

# **Environment Technology Research Programme (ETRP)**

## **Instructions for Application of ETRP Fund**

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## Part 1 General Instructions

1 The Environment Technology Research Programme (ETRP) is a research grant scheme administered by the National Environment Agency (NEA) to fund research and development projects focusing on waste management. The ETRP will be administered under the competitive Request-for-Proposal (RFP) scheme.

2 The ETRP Secretariat are:

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Please contact the ETRP Secretariat for enquiries regarding your applications or if you need further clarifications on the ETRP.

3. The ETRP 6<sup>th</sup> Request for Proposal (RFP) is opened for submission on 16 January 2012 and closes on 18 April 2012, 12 noon. The ETRP project proposals shall be submitted as follows:

- a. One softcopy with numbered pages in PDF format and the funding details template in excel format via email to nea\_etrp@nea.gov.sg by 18 April 2012, 12 noon Singapore Time; and
- b. One hardcopy duly signed and endorsed. It shall be printed double-sided on A4 sized paper, bound and submitted in sealed envelope by 25 April 2012 to:

Environment Technology Office  
National Environment Agency  
40 Scotts Road  
#11-00 Environment Building  
Singapore 228231  
Attn: ETRP Secretariat

Applicants would receive an email acknowledgement from the ETRP Secretariat.

4. Each ETRP proposal submitted for funding will be sent to the ETRP Technology Board (TB), comprising academia and scientific experts for evaluation. All information needed for a proper and complete evaluation should therefore be included in the application form to facilitate a good understanding of the project. Privileged or confidential information shall be clearly marked as confidential.

5. The applicant(s) shall agree that:

- a. The NEA is under no obligation to accept the proposal;
- b. Applicant shall abide by the decisions of the NEA; and
- c. Applicant shall not take legal action against the NEA, the ETRP TB or any member of the ETRP TB in relation to their role in evaluating and deliberating on the project proposal.

## Part 2 Format for Application of ETRP Fund

### 1. Outline of submission

The outline for the ETRP submission format is as follows:

<u>Executive Summary</u>	(1 page)
<u>Main Project Paper</u>	(9 pages)
Project Proposal	(7 pages)
Technical Attachments	(2 pages)
Declaration Form	
<u>Table of Annexes</u>	
ETRP Annex 1	Curriculum Vitae (1 page per researcher)
ETRP Annex 2	References and Synopsis of Papers (2 pages)
ETRP Annex 3	Funding Details (Excel format)

Please use Arial Font size 12. All submissions shall be in English.

### 2. Executive Summary (1 page limit)

The Executive Summary shall include but not limited to the following details:

#### **Project Title**

A succinct and intuitive title.

#### **Scientific Abstract**

A scientific description of the project proposal including objectives, specific challenges, hypotheses, methodology and approach of the research proposal.

#### **Lay Abstract**

An abstract written in simple and non-technical language. This information may be used by the NEA for public communication purposes.

#### **Deliverables**

The tangible and intangible outcomes and deliverables of the project.

### **3. Project Proposal (7 pages)**

#### **3.1 Project Proposal**

The main project paper shall contain but not limited to the following details:

##### **Objectives of the Project**

This section shall articulate clearly the objectives of the project.

##### **Description of Project**

- This section shall include the details on the scientific challenges and the proposed methodology/approach to solving the challenges.
- The Applicant (also known as Project Leader, PL) shall highlight the importance of addressing the problems and describe how their work would create new knowledge or advance existing solutions. The PL shall highlight the novelty of their proposed approach and the potential of producing breakthrough work.
- The PL shall highlight the specific competitive advantages of individuals in the proposed research project team in terms of unique capabilities and/or experience relevant to the project scientific focus. This section shall also be used to highlight the international competitiveness of the work being carried out in terms of scientific merit.
- The PL shall also highlight the environmental footprint (e.g. CO<sub>2</sub> emissions, net energy consumption, residual waste generation etc.) and cost-benefit of the research project and benchmark them against competing technologies.

##### **Other Contributions of Project**

- This section shall be used to describe the contributions of the project in terms of science, technology, capability development, economic and other benefits to Singapore. Any industry collaborations and/or co-funding arrangements shall be included in this section and details are to be provided on the extent of industry participation and plans for commercialisation.
- PL shall highlight both quantitatively and qualitatively how the project would potentially generate economic payoffs for Singapore (e.g. through the potential to create new products and applications and create spinoffs/IP/licensing etc).
- PL shall also indicate other contributions of the project (e.g. towards building up research infrastructure, manpower and capabilities in Singapore etc.)

##### **Project Team Composition**

- The PL shall highlight the relevant track records and capabilities of individual researchers in the team, their international standing and any unique competitive advantages that they bring to the team in achieving the project's objectives. Detailed CVs for the PL and the project team members shall be attached as ETRP Annex 1 in the application.

- The PL shall highlight any plans to leverage on collaborations local/international and articulate the value of such collaborations to the project.

### Project Management

- The PL shall provide an overview of the proposed project management structure and its plans to increase the chances of a higher success rate of achieving the objectives of the project.
- PLs shall also highlight the international competitiveness of the project being proposed.

### Deliverables of Project

- A summary of the Key Performance Indicators (KPIs) for the project shall be provided.
- The KPIs proposed shall be linked to the objectives of the project and provide appropriate means of tracking/measuring the success of the project.
- PLs shall also use this section to highlight important outcomes that can be expected from the successful execution of the project.

No. of Patents or Intellectual Property to be generated	
No. of Researchers to be employed*	
No. of Research Man-months*	
No. of Papers published in leading journals/international conferences	
Others	

\*

\*Include Researchers, Scientists and Engineers (RSEs) and research scholars (Masters & PhDs)

### Detailed Project Schedule

- The PL shall state the estimated project duration in terms of calendar months.
- The PL shall also include a detailed project schedule (e.g. project time-line, Gantt chart) of major project activities and the milestone checkpoints. The PL shall give a brief description of each milestones and deliverables of the project. A sample format which you may like to follow is shown below:

Milestones & Deliverables*	Project Implementation Schedule							
	Year 1				Year 2 etc			
	Mth 1-3 Q1	Mth 4-6 Q2	Mth 7-9 Q3	Mth 10-12 Q4	Mth 13- 15 Q1	Mth 16-18 Q2	Mth 19-21 Q3	Mth 22-24 Q4
a.								
b.								

\* Deliverables refer to the objectives indicated in your original project proposal. This is to clearly state what applicant expects to achieve and deliver at the end of the project

## Cash-Flow Projections

PL shall state the estimated cash-flow for the project duration by each quarter of the year.

Cash-flow Projection	Year 1 (\$)				Year 2 (\$)				Year 3 (\$)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Expenditure on Manpower (EOM)												
Equipment												
Other Operating Expenditure (OOE)												

### 3.2 Declaration of other funding support

Applicants shall provide the details for all grants currently held or being applied using the format given below. Grants include those supported by or currently under consideration by NRF, A\*STAR, MOE, other public funding agencies etc (e.g. PUB, TEC, IES) and the universities.

Grant Title & ID	Funding Agency	Status	Amount (S\$ '000)	Years of Support	Expiry Date	Role Played

### 3.3 Declaration on whether Research work involves GMOs

Research work involving GMOs is governed by the “Singapore Biosafety Guidelines for Research on Genetically Modified Organisms (GMOs)” issued by the Genetic Modification Advisory Committee (GMAC) of Singapore. The PL shall declare using the table below whether the proposed research work involve the use of GMOs, be responsible for risk assessment and management and seek the approval of the Institutional Biosafety Committee (IBC) where required.

This Project involves the use of Genetically Modified Organisms (GMOs).	Yes /No*
If yes, please indicate the Category of research work according to the “Singapore Biosafety Guidelines for Research on GMOs”. (Refer to <a href="http://www.gmac.gov.sg">http://www.gmac.gov.sg</a> )	A / B / C*
Note: For Category A or B projects, please attach IBC’s approval letter together with proposal submission. For Category A, PL shall submit GMAC acknowledgement before commencing the project.	

\* Delete where not applicable

#### 4. Technical Attachment (2 pages)

The project proposal shall contain up to two pages of technical attachment and may include the following:

- Schematics diagram of the process;
- Photographs;
- Technical brochures; and
- Laboratory test results etc.

#### 5. Format of Declaration Form

The applicant shall include a duly signed and endorsed Declaration Form together with their ETRP submission to the NEA. The format of the Declaration Form is shown below.

### Declaration Form

I declare that the facts stated in this application and the accompanying information are true. I declare that my Organisation is also free from any litigation pertaining to the project in Singapore or overseas.

Project Title			
Organisation			
Project Leader (Applicant)		Contact Number	
Designation		E-mail Address	
Mailing Address			
Signature and Date			

	Project Supported <sup>1</sup> by	Project Endorsed <sup>2</sup> by
Name		
Designation		
Signature and Date		

<sup>1</sup> Project is to be supported by either the Head of Department, Organisation Research Director or equivalent.

<sup>2</sup> Project is to be endorsed by either the Dean of Institution, Chair of Faculty, Organisation CEO, MD or equivalent.

**6. Notes of Annexes 1 & 2**

**ETRP Annex 1: Curriculum Vitae (CV)**

Applicant shall include his/her CV and project members' CV in the proposal. Each CV shall be limited to one page.

**ETRP Annex 2: References and synopsis of papers (2 pages)**

Applicant shall include the references that are relevant to the project proposal. The applicant may also include synopsis of papers as part of ETRP Annex 2. The applicant shall submit the full paper upon request by ETRP secretariat.

## Part 3 Detailed Budget Estimates

1. The applicant shall use this section to estimate the project budget required to carry out their proposed research project. Applicant shall exclude the GST amount in estimating their project budget.

2. The following categories of organization will qualify for up to 100% funding support of approved qualifying direct costs:

- Institutes of Higher Learning;
- Public Sector Agencies; and
- Not-for-profit Organization and Research Laboratories

Companies and For-Profit Research Entities shall qualify for up to 70% of the approved qualifying direct costs of the project.

3. The applicant shall provide the detailed budget estimates for each of the following cost items:

- a. Expenditure on Manpower (EOM)
- b. Equipment
- c. Other Operating Expenses (OOE)
  - i. Materials and Consumables
  - ii. Subcontracting of Non-research Work
  - iii. Other Costs
- d. Indirect Cost
  - i. Intellectual Property Protection/Commercialisation

4. The format on how to fill up the Funding Details is shown after this paragraph. The Project Leader shall use the excel spreadsheet “ETRP Annex 3 : Funding Details” to tabulate a list of the requested funding items. The applicant shall use one row for each cost item and may insert additional rows accordingly. The Funding Details spreadsheet can be downloaded from <http://app2.nea.gov.sg/ETRP.aspx> and shall be submitted together with the application. Applicants are also requested to read ETRP Annex A: “Notes on Funding Details” as it provides guidance and additional information of the funding details.

## ETRP Funding Details

### 1. Expenditure on Manpower (EOM)

Please provide details for the manpower in a separate attachment. In the details for each manpower requirement, please explain their involvements and declare what portion of their salary is dependent on the outcome of R&D grants.

No	Name	Monthly Salary (S\$)	Man-months	Total Cost (S\$)
1				
2				
3				
<b>Sub-Total (EOM)</b>				

### 2. Expenditure on Equipment (Equipment)

Please provide justification in a separate attachment. Please explain and declare why existing similar equipment (if any) could not be used for the project. Unit and total costs shall exclude the GST amount.

No	Description	Proposed Quantity	Unit Cost (S\$)	Useful Life of Equipment (months)	Total Cost (S\$)
1					
2					
3					
<b>Sub-Total (Equipment)</b>					

### 3. Other Operating Expenses (OOE)

#### 3.1 Material & Consumables\*

No	Description	Local or Import	Total Cost (S\$)
1			
2			
3			
<b>Sub-Total (OOE : Material &amp; Consumables)</b>			

### 3.2 Subcontracting of Non-Research Work\*

No	Description	Local / Foreign	Related Coy (Y/N)	Total Cost (\$)
1				
2				
3				
<b>Sub-Total (OOE : Subcontracting)</b>				

### 3.3 Other Costs\*

No	Description	Total Cost (\$)
1		
2		
3		
<b>Sub-Total (OOE : Other Costs)</b>		

\* Please provide justification in separate attachments. Total costs for all items under other operating expenses (OOE) shall exclude the GST amount.

## 4. Summary of Direct Funding Costs

Items	Costs (\$)
<b>1. Expenditure on Manpower (EOM)</b>	
<b>Sub-total of EOM</b>	
<b>2. Equipment</b>	
Equipment (Purchase price < \$100K)	
Equipment (Purchase price > \$100K)	
Software	
<b>Sub-total of Equipment</b>	
<b>3. Other Operating Expenses (OOE)</b>	
Materials and Consumables	
Subcontracting of non-research work	
Other Costs	
<b>Sub-total of OOE</b>	
<b>Total Direct Funding Costs Requested</b>	

## 5. In-Kind Contribution

Applicant may include in-kind costs contributed by the organization to conduct the research project. Relevant details (e.g. man-months and monthly salary, Net Book Value of existing equipment, remaining equipment life etc.) shall be provided according to the format shown below.

No	Description	Total Cost (\$)
1		
2		
3		
<b>Total In-kind Contribution</b>		

## Notes on Funding Details

### 1 General Instructions

The applicant shall use the ETRP Annex 3: "Funding Details" spreadsheet to fill in the requested grant amount and submit it together with their project proposal. Applicant shall check that the numerical inputs and all calculations in the submission are correct. Please indicate "Not Applicable" (N.A.) for items that do not require funding. All amounts shown in the project submission shall be in Singapore Dollars. GST amount is to be excluded for all Direct Funding Costs items.

### 2 Expenditure on Manpower (EOM)

2.1 The ETRP will reimburse the Expenditure on Manpower

- EOM for research staff who are employed specifically to conduct and support R&D content of the project.
- Existing staff whose salary depends solely on the R&D projects secured may be considered for funding and eligible for reimbursement. Please provide justification in a separate attachment.

2.2 Monthly salary shall include basic salary, employer CPF contribution, other costs such as bonuses, staff insurance (which are in line with formal policy of host institution and is consistently applied regardless of funding sources). In addition, medical and dental benefits are also allowed. Allowances such as overtime, housing allowance, settling-in fees and transport shall be excluded.

2.3 The Project leader (PL) shall provide the following justifications for each manpower personnel requested including but not limited to:

- A detailed job scope,
- Justification for time required,
- Qualification/expertise required.

### 3 Equipment

3.1 The PL shall provide the basis and justification for the purchase of any equipment (e.g. the purpose of the equipment and how it would be applied to the project). In addition to justification for the purchase of the equipment, the PL shall also submit 3 price quotations for equipment costing more than \$100K.

3.2 The PL shall declare whether a similar piece of equipment currently exists within the organisation for each piece of equipment that is proposed to be purchased. For equipment, which already exists within the organisation, the PL shall first try to make

internal arrangements to use the equipment instead of buying a new piece of equipment.

3.3 For PLs who wish to purchase new equipments (which already exist within the organization), the PL shall show evidence that they would not be able to rent or utilize the existing equipment. For example, PL could provide a photocopy of the log-book to show that the existing equipment is being overused or a statement from equipment owner on why the equipment could not be shared. In general, no new equipment shall be purchased during the last six months of the project period.

3.4 A pro-rated capital cost approach shall be adopted for non-specialised plant and non-dedicated equipment. The formula is as follows:

$$\text{Qualifying Cost} = \frac{\text{Equipment Cost} \times \text{No. of months equipment is used for project}}{\text{Useful life of equipment*}}$$

Where \* is based on Income Tax Act Sixth Schedule (Number of year of working life of assets)

3.5 Only specialised and dedicated software used for the project shall be supported. Software for office use shall not be supported.

## **4 Other Operating Expenses (OOE)**

### **4.1 Materials and Consumables**

Examples of supported items are specialised laboratory supplies, materials and consumables. Examples of items that are not supported are stationery, printer consumables, basic laboratory consumables, books, journals, manuscript and reports.

### **4.2 Sub-Contracting of Non-Research Work**

This refers to non-research work such as analytical testing, use of specialised laboratory and development of tools for the research. Outsourcing of R&D work is not supported. Professional services from a foreign company are allowed only if such services are not available in Singapore. Audit fees are not supportable.

### **4.3 Others**

The 2 main cost items to be classified under OOE Others are: "Rental of Equipment and Maintenance" and "Cost of Living Allowances".

#### **4.3.1 Rental of Equipment and Maintenance Cost**

The PL shall provide the cost breakdown for the rental of each piece of equipment and show how the cost is computed by stating the utilisation time and the charge rate for each piece of equipment. The maintenance cost for equipment bought under the project can be claimed under OOE. Rental for existing equipment will not be supported.

### 4.3.2 Cost of Living Allowances

The ETRP will support the Cost of Living Allowances (COLA) and airfare of overseas experts involved directly in project. The job scope and deliverables for the overseas experts shall be clearly stated. The PL shall also provide a breakdown on the COLA (accommodation, salary/allowance, period of attachment etc.).

A list of the main allowable funding items are:

- Airfare is for the round-trip and based on economy-class rates;
- COLA includes tourist-class accommodation, salary/allowance and road transport and shall follow existing rates from organization or government. In calculating COLA, the "number of days" should not include travelling time.
- Local and Overseas conference trips are not supported.

## 5 Overhead Costs

Overhead Costs applies only to IHLs, public sector agencies and not-for-profit research organizations. Please **DO NOT** include the following costs in your budget estimates. For IHLs, public sector agencies and not-for-profit research organizations, these costs would be funded up to 20% of the total Qualifying Direct Cost excluding exceptional items<sup>3</sup>. Examples of Overhead Costs includes :

- Audit, legal, marketing or consultancy fees
- Utilities and telecommunications costs
- Maintenance and repairs of existing equipment and facilities
- Lease/Rent of land
- Insurances
- Purchase of books, manuscripts or reports
- Basic laboratory consumables etc.

## 6 Other Indirect Costs

6.1 Funding for IP protection and commercialization activities applies only to IHLs, public sector agencies and not-for-profit entities. The maximum funding shall be capped at 10% of the total Qualifying Direct Cost excluding exceptional items<sup>3</sup> (i.e. 5% for IP protection and another 5% for commercialization activities). Other Indirect Costs will be computed by the NEA.

6.2 Commercialisation activities refer to preparatory works leading to proof of concept, prototyping, etc. To qualify for funding for this category, the funded R&D organisation shall provide documentary proof to show that all commercial rights are based in Singapore and present an account on the use of the funds on an annual basis to the NEA.

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<sup>3</sup> Exceptional items are equipment costing more than \$100,000 and subcontracting of non-research work (e.g. the development of tools for the research)