

## **FLOATING WASTE COLLECTOR CONCEPTUAL DESIGN COMPETITION**

### **Background:**

The Ministry of Development through the Department of Environment, Parks and Recreation initiated the Brunei River Cleanup Project, which consisted of three components namely: (i) daily house-to-house collection services for Kampong Ayer residents; (ii) collection of floating waste along Brunei River; and (iii) collection of waste underneath houses in Kampong Ayer, all with the same aim to holistically manage waste found along Brunei River

Involvement of other levels of society is indeed imperative in further complementing the efforts implemented by the Government, particularly in coming up with practical and economically viable / cost-effective solutions in terms of mechanisms and technology that can effectively collect waste in Brunei River in the short, medium and long term.

Seeing that there is potential to harness the skills and expertise of the post-secondary and higher institutions, particularly those on the technical field, to develop such mechanisms and technology, the Ministry of Development via Department of Environment Parks and Recreation in collaboration with the Ministry of Education is providing a platform for students from the said institutions to design and customize a prototype technology to empower them and to garner the sense of ownership in responding to His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam's decree that everyone should play their respective role in protecting and conserving Brunei's environment through the whole of nation approach.

### **Criteria / Requirements:**

In groups, participants shall design a waste skimmer boat concept and/or floating waste trap concept that is feasible and workable for the purpose of collecting floating waste in Brunei River.

When coming up with the conceptual design, participants shall consider the following criteria or requirements:

1. Each conceptual design shall be based on each group's creativity, taking into account the fundamental elements of practicality, safety and technical compliance / requirement(s).
2. Each institution's lecturer shall supervise in the development of the conceptual design, whereby support in terms of technical staff(s) from the Department of

Drainage and Sewerage and Department of Environment, Parks and Recreation, Ministry of Development may be extended to institution(s) upon request.

3. Conceptual design shall consider incorporation of technologies and materials that are durable and environmentally friendly.
4. Conceptual designs shall consider and shall be judged based on its (i) practicality and potential to be developed as an actual working prototype that can be up scaled; (ii) its ability to suit the required purpose i.e. its efficiency / effectiveness in collecting waste (in terms of volume within a given time); (iii) flexibility and adaptability in different situation(s) or location(s); (iv) economic viability of the developing the design into an actual prototype/product; and (v) creativity and aesthetics of design (originality of design shall be considered a plus point).

**Competition Categories:**

For the purpose of this competition, participants have the option of the following TWO (2) categories:

<b><u>Category</u></b>	<b><u>Description</u></b>
<p>Category A: Skimmer Boat</p>	<p><u>Current situation:</u> Daily and continuous clearing, cleaning and collection of all forms of floating wastes found along Brunei River and its tributaries, trapped in floating debris booms and accumulated around jetties and pontoons. Collection sites are divided into four (4) zones within Brunei River, stretching from Jong Batu Island up to Kiulap commercial areas and along the vicinity of the Mukims in Kampung Ayer.</p> <p>Participants shall submit a conceptual design for a mechanism or prototype to efficiently collect floating waste based on the set criteria / requirements.</p>
<p>Category B: Floating trapping mechanism</p>	<p><u>Current situation:</u> Waste from upstream and the sea, trapped in mangrove areas and underneath houses in Kampong Ayer, depending on the tide level and river current, would flow along the Brunei River, passing by some of the country’s famous landmarks such as the Taman Mahkota Jubli Emas (commonly known as eco-corridor), the Royal Wharf and the Jalan Residency Promenade and gliding underneath the Raja Isteri Pengiran Anak Hajah Saleha Bridge.</p> <p>Participants shall submit a conceptual design for a mechanism or prototype to efficiently trap floating waste based on the set criteria / requirements.</p>

**Terms and Conditions:**

- The competition is open to post-secondary, technical and higher institutions in Brunei Darussalam.
- There is no restriction on the number of submission per institution, but only ONE (1) conceptual design submission **per group** is allowed. Participation in both categories are encouraged.
- The submission must be the work of the participating group and not initiated by any other party.
- The competition runs from **15 AUGUST 2019 to 30 JANUARY 2020**. Entries after this date will not be accepted. Extension(s) may be considered and shall be informed accordingly.
- By submitting the conceptual design, the institution agree for it to be referred to / published / socialized in whatever appropriate and relevant platform(s).
- The conceptual design(s) that has the best potential to be developed into a prototype may be selected as the winner(s) and may be engaged for the development stage i.e. prototype development.
- The prototype(s) may then be selected as the mechanism(s) to be used in the Sungai Brunei cleanup project.
- Late, incomplete and/or submissions of conceptual design(s) that do not follow the competition requirement(s) will be automatically disqualified and will not be considered for judging.
- The winning conceptual design submission(s) shall be notified directly via phone call and/or e-mail as per the Entry Form.

**Prizes:**

<b><u>Category</u></b>	
A Skimmer Boat	Teams will stand a chance to win Cash Prizes and Certificates of Achievement
B Floating Trapping Mechanism	<i>Selected design(s) may potentially be developed further into prototypes and mechanisms/technology for the Brunei River Clean-up Project</i>

**Submission:**

Submission(s) shall include the following:

- A completed Entry Form
- One hardcopy (and softcopy in the form of a CD / pendrive / e-mail) of the Conceptual Design, together with comprehensive details of the specifications, including its technical drawing
- And softcopy (in the form of a CD / pendrive / email) of the digital simulation/ modeling of the concept in AVI or MP4 video file format

All submission(s) must be submitted in a sealed envelope and marked with “FLOATING WASTE COLLECTOR CONCEPTUAL DESIGN COMPETITION” and shall be addressed to:

Director  
Department of Environment, Parks and Recreation,  
Tumasek Plaza Building, Jalan Raja Isteri Pengiran Anak Saleha  
Bandar Seri Begawan BA1910  
Negara Brunei Darussalam

*Attn: Head of Environmental Planning and Management Division*

Incomplete submission(s) may render the entry being **rejected**.

**Deadline:**

Entry forms, together with the necessary documentation and attachments, are to be submitted by (or before) **30 JANUARY 2020, before 4.30PM.**

Submission(s) received later than the specified date and time above will not be accepted.

For further information, please contact the Department's representatives RODZIAH BINTI HAJI ADNAN ([rodziah.adnan@env.gov.bn](mailto:rodziah.adnan@env.gov.bn)) or MOHAMMAD RAMZAN BIN RAHMAN ([ramzan.rahman@env.gov.bn](mailto:ramzan.rahman@env.gov.bn)) via telephone at 2241262 ext 4408/4404.



SUBMISSION DETAILS (FOR OFFICE USE ONLY)	
SUBMISSION DATE	
ACCOMPANYING DOCUMENTS ( <input checked="" type="checkbox"/> if included)	<input type="checkbox"/> A completed entry form <input type="checkbox"/> Conceptual Design (both hardcopy & softcopy) <input type="checkbox"/> Softcopy of the digital simulation/modeling in video file format