

## Terms of Reference for consultancy work for assessment of skills and knowledge gap in energy efficiency within the transport sector in Sri Lanka

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### 1. Background

Improving energy efficiency is widely recognised as an action for addressing climate change and contributing to sustainable development. The sustainable development goals include access to affordable, reliable, sustainable and modern energy for all as goal 7 with the target to double the global rate of energy efficiency by 2030 (Target 7.3). To achieve the ambition of doubling the rate of energy efficiency and for governments to accelerate the development of public-private energy efficiency implementation projects will require the right mix of people and skills. There is a need to support initiatives with skills and knowledge, both among the in-service professionals working in the energy efficiency sector and individuals proceeding out from the educational system, which sets in the need to review the taught programs in secondary and tertiary technical high schools, as well as in universities

Copenhagen Centre on Energy Efficiency (C2E2) has initiated a program to help developing countries improve skills for energy efficiency. Within this program in Sri Lanka, basic questions start from understanding,

1. What are the different components within the transport sector where energy efficiency projects can be implemented? What are the skills required for each of this component?
2. What are the current skillsets among the professionals working on energy efficiency in the transport sector in Sri Lanka and how and when where these skills acquired?
3. Is the educational system in Sri Lanka tuned up to provide the required skills?
4. What changes and modification need to be made to the current programs so that they can provide the required skills?

Sri Lanka is an island state with a population of around 21 million and total GHG emissions of 12,588 GgCO<sub>2</sub> in 2010. The per capita GHG emissions are well below the world average. The transport sector accounts for 40% of GHG emissions and 77% of oil demand in 2010 in Sri Lanka. The transport sector also plays a critical role in economic growth and is an important enabler for the service sector, which contributes to 59% of GDP. Improvement of energy efficiency and reducing dependence on oil within the transport sector will also help in reduction of GHG emissions.

Out of 160 NDCs submitted as of August 1, 2016, more than three quarters explicitly identify the transport sector as a mitigation priority, and more than 63% of INDCs propose transport sector mitigation measures. Sri Lanka's NDC comprises of 11 main NDCs in the transport sector.

1. Establish energy efficient and environmentally sustainable transport systems by 2030.
2. Upgrade of Fuel Quality Standards (FQS) to reduce harmful emissions that cause environmental pollution and health hazards.
3. Reduce unproductive transport systems from current usage.
4. Shift passengers from private to public transport modes.
5. Enhance the efficiency and quality of public transport modes.
6. Reduction of GHG emissions in the maritime sector.
7. Gazette new emission standards to reduce GHG emissions.
8. Encourage and introduce low emission vehicles such as electric and hybrid.
9. Reduce traffic congestion in order to reduce GHG emission.
10. Reduction of GHG emissions in the aviation sector.
11. Establishment of a database management system for monitoring NDCs of transport sector.

Efficiency improvement is one of the key levers for the decarbonisation of transport. Improving the energy efficiency of transport modes and vehicles is hence the focus of a number of these NDCs (highlighted in yellow). The efficiency improvements will happen by making the overall transport system more energy efficient, by removing inefficient vehicles from the stock, enhancing the performance of available technologies and deploying new technologies such as hybrid and electric vehicles. All these three things will happen when there is an improved enabling environment (policies, regulation), a more efficient value chain for transferring efficient technologies from manufacturers (importers) to consumers and better infrastructures, service and support services.

Efficiency improvements cut across road, rail, maritime and air transportation but technologies, regulations and institutions are quite different for each of these sectors. Transport in urban areas is limited to road and rail transport and efficiency improvements within urban transport contribute towards improvements in air quality in cities.

## 2. Objectives

The objective of this study is to make a contextual assessment of skills and knowledge gaps among professionals working on energy efficiency in the transport sector (mainly urban transport) and in the educational programs that train these professionals.

In doing so, the study will:

- Report on what skills are required for energy efficiency in the transport sector
- Report on existing skills of individuals working in the public and private sector on energy efficiency in transport sector
- Report on assessing the content of the programs taught in universities and technical schools and defining the gap of skills´
- Recommendations for policymaking on how to update educational profiles according to local needs and international state-of-the-art practices on this matter

### 3. Scope of Work

To help in achieving the above objectives, a study will be carried in steps mentioned below, and the results will be disseminated through a workshop. As part of the study, the consultant will undertake;

- a) An assessment of the demand for skills and knowledge amongst technicians, government officials and professionals working on the energy efficiency in the urban transport sector
- b) An assessment of the taught programs at universities and technical schools in terms of their coverage of energy efficiency skills and knowledge in programs.
- c) In consultation with C2E2 and the Ceylon Chamber of Commerce staff identify the education institutes to be surveyed and in-service professionals to be surveyed/interviewed and conduct the survey of education institutes and in-service professionals.
- d) Help in the organisation of a consultation workshop.

### 4. Deliverables

1. An inception report that will contain the methodology<sup>1</sup>, including a strategy to conduct the survey, questionnaires/survey forms/interview questions.
2. A report on the demand for skills and knowledge for working in the area of energy efficiency within transport sector based on a survey of technicians, government officials and professionals working in the sector (The report should include survey data)
3. A report on gaps in educational programs taught in the universities and technical programs and recommendations on how to update educational programs (The report should include survey data)
4. Dissemination workshop and workshop report

### 5. Budget

The budget for the consultancy contract is USD 17500. In addition to this budget, the consultant will separately budget and provide a lump-sum estimate for travel related to survey work as stated in the scope of work.

### 6. Qualifications and Skills

The appointed consultants should have:

- Postgraduate degree (desirable)
- Working knowledge and experience in the educational system of Sri Lanka.
- Experience in conducting surveys.
- Experience of working with data
- Ability and experience to interview government agencies and private sector
- Proficient analytical and writing skills and excellent English and Sri Lanka's local language communication skills

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<sup>1</sup> Inputs on methodology would be provided by C2E2

## 7. Working Arrangement

The consultants or consultancy will be retained on a contract with the C2E2 and payments based on deliverable output. They would be required to be available for the timely delivery of milestones throughout the project.

The consultant will work under the supervision of the Ceylon Chamber of Commerce and will agree on face-to-face workdays at its offices as per the progress of work.

## 8. Language

All outputs should be prepared and submitted in the English language to the Copenhagen Centre for Energy Efficiency.

## 9. Time for completion

Nine months

## 10. Confidentiality and ownership of results

The contracted consultant is obliged to maintain confidentiality regarding the activities they carry out and the information they receive from the evaluated homes. The reports generated, and all products related to the object of the present contract will be the exclusive property of C2E2. Any publication or dissemination that the consultant requires to do on joint works, may only be executed after authorization of such by C2E2.