the advancement of the technology readiness level.	delta TRL	Hydrogen Technology Advancement
Knowledge-sharing Events	Quantifies the number of events held/publications made to support knowledge transfer.	# of events and publications	Collaboration and Knowledge Sharing
Jobs Created, Retained or Upskilled	Quantifies the number of direct and indirect jobs created, retained or upskilled through the project.	# of jobs in each category	Economic Growth and Job Creation

HIF 2025 Feedback and Next Steps

Stakeholder Feedback

- Are the Stream 1 and Stream 2 objectives and evaluation criteria clear and appropriate?
- Are the Application Guidelines, KPIs, and project categories practical and easy to apply?
- Do you see any risks or challenges with the proposed schedule?
- Is there anything important that may have been missed in the proposed design?

Please use the feedback and send to engagement@ieso.ca by **October 15, 2025**

Required Application Forms

Applicants must submit a completed application package, outlined below, along with supporting documents outlined in the Application Guideline by the deadline.

All application documents will be posted on the 2025 Hydrogen Innovation Fund webpage.

Required Application Documents:

- Completed HIF Project Application Templates (Part A and B)
- HIF Project Brief Template
- Supporting documentation (e.g. letters of support, audited financial statements, Canadian Status attestation, etc.)

Project Support

- Applicants are strongly encouraged to contact the Partnerships and Innovation team at hydrogeninnovationfund@ieso.ca with any questions about their application before January 27, 2026.
- Successful proponents will also be eligible to receive guidance for the safe use and integration of hydrogen from the Technical Standards and Safety Authority (TSSA) and Electrical Safety Authority (ESA), where required.

Next Steps

Timing	Activity
October 15, 2025	Stakeholder Feedback due
November 3, 2025	IESO to publish Final Application Guidelines, Application Templates, Contribution Agreement
November 4 – February 11, 2026	Accept proposals for the Call

Thank You

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