PART 1: THE ESSENCE OF THE (DRAFT) CRITERIA FOR DETERMINING UTILITY GREEN TARIFF

BACKGROUND AND IMPORTANCE

1. On 11 December 2010, the 16th United Nations Framework Convention on Climate Change Conference of the Parties (UNFCCC COP), or COP16, adopted the Cancun Agreement, which set the Long-term Global Goal (LTGG) of keeping the average global temperature rise not more than 2 degrees Celsius from that in the pre-industrial period and recognized the need to consider stepping up the LTGG to be not more than 1.5 degrees Celsius, which is expected to occur during the year 2030–2052, according to the best scientific knowledge available in at that time. Later, in September 2014, the RE100 group was formed, which is a group of globally influential and high-energy consumption businesses, with a common goal of becoming companies with 100% renewable electricity consumption by the year 2050. In order to be 100% renewable electricity consumption companies, they must match the total corporate electricity consumption of their global operations with the renewable energy generation.

2. On 12 December 2015, as a result of the COP21, the Paris Agreement was adopted, which has set a target for the international community to jointly limit the increase in global average temperature not to be more than 1.5–2 degrees Celsius by the year 2100.

3. On 11 December 2019, the European Commission published the European Green Deal policy document that sets a goal of achieving zero greenhouse gas emissions for the EU by 2050. Later, on 14 July 2021, the European Union (EU) published a bill on the Carbon Border Adjustment Mechanism (CBAM)—a measure set by the European Commission to reduce EU greenhouse gas emissions in line with international commitments to global warming reduction. The CBAM will adjust the cost of certain imported goods to reflect the real carbon emissions of the manufacturing process of those goods and to prevent imports of products with emissions higher than the EU standards into the EU. In addition, there is a tendency for other countries to introduce similar measures. As a result, electricity consumers, especially in the export industry, demand electricity from renewable energy in a manner that can be used to declare greenhouse gas emissions in accordance with methods and standards consistent with these measures to prevent cross-border carbon fines and to maintain competitiveness.

4. On 10 March 2021, the Office of the Securities and Exchange Commission, Thailand, announced measures to reduce the fee for filing registration statements for securities offerings and annual registration statements for companies that disclose information about greenhouse gas emissions, which is an incentive measure according to the Sustainable Finance Initiatives for Thailand. In addition, the Ministry of Natural Resources and Environment is in the process of

drafting the Climate Change Act, which may require operators of certain types of businesses to report the volume of greenhouse gas emissions to the government, and the Ministry of Finance is undertaking a study to impose a carbon tax, both indirect charge on commodities and direct charge on the manufacturing process to be in line with the practice under the CBAM measure of the EU. All of these undertakings must have a process for monitoring and reporting the amount of greenhouse gas emissions in the manufacturing process in order to forge ahead with the reduction of Thailand's greenhouse gas emissions.

5. On 1 November 2021 and 15 November 2022, at the COP26 conference in Glasgow, United Kingdom, and COP27 in Sharm el-Sheikh, Arab Republic of Egypt, respectively, Thailand pledged its Nationally Determined Contribution with an aim to achieve carbon neutrality by 2050 and zero greenhouse gas emissions by 2065 in all sectors. In this regard, a goal has been set to increase the production of zero-emission vehicles to 30% of the total vehicle production by 2030, to increase the share of renewable energy in electricity generation by at least 50% by 2050 and to support the use of CO_2 capture technologies at a commercial scale before 2040.

6. On 20 and 22 April 2022, the Energy Regulatory Commission (ERC) considered the development of electricity Tariff in the form of Green Tariff for use in general. Later, at its meeting held on 26 October 2022, the ERC passed a resolution, directing the OERC to present the ERC's opinions and recommendations to the National Energy Policy Council (NEPC) for consideration of policy formulation and setting guidelines for determining Utility Green Tariff pursuant to Section 64 of the Energy Industry Act of 2007.

7. The NEPC, at its meeting on 7 November 2022, passed a resolution, approving the guidelines for determining Utility Green Tariff under the retail electricity tariff structure, comprising:

(1) Utility Green Tariff of existing renewable energy (RE) power plants in the electricity system. Under this rate, the Renewable Energy Certificates (RECs) of existing state-owned power plants will be used in providing green electricity in conjunction with the provision of electrical energy services, and electricity consumers do not have to specify the source of electricity and REC when requesting services. There will be an additional service charge (Premium) in addition to the normal electricity tariff, which covers the cost of REC, including other components as may be determined by the ERC in the future.

(2) Utility Green Tariff of new RE power plants and existing RE power plants, both state-owned and private, in the electricity system. Under this rate, the provision of electrical energy and REC comes from the same source and electricity consumers must specify a portfolio of power plants when requesting services; the Tariff will be determined based on the cost of electricity

services and REC of each portfolio, including other components as may be determined by the ERC in the future.

With regard to the determination of the components and structure of the two UGT rates, including the allocation of service costs to general electricity consumers to cover public costs and related implementation methods and conditions, the ERC will further consider the regulation of those issues under the Energy Industry Act of 2007 to ensure transparency and fairness to all power consumer categories. (Details are shown in Figure 1.)

8. The ERC, at its meetings held on 1 and 15 February 2023, considered the (Draft) Criteria for Determining Utility Green Tariff pursuant to Section 65 of the Act and gave consent to having the OERC arrange a hearing to obtain opinions for further ERC consideration.

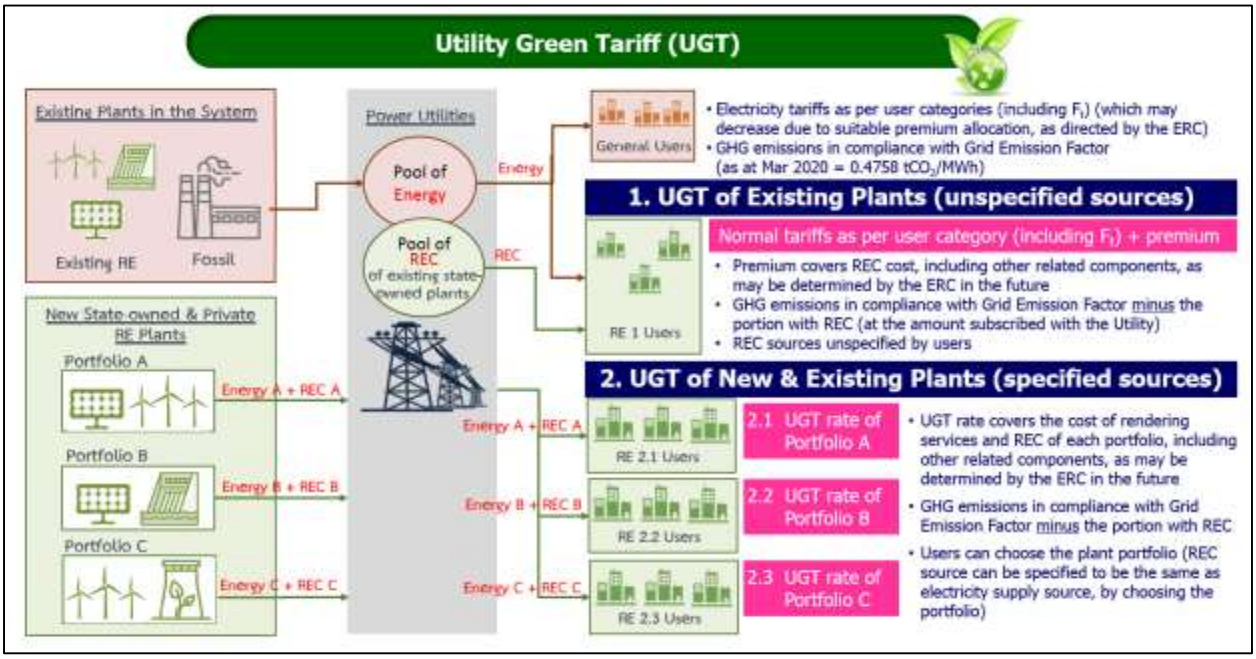

Figure 1: NEPC resolution (7 Nov 2022) regarding the guidelines for determining Utility Green Tariff

OBJECTIVES

1. To provide an option for power consumers who want to declare the use of electricity generated from renewable energy to increase their competitiveness and to request benefits from concerned agencies, and to drive the goal to reduce greenhouse gas emissions of the organizations, of Thailand and of the world.

2. To maintain Thailand's comparative advantage in attracting foreign investment to achieve sustainable development goals.

3. To set electricity Tariff that reflect the cost of services based on the principle of proportionality and the beneficiaries pay principle as well as to reduce the burden of promoting renewable energy in the power system in the long run.

PRINCIPLES

1. The Cabinet, at its meeting on 9 September 2003, stipulated that Thailand's electricity industry structure be of the Enhanced Single Buyer (ESB) model, with the Electricity Generating Authority of Thailand (EGAT) being responsible for the generation and transmission of electricity and being the sole purchaser of electricity, sending electricity to the Distribution Utilities, i.e. the Metropolitan Electricity Authority (MEA) and the Provincial Electricity Authority (PEA). On 23 February 2021, the Cabinet announced the National Reform Plan (revised edition) and relevant agencies have been studying the restructuring of the entire electricity industry and competition enhancement, of which the determination must be carefully considered in order to ensure energy security, fairness and to maintain the comparative advantage of the country. As a result, while pending the electricity industry restructuring, the provision of green electricity services in Thailand that complies with international standards will be operated by the three Power Utilities (Utility Scale).

2. Utility Green Tariff with Unspecified Sources (UGT1) and with Specified Sources (UGT2) have different principles for setting Tariff with the use of Renewable Energy Certificates (RECs) as follows:

UGT1 involves the service provision relating to procuring and claiming REC from existing power plants in the system, in addition to the normal electricity service provision. The Utilities will collect purchase orders from each power user without specifying the source, which may start at 100 kWh, to procure REC (1 REC = 1,000 kWh) that covers the orders of all power consumers combined before delivering electricity with a proper REC claim to each power user according to the ordered amount; the commitment term under the contract is short (0–1 year). Therefore, the additional service that UGT1 users will receive from the Utilities is related to REC only, and hence the premium will involve only this part and will be an additional item on the normal electricity bill, according to the Beneficiaries Pay Principle. With this type of service provision, retail power consumers will have access to green electricity services, and the electricity tariff structure is still the same as the normal structure of each power consumer category pursuant to the policy which stipulates that power users under the same category use electricity at the same rate throughout the country (Uniform Tariff).

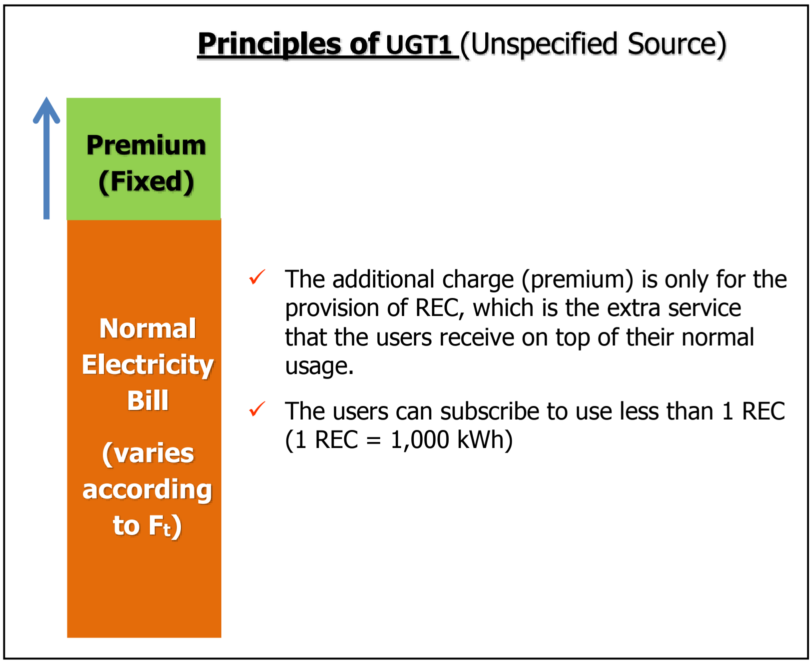

Figure 2: Principles for making the (Draft) Criteria for Determining Utility Green Tariff with Unspicified Source (UTG1)

UGT2 provides an opportunity for power consumers with large-scale energy requirements who want to drive an increase in the RE proportion in the power system to take on the burden of developing new RE power plants in the portfolio that has been chosen to provide services so that other electricity users would not have to bear those burdens. The Power Utilities will provide services relating to the execution of contracts according to the Sleeved PPA principle and manage the matching of electricity together with REC from RE power plants with electricity demand of each power user for each portfolio; the contract term is 10-25 years. Therefore, for this type of electricity Tariff, the tariff structure is designed differently from other electricity tariff structures because the duration of electricity generation from the portfolio is uncertain. The setting of tariff rates will be based on the principle of separating the cost of rendering services into the portion that electricity users still receive from the power system like other power users and the portion that is switched to be provided by the selected portfolio, which consists of the utility avoided cost and the cost of rendering services in addition to normal services. So, the UGT2 rate of each portfolio will be different from others, i.e. not a Uniform Tariff, and reflects the Ramsey pricing principle.

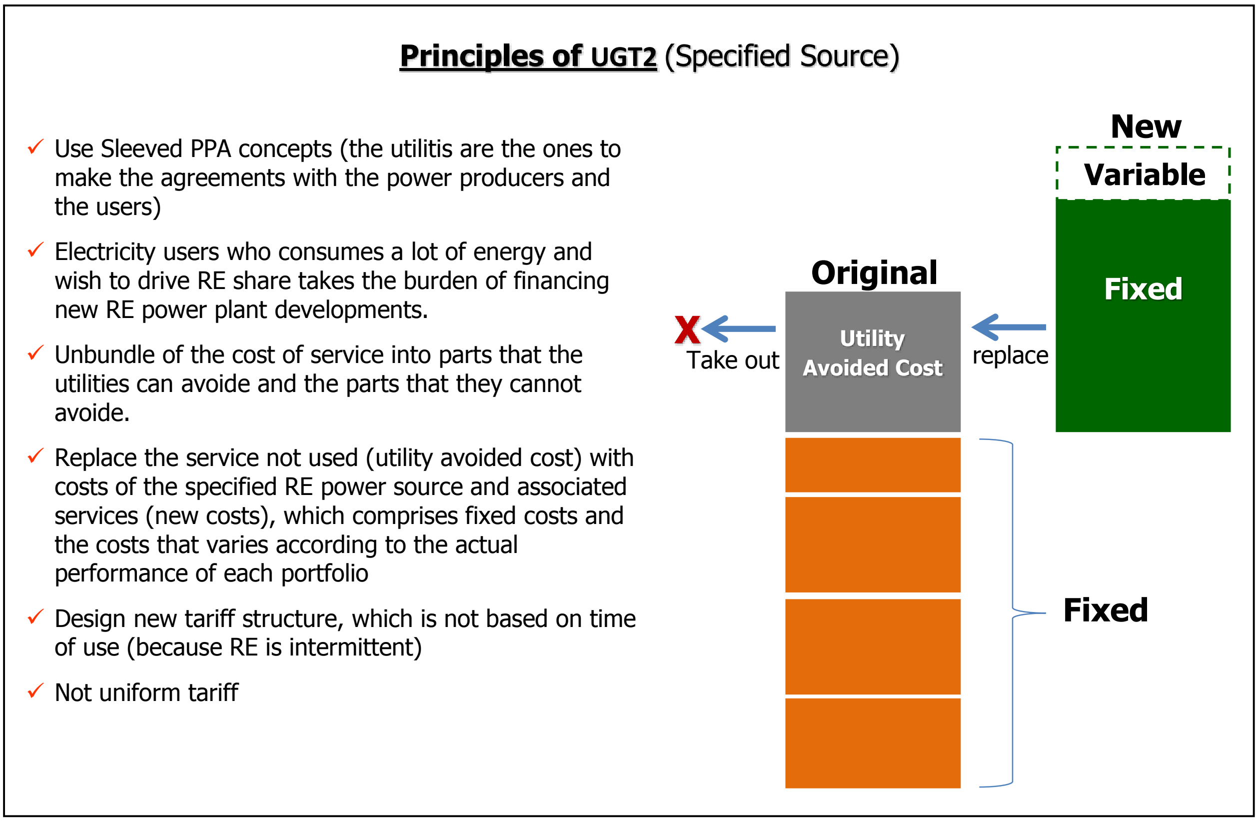

Figure3: Principles for making the (Draft) Criteria for Determining Utility Green Tariff with Spicified Source (UGT2)

HEARING PROCEEDINGS AND IMPLEMENTATION PLAN

1. Hearing Proceedings

1.1 Arrange a hearing from the general public via the OERC website (www.erc.or.th) from 21 February 2023 to 7 March 2023. Interested individuals can express their opinions via the message box on the hearing page on the website or send an email to sarabun@erc.or.th by addressing to the Director of Energy Innovation and Regulatory Development Department and clearly specifying the hearing topic.

1.2 Arrange a seminar to provide clarification and obtain opinions in the form of Conference Call via online meeting applications on 2 March 2023.

1.3 Arrange Focus Group hearings on specific issues, to be scheduled on a case-by-case basis, from 21 February 2023 to 7 March 2023.

2. Implementation Plan

Activity	Timeline
1. Hearing on (Draft) Criteria for Determining Utility Green Tariff (UGT)	21 February 2023 – 7 March 2023
2. Deliberation on the Criteria for Determining UGT	by March 2023
3. Power Utilities propose their UGT rates	by May 2023
4. Hearing on the UGT rates and deliberation on the UGT rates	by June 2023
5. Power Utilities announce their UGT rates and open for requests for service	by July 2023