

## TERMS OF REFERENCE FOR STUDY:

### FINANCING THE ENERGY TRANSITION IN TURKEY FOR A GREEN NEW DEAL

#### 1. Background

SHURA Energy Transition Center contributes to decarbonisation of the energy sector via an innovative energy transition platform. It caters to the need for a sustainable and broadly recognised platform for discussions on policy, technological, and economic aspects of the Turkey's energy sector. SHURA's mission is to support the debate on transition to a low-carbon Turkey's energy system through energy efficiency and renewable energy by fact-based analysis and best available data. Taking into account all relevant perspectives by a multitude of stakeholders, the center contributes to an enhanced understanding of the economic potential, technical feasibility and the relevant policy tools for this transition. SHURA Energy Transition Center is founded by European Climate Foundation (ECF), Agora Energiewende and Sabancı University (SU) Istanbul Policy Center (IPC).

In line with this mission, SHURA provides a wide range of knowledge products and services to the Turkish energy community through thematic work clusters of policy, economics, technology and strategic partnership and dialogue across all sectors of the energy system, power, heating and cooling and transport.

#### *Outcomes of SHURA's 2019 study "Financing the energy transition in Turkey"*

In 2019, SHURA released a study on financing the energy transition in Turkey with emphasis on renewable energy and energy efficiency financing<sup>1</sup>. The objective of the study was to evaluate the need for financing renewable energy and energy efficiency investments in Turkey, and to develop recommendations for financial institutions, investors and the public sector in enabling a more sustainable investment environment. Specifically, the study focused on:

- Presenting global trends in financing the energy transition by identifying opportunities, challenges and successful examples;
- Determining the investment and financing needs for Turkey's energy transition, and identifying financing options;
- Developing action areas for diversifying and expanding financial resources suitable for energy transition investments;
- Developing action areas for the public sector, financial institutions and investors on how effective models for energy transition financing can be developed and implemented.

The study was carried out at a time when both the demand side and the supply side of energy financing in Turkey was going through an uncertain period after a major transformation during 2002-2018. The period had seen total primary energy demand go up by 90% with both energy investments and energy imports increasing to meet the rising demand. Investors and financial institutions developed their capacity in project feasibility with the support of stakeholders including public institutions, international

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<sup>1</sup> [https://www.shura.org.tr/wp-content/uploads/2019/10/Financing\\_the\\_Energy\\_Transition\\_in\\_Turkey\\_Executive\\_Summary.pdf](https://www.shura.org.tr/wp-content/uploads/2019/10/Financing_the_Energy_Transition_in_Turkey_Executive_Summary.pdf)  
[https://www.shura.org.tr/turkiyede\\_enerji\\_donusumunun\\_finansmani/](https://www.shura.org.tr/turkiyede_enerji_donusumunun_finansmani/)

financial institutions and technology companies while policymakers enabled a great transformation in the implementation of an efficient market mechanism from design to operation. The gross investment in "electricity, gas, steam and air conditioning production and distribution" in the same period was nearly US\$110 billion. In addition, US\$10 billion was invested for improving energy efficiency. Of the 75 billion US\$ invested in power generation during this period, about 40 billion US\$ (53%) was for renewable energy investments. By the end of the period, the share of non-hydro renewables in total power generation went up from nearly zero to 16.5% while the share of fossil fuels declined from 61% to 52%. In addition, an average annual reduction of about 1.5% in primary energy intensity was achieved. Thus, the low carbon energy transition was already underway though a need for more directed policies was detected.

On the financing front, outstanding loans in the energy sector, including those for financing the energy transition, grew from less than 2 billion US\$ in 2004 to over 57 billion US\$ at the end of 2018, making the energy sector a primary recipient with a 7% share in total domestic loans. However, with the value of the Turkish Lira starting to decrease more rapidly since the middle of 2018, the uncertainty in Turkey's economy increased. While renewable energy generators which benefitted from foreign currency denominated feed-in tariffs were less impacted, the circumstantial regression led to a temporary interruption in the long-term planning of the energy sector. In order to overcome the difficulties inherited from the previous period and make headway in the energy transition, financing options needed to be thoroughly evaluated; financing sources diversified alongside the opportunities offered by new technologies; and innovative financing models developed.

Against this backdrop, SHURA's study assessed the financing needs for renewable energy and energy efficiency in Turkey, developing recommendations for financial institutions, investors and the public sector, through a close dialogue and participation of more than 100 national stakeholders from around 40 organisations, including several workshops. Taking into account stakeholder evaluations, the current situation in financing renewable energy investments between 2002 and 2018 was reviewed and analysed with respect to the effectiveness of investments, policies and legislations, as well as the financing conditions.

With regard to financing conditions for renewables, positive factors pertaining to this period were the access to substantially large, long-term foreign financing, and the roles played by development finance institutions, international export credit institutions and local banks, whose effectiveness in finance has improved as more experience was gained. However, financing was mostly based on renewable energy support policies and imperfections in the operation of energy markets have had a limiting effect. Financing was further limited by the inability to access alternative financing sources and models and by the lack of a policy framework specific to these alternative sources, as well as by the underdevelopment of capital markets. One other shortcoming identified with respect to this period is the lack of development of financing models and policy instruments for creating a distributed generation market. On the other hand, a significant portion of investments that resulted in energy efficiency was either a component of larger projects, or mostly financed by equity, as a result of which they were not reported as energy efficiency financing. The market for energy efficiency in general and for the specific case of energy service companies (ESCOs) are underdeveloped in comparison to the global trends.

*Progress being made in recommendations of SHURA's study*

Major emphases and recommendations of the previous study involved the formation of a specific definition, central fund and coordination mechanism for energy transition, particularly for energy efficiency and the identification of five action areas as follows: reinforcing the energy transition perspective and market mechanism, diversifying financing resources, increasing energy efficiency financing, developing renewable energy and distributed renewable energy resources. The focal point of the prognoses was the need to mobilise climate finance and increase access to financing from development finance institutions (DFIs) and institutional investors. Coordination and cooperation between major stakeholders, namely the public sector (government), international financial institutions, local financial institutions, energy companies and technology providers.

Even though less than a year has elapsed since the study was released, many of the report's forecasts and recommendations have begun to materialize:

- Small utility-scale auctions for solar and wind energy have been held and met with substantial investor and financier interest;
- Legislation on net metering has been passed and several investments by commercial and industrial users for self-generation have taken place;
- Draft legislation for certification and trading of renewable energy as a distinct product, facilitating spot and long-term PPAs, has been prepared;
- Several financial institutions have started offering special financing products for "green" energy production and consumption;
- New resources within the context of climate financing to be provided to Turkey by the government and DFIs are underway
- Secondary legislation facilitating the operation of ESCOs for public sector energy efficiency projects has been passed;
- Discussions in the public sector to establish a central coordination mechanism for energy efficiency have intensified.

Nevertheless, as explained in more detail in the technical scope section, financial conditions have become more difficult while new challenges and opportunities arising from post-COVID recovery and the Green New Deal need to be explored.

## **2. Objective**

The aim of the study is to identify the tools, options and policies for financing the energy transition as defined in SHURA scenarios on power system transformation with particular emphasis on renewable and energy efficiency within the context of a Green New Deal.

SHURA transition scenarios targeting by 2030, 10% savings in power consumption compared to the government baseline and minimum 50% share of renewable energy with 30% of the total comprised by wind and solar, will form the basis for the financing scenarios. In addition, electrification of the transport sector with 2.5 million electric vehicles and 1 million charging points as well as the deployment of a suite of flexibility options to enable grid integration of renewables are core parts of SHURA's vision of an energy transition of Turkey by 2030. The SHURA scenarios will require an annual average of 12.5 billion US\$ of investment creating a need for 7-9 billion US\$ outside financing, which is around 2 times the average amounts required in the previous period.

SHURA's preliminary assessment shows that the benefits of this transition would be a significant reduction in the adverse effects of fossil fuel use on human health that is currently valued at a minimum of around 10 billion US\$ per year in 2018<sup>2</sup>. In addition to potential health benefits, the transition scenario is expected to contribute to a significant reduction in greenhouse gas emissions, reducing the carbon intensity of power generation by 20-25% compared to the baseline scenario. From a financial perspective, by 2030, the amount invested in energy efficiency, distributed renewable energy and electrification is expected to yield 1.2-1.5 dollars of benefit for every dollar invested<sup>3</sup>.

The Green New Deal offers an international framework through which post-2020 energy transition investments and financing can be conceptualised. The European Green Deal, which aims to shape economic and social policies toward making the continent carbon-neutral by 2050, provides a new paradigm with other large economies, such as China, Japan and Korea following suit. In order to achieve a just transition within the context of the Green Deal, The European Union is planning to mobilise financial resources worth 100 billion Euro during 2021-2027. The Green New Deal, together with the concept of "green recovery" to overcome the economic problems caused by the COVID-19 pandemic, will be the mainstay of the habitat for Turkey's energy transition finance as an estimated one-trillion US\$ will be required in the energy sector as part of the International Energy Agency's Green Recovery Program.

### **3. Technical scope**

The previous finance study was based mostly on 2018 data and field work was carried out in the first half of 2019 when the effects of a currency crisis and economic slowdown in 2018 were still unfolding. In the meantime, in part due to the effects of the COVID-19 epidemic, macroeconomic conditions have become more difficult than the previous two years and the TL has further depreciated by about 30% against the Euro and about 28% against the USD since the end of 2018. The currency devaluation and high private sector debt levels denominated in foreign currency have resulted in changes and measures in the finance sector whose effects need to be assessed. One major change has been the increased role of public sector financial institutions to counteract the reduced ability or preference of private sector financial institutions in accessing sources of capital.

In addition to the economic impacts, the health impacts of the COVID-19 epidemic and the economic slowdown due to lockdown measures have resulted in heightened awareness of climate change issues. Temporary improvement in emissions due to reduced economic activity served as a motivation for combining economic recovery with a low carbon transition, resulting in global efforts for a "green recovery."

For Turkey, a post-CoVid-19 assessment within the context of the European Green Deal is necessary to understand the short, medium- and long-term needs for energy transition financing. As the European Green Deal, with its emphasis both on setting concrete targets and action plans to achieve carbon neutrality and financing a just transition is now becoming a new global blue print for the transition, Turkey is preparing to adapt to the new challenges and opportunities. This is evidenced as much by the

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<sup>2</sup> <https://www.shura.org.tr/turkiyede-elektrik-uretimi-ismetma-ve-karayolu-tasimaciliginda-fosil-yakit-kullaniminin-dissal-maliyeti/>

<sup>3</sup> <https://www.shura.org.tr/executive-summary-the-most-economic-solution-for-turkeys-power-system-energy-efficiency-and-business-models/>

preparations for proposing a Climate Law in 2021<sup>4</sup> and the various attempts to access EU funds for a green transition<sup>5</sup>. Therefore, the Green Deal is relevant for Turkey both as a global model to adopt and as a source of possible funding for financing the transition. A further rationale for focusing on the Green Deal is the need to maintain competitiveness in light of new cross-border requirements in international trade such as the carbon border adjustment mechanism that the EU is proposing to implement<sup>6</sup>. Financing the Energy Transition in Turkey for a Green New Deal, with broad stakeholder engagement encompassing finance, energy, private and public sector actors is proposed in this Terms of Reference. The study will seek to identify long-lasting effects of the financial changes in 2018-2020 within the context of the energy transition and the industrial transformation underway to maintain competitiveness. As renewable energy is becoming the most competitive option for power generation and energy efficiency is becoming a key factor in industrial competitiveness, it will be necessary to encompass a wider range of stakeholders and actors, including industrial consumers and technology providers who are likely to play a larger role in both energy supply/consumption and finance.

The scope of the study will be as follows:

- Green Deal in the European and global context and Post-CoVid-19 energy transition financing worldwide. What has changed- new challenges and opportunities;
- Brief update of the previous report to 2020 and current climate for energy transition financing in Turkey; reassessment of long-term targets and needs in light of baseline and SHURA transition scenarios; reassessing the recommendations in SHURA's 2019 report with a Green New Deal perspective.
- Opportunities for Turkey presented by the global green recovery effort and possible sources of financing by international and local public and private institutions;
- Going beyond broad policy areas identified in the previous report, formulating recommendations for identification and implementation of new financial products for Turkey for utility scale and distributed renewable energy with particular emphasis on innovative mechanisms such as green financial products, and others to be recommended by the consultant;
- Going beyond broad policy areas identified in the previous report, formulating recommendations for identification and implementation new financial products for Turkey with particular emphasis and assessment of energy funds and financing for and through ESCOs for energy efficiency;

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<sup>4</sup> The Ministry of the Environment and Urbanization has announced that the Climate Law will be proposed in the parliament in 2021 (<https://www.cevreclerji.org/murat-kurum-iklim-kanununa-htiyacimiz-var/>).

<sup>5</sup> The Ministry of Industry and Technology has announced preparations for accessing EU funds for the green and digital transition of the Turkish industrial sector ([https://yesilekonomi.com/sanayimizin-yesil-donusum-projelerinde-ab-fonlarindan-yararlanmasi-icin-calismalar-yurutuyoruz/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=sera\\_gazi\\_emisyon\\_izleme\\_tebliğinde\\_degisiklik\\_yapildi\\_guenluek\\_buelten&utm\\_term=2021-02-05](https://yesilekonomi.com/sanayimizin-yesil-donusum-projelerinde-ab-fonlarindan-yararlanmasi-icin-calismalar-yurutuyoruz/?utm_source=newsletter&utm_medium=email&utm_campaign=sera_gazi_emisyon_izleme_tebliğinde_degisiklik_yapildi_guenluek_buelten&utm_term=2021-02-05)).

<sup>6</sup> [https://www.shura.org.tr/wp-content/uploads/2020/05/SHURA\\_Agora\\_Border\\_Carbon\\_Adjustment\\_Turkey\\_EU.pdf](https://www.shura.org.tr/wp-content/uploads/2020/05/SHURA_Agora_Border_Carbon_Adjustment_Turkey_EU.pdf)

## Scope of Work

The study is expected to build upon the financial needs defined by the following SHURA scenarios and place them in the context of a Green New Deal Perspective.

1. SHURA scenarios on power system transformation (by 2030, 50% renewable energy share in power generation and savings in electricity demand of 10% compared to the government baseline);
2. SHURA scenarios for distributed renewable energy generation;
3. SHURA scenarios on energy efficiency and electrification in end use sectors; industry and buildings.

The investment needs above are defined by the relevant SHURA reports already completed and the study will concentrate on formulating the tools and policies for financing the investments. The consultant is expected to perform the following tasks:

### Task 1: Assessing the Global Financial Environment

- Literature review in global green deal efforts with particular emphasis on the European Green Deal and possible effects on financing;
- Literature review and assessment of the global financial environment and effects on the low carbon energy transition;
- Current trends in global COVID-19 recovery and green recovery packages, just transition and possible effects on financing the low carbon energy transition
- Literature review for identification of specific tools and policies for energy transition financing, reviewing existing tools in other countries or sectors to serve as input for Task 4.

### Task 2: Assessing the Financial Environment in Energy Transition Financing in Turkey

- Literature and data review for assessment of the financial environment in Turkey with particular attention to changes in energy transition financing;
- Assessing the extent to which recommendations in the previous report are followed and identifying the gaps;
- Evaluating the impact of post-2018 developments on the structure of financing;
- The possible impact of international developments, opportunities and risks stemming from the European Green Deal and the global transition.

### Task 3: Obtaining and Evaluating Stakeholder Input

- Building upon the previous study, proposing a list of stakeholders with particular relevance to the European Green Deal, green recovery and energy transition to be reviewed and approved by SHURA;
- Proposing and implementing a method for obtaining stakeholder input;
- Evaluating the input and combining it with the desk-research and analysis for formulation of recommendations for tools, options and policies.

### Task 4: Developing Recommendations

- Developing scenarios for financing to assess the effects of different financial models on the supply and demand for energy transition financing;
- Building upon the action areas in the previous report, assessing the potential and impact of central coordination and/or fund mechanisms for energy transition financing;
- Recommendations for identifying and implementing new financial products for utility scale and distributed renewable energy for Turkey with particular emphasis on innovative mechanisms, such as green financial products;
- Recommendations for new financial products for Turkey for energy efficiency with particular emphasis and assessment of energy funds and financing for and through ESCOs;

#### Task 5: Preparation of a report, datasheets and communication documents

- Preparation of a policy-friendly report in Turkish (about 60-80 pages, not exceeding 100 pages) and executive summary covering the findings, analysis and recommendations developed through the previous tasks;
- Preparation of extended datasheets that include data and analysis results to be shared with the SHURA team
- Preparation of policy briefs (minimum of 3 briefs, up to five briefs depending on the number and weight of recommendations)
- Preparation of a communication plan for outreach to publicize the report findings; formulation of proposals and outline documents for communication materials (presentations, infographics, etc.) and events (webinars, meetings, etc.).

#### **4. Deliverables and timeline**

The project is due to start in April 2021 and the work and draft final report completed end-November 2021. As this term of reference builds upon previous work by SHURA on both finance and the energy transition, the consultant is expected to be familiar with SHURA's work and present a detailed proposal on how to make the present study relevant for policy makers within the context of the changing financial environment and the Green New Deal. The consultant is expected to submit a detailed proposal as part of the application outlining their approach and suggestions on conducting the study. While the results are expected to be quantified to the extent made possible by available data and methods, qualitative analysis to make the material relevant and accessible to key stakeholders will be a crucial part of the work.

Policy briefs, communication plan and proposals and outline documents for communication materials are an integral part of the assignment and the consultant will be expected to write up the briefs and propose a communication plan and outline for other communication materials, such as infographics, slide decks, videos, and the like.

The price in the tender offer should only include remuneration for the efforts directly undertaken by the consultant and assistants as deemed necessary by the consultant. Costs of materials such as data sets, research materials and dissemination will be approved and assumed by SHURA separately.

<b>Deliverables</b>	<b>Timeline</b>
<b>Contract starts</b>	<b>April 2021</b>
Development of study concept, methodology, identification of data sources and development of an expert working group	May 2021
Tasks 1 & 2: Assessing the Global and Turkish financial environment for energy transition and green new deal- DRAFT Report	End-May 2021
Review of DRAFT by SHURA and expert working group	Mid-June 2021
<b>Final version Tasks 1 &amp; 2</b>	<b>Mid-June 2021</b>
Task 3: Obtaining and Evaluating Stakeholder Input	End-July
<b>Final version Task 3</b>	<b>End-July 2021</b>
Task 4: Developing Recommendations and Tools – Draft Report	End-July 2021
Review of Task 3 & 4 DRAFT by SHURA and Expert Working Group	Mid-September 2021
Stakeholder consultation meeting and other consultation	Mid-October 2021
<b>Final version Task 4</b>	<b>Mid-October 2021</b>
Task 5: Preparation of a report and datasheets – First Draft of Report	End-October 2021
Review of Task 5 DRAFT by SHURA and Expert Working Group	Mid-November 2021
Preparation of policy briefs	End November 2021
Preparation of communication plan and outline documents for communication materials	End November 2021
<b>Task 5 – FINAL VERSION OF REPORT and SUBMISSION of BRIEFS and OUTLINE DOCUMENTS for COMMUNICATION MATERIALS</b>	<b>End-November 2021</b>

## 5. Consultant Qualifications

The consultant is required to have the following qualifications:

- Minimum 15 years of experience in development finance and sector analysis;
- Demonstrated qualitative and quantitative analysis skills;
- Experience related to international and public policy research and writing;
- Advanced skills in policy analysis integrating desk research with interactive stakeholder input;
- Experience in engaging and eliciting responses from diverse stakeholders and developing policy recommendations;
- Demonstrated knowledge of the energy sector, low carbon energy transition and emerging issues of Green Deal and Green Recovery;
- Completion of previous consultancy work in energy transition finance encompassing broad stakeholder engagement in the Turkish context.

The consultant's qualifications should be demonstrated by solid experience, previous work and the proposal that will be submitted as part of the tender offer for the consultancy. The proposal to be submitted as part of the tender offer should clearly state and elaborate the methodology and types of background data to be used in the study and include information regarding the qualifications stated above.