ACTIVITY COMPLETION REPORT

ITS Technical Assistance to Tajikistan in the field of Energy Statistics in the extension period (Feb. 2015 – Jan. 2016)

(CWP.05.TJ)

INOGATE Technical Secretariat and Integrated Programme in support of the Baku Initiative and the Eastern Partnership energy objectives

Contract No 2011/278827

A project within the INOGATE Programme

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LDK Consultants S.A.
MVV decon GmbH
ICF International
Statistics Denmark
Energy Institute Hrvoje Požar
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<tr>
<th>Document title</th>
<th>Activity Completion Report</th>
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<td>ITS Technical Assistance to Tajikistan in the field of Energy Statistics in the extension period (Feb. 2015 – Jan. 2016)</td>
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<td>Document status</td>
<td>Final</td>
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<th>Name</th>
<th>Date</th>
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<td>15/03/2016</td>
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<th>Checked by</th>
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<th>Description</th>
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<tbody>
<tr>
<td>AM</td>
<td>Armenia</td>
</tr>
<tr>
<td>AZ</td>
<td>Azerbaijan</td>
</tr>
<tr>
<td>BY</td>
<td>Belarus</td>
</tr>
<tr>
<td>CCs</td>
<td>INOGATE Country Coordinators</td>
</tr>
<tr>
<td>CEs</td>
<td>INOGATE Country Experts</td>
</tr>
<tr>
<td>CNG</td>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>CWP</td>
<td>Country Work Plan</td>
</tr>
<tr>
<td>DSO</td>
<td>Distribution System Operator</td>
</tr>
<tr>
<td>EaP</td>
<td>Eastern Partnership</td>
</tr>
<tr>
<td>ECT</td>
<td>Energy Community Treaty</td>
</tr>
<tr>
<td>ECS</td>
<td>Energy Community Secretariat</td>
</tr>
<tr>
<td>EnC</td>
<td>Energy Community</td>
</tr>
<tr>
<td>EEIs</td>
<td>Energy Efficiency Indicators</td>
</tr>
<tr>
<td>ENP</td>
<td>European Neighbourhood Policy</td>
</tr>
<tr>
<td>ESAP</td>
<td>Energy Statistics Action Plan</td>
</tr>
<tr>
<td>ESN</td>
<td>Energy Statistics Network</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>GE</td>
<td>Georgia</td>
</tr>
<tr>
<td>HPP</td>
<td>Hydro Power Plant</td>
</tr>
<tr>
<td>ITS</td>
<td>INOGATE Technical Secretariat</td>
</tr>
<tr>
<td>IEA</td>
<td>International Energy Agency</td>
</tr>
<tr>
<td>KZ</td>
<td>Kazakhstan</td>
</tr>
<tr>
<td>KY</td>
<td>Kyrgyzstan</td>
</tr>
<tr>
<td>MCM</td>
<td>Million Cubic Meters</td>
</tr>
<tr>
<td>MD</td>
<td>Moldova</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-government Organisation</td>
</tr>
<tr>
<td>NPP</td>
<td>Nuclear Power Plant</td>
</tr>
<tr>
<td>NSI</td>
<td>National Statistical Institute</td>
</tr>
<tr>
<td>NSS</td>
<td>National Statistical Service</td>
</tr>
<tr>
<td>PCs</td>
<td>INOGATE Partner Countries</td>
</tr>
<tr>
<td>RWP</td>
<td>Regional Work Plan</td>
</tr>
<tr>
<td>RES</td>
<td>Renewable Energy Sources</td>
</tr>
<tr>
<td>TA</td>
<td>Technical Assistance</td>
</tr>
<tr>
<td>TAJSTAT</td>
<td>Agency on Statistics under the president of the Republic of Tajikistan</td>
</tr>
<tr>
<td>TJ</td>
<td>Tajikistan</td>
</tr>
<tr>
<td>TM</td>
<td>Turkmenistan</td>
</tr>
<tr>
<td>TPP</td>
<td>Thermal Power Plant</td>
</tr>
<tr>
<td>TSO</td>
<td>Transport System Operator</td>
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<tr>
<td>UA</td>
<td>Ukraine</td>
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<tr>
<td>UZ</td>
<td>Uzbekistan</td>
</tr>
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</table>
1 PART 1 – EUROPEAN COMMISSION

1.1 Background

<table>
<thead>
<tr>
<th>Assignment Title:</th>
<th>ITS Technical Assistance to Tajikistan in the field of Energy Statistics in the extension period (Feb. 2015 – Jan. 2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country and Dates:</td>
<td>TA delivered remotely and during a workshop on Energy Balance Compilation held in Zagreb on 2-4 November (RWP.13)</td>
</tr>
<tr>
<td>Beneficiary Organisation:</td>
<td>Agency on Statistics under the President of the Republic of Tajikistan (Tajstat), Ministry of Energy and Water Resources (MEWR)</td>
</tr>
<tr>
<td>Beneficiary Organisation - key contact persons – name and e-mail address:</td>
<td>See list of key persons and their contact details in Annex 2.4.1</td>
</tr>
</tbody>
</table>
| Deliverables Produced: | • Pilot Energy Balance For Tajikistan (2014 data)  
• Five Joint Questionnaires IEA/Eurostat/UNECE filled-in: Coal, Oil, Natural Gas, Electricity and Heat, Renewables  
• Activity Completion Report for activity CWP.05.TJ  
• Final Assessment Report |
| Expert Team Members: | • Mr Nicolas Brizard, Key Expert for Energy Statistics  
• Ms Alenka Kinderman Lončarević, Senior Non Key Expert for Energy Statistics  
• Mr Branko Vuk, Senior Non Key Expert for Energy Statistics  
• Mr Tomasz Trus, Junior Expert for Energy Statistics |

1.2 Essence of the Activity

Tajikistan is one of the nine INOGATE PCs that have agreed upon an Energy Statistics Action Plan (ESAP) with ITS. Tajikistani beneficiaries have worked actively to implement the ESAP during 2012-2016. The overarching objective of the Technical Assistance to Tajikistan started in 2012 was to improve its energy statistics systems and to increase the capacity of the Agency on Statistics (Tajstat) to collect and compile energy statistics harmonised with EU and international standards.

The main objective of activity CWP.05.TJ carried out during the extension period (February 2015-February 2016) was to assist the beneficiary organisations to produce the first national Energy Balance of Tajikistan and strengthen their ability to fill-in the five joint IEA/Eurostat/UNECE energy questionnaires.

Activity CWP.05.TJ was implemented partly during the regional workshop (RWP.13) to which Tajikistan was invited and partly through remote assistance provided during the preparation and follow-up phases of the workshop.
1.3 Key Findings

The main priority for Tajikistan was to develop an energy balance according to international standards. The development of energy efficiency indicators, price statistics and short-term statistics were not included in Tajikistan’s ESAP plan 2012-2014. However, the improvement of energy efficiency is one of the main policy issues in the country and Tajstat intends to develop new energy statistics which will, in the near future, support the calculation of energy efficiency indicators and energy savings.

With the assistance of the World Bank, Tajstat is now considering the introduction of a dedicated survey aimed at the improvement of data to be used to compile the Energy Balance. This project, which will include the development of an IT system, is expected to be launched in the fall of 2016 and produce its first results by the first half of 2017.

Thanks to INOGATE, Tajstat has improved its energy data collection system and has established a national Energy Statistics Working Group that includes Tajstat and the Ministry of Energy and Water Resources (MEWR). Several meetings were held in the last few months. Tajikistan has used the ESAP as a roadmap to improve its energy statistics.

Tajstat acknowledges that the questionnaires proposed by ITS are relevant and that they use them to collect data. With ITS recommendations, new forms for energy data collection have been introduced and final energy consumption data has been collected using the new forms in the industry and services sectors. Tajstat plans to add questions on energy consumption in households in the family budget survey which has a sample of 3,000 households.

1.4 Ownership and Benefits of the Activity

<table>
<thead>
<tr>
<th>Technical Assistance provided by ITS</th>
<th>Actions undertaken by the NSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Remote technical assistance in the preparation and compilation of data for energy balances and the five IEA/Eurostat/UNECE joint questionnaires</td>
<td>• Compilation of relevant datasets appropriate for compiling energy balance based on the requests from ITS experts</td>
</tr>
<tr>
<td>• Prepared ad hoc capacity building tools for Tajstat to compile its first energy balance using ITS’ tailor-made model and the five joint IEA/Eurostat/UNECE questionnaires. These tools were prepared using real data collected from Tajstat</td>
<td>• Pilot energy balance for 2014 compiled</td>
</tr>
<tr>
<td>• 3-day workshop on energy balance compilation in Zagreb in November 2015 (RWP.13)</td>
<td>• Five IEA/Eurostat/UNECE questionnaires for 2014 filled in and submitted to the IEA</td>
</tr>
<tr>
<td>• Prepared a list of recommendations for priority follow-up activities for the short-term and the medium-term</td>
<td>• Continued the preparation of new and more detailed surveys in households, services and industry</td>
</tr>
<tr>
<td>• Tajikistan representatives from the NSI and the Ministry of Energy also participated in complementary activities: the Seminar on the use of energy statistics in energy planning (June 2015, Chisinau, Moldova) and the ESN meeting (in November 2015, Tbilisi, Georgia)</td>
<td></td>
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</table>
1.5 Challenges Faced

During the revision of the first energy datasets submitted by Tajstat in 2013, ITS experts identified a lot of gaps and important missing energy data. It was expected that Tajstat would collect some of this data during 2015 for the compilation of the 2014 energy balance as had been agreed during the last TA Mission to Tajstat in 2014. It appeared, ahead of the Zagreb workshop in November 2015, that the collection of the required data using the methodologies proposed by ITS had been postponed to 2016 for a number of reasons. As a result, ITS experts prepared a special concept for the compilation of Tajikistan’s energy balance for 2014 which was based on the combination of official data and expert estimates where necessary.

1.6 Recommendations

In the short term, ITS experts make the following recommendations to Tajikistan with the aim to improve the quality of the official energy balance and the five IEA/Eurostat/UNECE joint questionnaires.

- Since Tajikistan’s energy system is not too complex, Tajstat can significantly improve the national energy balance and implement international standards if it succeeds to collect data on final energy consumption in industry, households, services, agriculture, transport and if it can collect other energy data as specified below:
  - Data on final energy consumption should be collected using surveys in the household, services, industry and transport sectors. It is recommended that the household and industry sectors be surveyed annually. The services and transport sectors can be surveyed once every 3-5 years and the interim years interpolated.
  - Tajstat needs to improve its statistics on the supply and consumption of renewables which are missing in its energy data collection system. This problem can be solved by using data from surveys on energy consumption. This confirms that surveys on energy consumption have a twofold purpose and must be planned very carefully. Based on survey results showing the consumption of renewables by end-users, Tajstat will be able to determine their level of production.
  - There are missing data on energy supply, particularly for oil and petroleum products used and produced in energy transformation processes (refineries, CHP plants). Also missing are data on “own energy consumption” in power plants, transmission and distribution losses.
  - There is also a need to improve statistics on electricity generation in small hydro power plants (HPPs). In 2014, ITS experts developed and delivered to Tajstat a methodology which can be used to estimate electricity generation in small hydro power plants (HPPs).
  - Imports and exports of energy products should be disaggregated by country of origin and country of destination.
  - Tajstat should revise its classification of energy products and adjust it with international standards for energy statistics (CPC, HS 2007 or other). For example, it was observed that coal imports are not disaggregated by type: bituminous coal, brown coal and other. The situation is similar with petroleum products.
  - Tajstat needs to approve and adopt calorific values for different types of energy products. In the meantime, Tajstat could use the calorific values applied in neighbouring countries.
• In addition to the improvement of the basic system for energy data collection and balance compilation, it is recommended that Tajstat start developing a concept for the publication of official annual energy balances. Official energy balances should be disseminated through Tajstat’ official website and sent directly to key stakeholders.

• Tajstat should calculate and publish key energy development indicators using international standards and energy balance and macroeconomic data. This will allow Tajikistan to benchmark itself against other countries in the region and beyond (e.g. energy intensity indicators by demand sector).

• In close cooperation with the Ministry of Energy and Industry, Tajstat should consider the collection of data from Tajikistan’s main energy companies on planned supply and demand in order to compilation forecasted energy balance for the year ahead. To achieve this, Tajstat and the Ministry of Energy and Industry will need to develop and agree on a new methodology for the preparation of prospective energy balances.

Provided additional adequate financial and human resources are secured, Tajstat should consider expanding its energy statistics activities and initiate the following tasks:

• Compilation of monthly statistics and preparation/submission of monthly IEA questionnaires. Monthly statistics can contribute greatly to the improvement of the accuracy and quality of annual statistics.

• Tajstat should consider the collection of data needed for the calculation of energy efficiency indicators in particular because of the importance of Tajikistan’s energy intensive industry. The calculation of energy efficiency indicators is a complex activity and their development and implementation can take several years. When preparing the concept for the calculation of EEIs, Tajstat should take into account the necessity to develop detailed energy consumption surveys in the household, services and transport. It is recommended to develop the concept for EEIs in close cooperation with other responsible institutions because this activity is not purely statistical. It requires technical expertise and the development of energy models for the permanent monitoring and verification of energy savings.

• Tajstat should consider the calculation of the RES share for Tajikistan as well as CO2 emissions. For these new activities, the Tajstat can rely on the knowledge and experience developed by Belarus, Moldova, Azerbaijan and Georgia.

• Compliance with international standards requires the development of relevant Quality Documentation for energy statistics.
1.7 Impact Matrix

1.7.1 Impact assessment by ITS experts (2012-2016)

The table below shows, for selected ESAP indicators, a summary of the progress made by Tajikistan since 2012 in the field of energy statistics.

**Tajikistan: Key ESAP Indicators 2012-2016**

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<tr>
<td>Legal framework in place</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available methodology for EB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy statistics plans in place at NSI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Energy Statisticians (at NSI)</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td># of trained govt. staff in last year</td>
<td>2</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Stakeholder meetings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household energy survey</td>
<td></td>
<td></td>
<td>Plan to add questions to HH budget survey</td>
</tr>
<tr>
<td>EB follow international standards</td>
<td></td>
<td></td>
<td>Pilot energy balance for 2014 compiled</td>
</tr>
<tr>
<td>IEA/Eurostat/UNECE questionnaires</td>
<td>(0)</td>
<td>(5)</td>
<td>Questionnaires submitted for the first time in 2015</td>
</tr>
<tr>
<td>Monthly Statistics</td>
<td></td>
<td></td>
<td>Not in ESAP</td>
</tr>
<tr>
<td>Energy Price Statistics</td>
<td></td>
<td></td>
<td>Not in ESAP</td>
</tr>
<tr>
<td>Energy Efficiency Indicators</td>
<td></td>
<td></td>
<td>Not a priority yet</td>
</tr>
<tr>
<td>Official statistics used for planning</td>
<td></td>
<td></td>
<td>Needs improvement</td>
</tr>
</tbody>
</table>

Source: ITS Experts
1.7.2 Impact assessment by the main beneficiary (2012-2016)

**Impact assessment of INOGATE according to Tajstat**

<table>
<thead>
<tr>
<th>Key areas of impact</th>
<th>Impact level (1 to 5 scale)</th>
<th>Comment</th>
</tr>
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</table>
| Improvement of interagency cooperation | 4 | During ITS missions to Tajikistan, a national meeting with the stakeholders in energy statistics was held. Following this meeting, we have implemented ITS’ recommendations:  
• Improvement of the organisational structure;  
• Establishment of a Working group on energy statistics, with representation of the Ministry of Energy and Industry, Tajstat and large energy companies.  
At present the Working Group is functioning well. In 2015, Tajstat and the Ministry of Energy and Water resources, the Ministry of Industry and New Technologies and key energy companies fostered a rather successful cooperation in Energy Statistics. Several meetings were held to discuss the data collection issues and inclusion of different data providers into the system of energy statistics. |
| Harmonisation of the Energy Data Collection System with international standards (Eurostat, IEA, UN...) | 4 | ITS experts presented the model for energy data collection. This Model is fully harmonised with international standards and contains all elements necessary to compile energy statistics and energy balances in Tajikistan (supply, energy transformation and final consumption). The new system of energy data collection covers all the institutional sectors (non-financial and financial corporations, non-commercial organisations, and state governmental agencies). Tajstat’s specialists are working hard on the development of input data tables based on the ITS methodology. |
| Improvement of the quality of energy balances and the 5 joint questionnaires | 5 | Tajstat is very grateful to the INOGATE Technical Secretariat for organising fruitful seminars and workshops. This concerns in particular the preparation of the five joint IEA/Eurostat/UNECE questionnaires in the compilation of the energy balance. |
| Development of energy efficiency indicators | 1 | This activity was not part of INOGATE’s scope of work in Tajikistan. |
| Improvement of public dissemination of energy statistics, energy balances, etc. | 3 | No comment |
| Use of statistics in energy policy and decision-making | N/A | |
| Overall impact | 3 | No comment |
2 PART 2 – BENEFICIARIES

2.1 Executive Summary

The main objective of activity CWP.05.TJ was to perform an analysis of the quality and accuracy of the data collected by Tajstat in 2015 prior to the compilation of Tajikistan’s annual energy balance for 2014. Using the data received from Tajstat, ITS experts developed a tailor-made tool for the compilation of Tajikistan’s energy balance. The tool was presented and structured so as to highlight Tajikistan’s energy sector specificities and to facilitate the training of Tajstat’s staff.

This activity was a continuation of the work done in 2012-2014 during which specialists from Tajstat and ITS experts worked intensively on the preparation of the methodologies used for the collection of data necessary to compile energy balances.

ITS experts received the following dataset from Tajstat:

- Total imports and exports of petroleum products, natural gas, coal and electricity in 2012-2014;
- Imports of petroleum products in 2012-2014 disaggregated by petroleum products categories: bitumen, kerosene, lubricants, aviation gasoline, LPG, petroleum coke;
- Production of petroleum products: motor gasoline, bitumen, gas/diesel oil, fuel oil;
- Production of other energies: hard coal, brown coal, oil, natural gas;
- Electricity generation in TPPs and HPPs;
- Electricity balance: production, imports, exports, consumption in industry, households, transport, agricultural households and distribution losses.

After a first review of the received data, the ITS experts concluded that although energy supply data are quite good, significant gaps remain. In general, the missing data concern data on final energy consumption in all consumption sectors and renewable energy statistics. After receiving confirmation from Tajstat that no additional energy data were available, ITS experts worked with Tajstat statisticians to compile the energy balance and to filling in the five joint IEA/Eurostat/UNECE questionnaires for the year 2014.

Conclusions and recommendations for the Tajstat:

Since Tajikistan’s energy system is not too complex, Tajstat can significantly improve the national energy balance and implement international standards if it succeeds to collect data on final energy consumption in industry, households, services, agriculture, transport and if it can collect other energy data as specified below:

- Data on final energy consumption should be collected using surveys in the household, services, industry and transport sectors. It is recommended that the household and industry sectors be surveyed annually. The services and transport sectors can be surveyed once every 3-5 years and the interim years interpolated.
- Tajstat needs to improve its statistics on the supply and consumption of renewables which are missing in its energy data collection system. This problem can be solved by using data from surveys on energy consumption. This confirms that surveys on energy consumption have a twofold purpose and must be planned very carefully. Based on survey results show-
ing the consumption of renewables by end-users, Tajstat will be able to determine their level of production.

• There are missing data on energy supply, particularly for oil and petroleum products used and produced in energy transformation processes (refineries, CHP plants). Also missing are data on “own energy consumption” in power plants, transmission and distribution losses.

• There is also a need to improve statistics on electricity generation in small hydro power plants (HPPs). In 2014, ITS experts developed and delivered to Tajstat a methodology which can be used to estimate electricity generation in small hydro power plants (HPPs).

• Imports and exports of energy products should be disaggregated by country of origin and country of destination.

• Tajstat should revise its classification of energy products and adjust it with international standards for energy statistics (CPC, HS 2007 or other). For example, it was observed that coal imports are not disaggregated by type: bituminous coal, brown coal and other. The situation is similar with petroleum products.

• Tajstat needs to approve and adopt calorific values for different types of energy products. In the meantime, Tajstat could use the calorific values applied in neighbouring countries.

In addition to the improvement of the basic system for energy data collection and balance compilation, it is recommended that Tajstat start developing a concept for the publication of official annual energy balances. Official energy balances should be disseminated through Tajstat’ official website and sent directly to key stakeholders.

Tajstat should calculate and publish key energy development indicators using international standards and energy balance and macroeconomic data. This will allow Tajikistan to benchmark itself against other countries in the region and beyond (e.g. energy intensity indicators by demand sector).

In close cooperation with the Ministry of Energy and Industry, Tajstat should consider the collection of data from Tajikistan’s main energy companies on planned supply and demand in order to compilation forecasted energy balance for the year ahead. To achieve this, Tajstat and the Ministry of Energy and Industry will need to develop and agree on a new methodology for the preparation of prospective energy balances.

Provided additional adequate financial and human resources are secured, Tajstat should consider expanding its energy statistics activities and initiate the following tasks:

• Compilation of monthly statistics and preparation/submission of monthly IEA questionnaires. Monthly statistics can contribute greatly to the improvement of the accuracy and quality of annual statistics.

• Tajstat should consider the collection of data needed for the calculation of energy efficiency indicators in particular because of the importance of Tajikistan’s energy intensive industry. The calculation of energy efficiency indicators is a complex activity and their development and implementation can take several years. When preparing the concept for the calculation of EEs, Tajstat should take into account the necessity to develop detailed energy consumption surveys in the household, services and transport. It is recommended to develop the concept for EEs in close cooperation with other responsible institutions because this activity is not purely statistical. It requires technical expertise and the development of energy models for the permanent monitoring and verification of energy savings.
• Tajstat should consider the calculation of the RES share for Tajikistan as well as CO2 emissions. For these new activities, the Tajstat can rely on the knowledge and experience developed by Belarus, Moldova, Azerbaijan and Georgia.

• Compliance with international standards requires the development of relevant Quality Documentation for energy statistics.
2.2 Краткий обзор

Основной целью деятельности CWP.05.TJ было проведение анализа качества и точности данных, собранных Таджстатом в 2015 году перед составлением годового энергетического баланса Таджикистана за 2014 год. Используя данные, полученные от Таджстата, эксперты ITS разработали индивидуальный инструмент для составления топливо-энергетического баланса Таджикистана. Инструмент был представлен и структурирован таким образом, чтобы подчеркнуть особенности энергетического сектора Таджикистана и способствовать обучению персонала Таджстата.

Эта деятельность была продолжением работы, проделанной в 2012-2014 годах, во время которой специалисты Таджстата и эксперты ITS интенсивно работали над подготовкой методик, используемых для сбора данных, необходимых для составления энергетических балансов.

Эксперты ITS получили следующий набор данных от Таджстата:

- Общий объем импорта и экспорта нефтепродуктов, природного газа, угля и электроэнергии в 2012-2014 годах;
- Импорт нефтепродуктов в 2012-2014 годах с разбивкой по категориям нефтепродуктов: битума, керосина, смазочных материалов, авиационного бензина, сжиженного нефтяного газа, нефтяного кокса;
- Производство нефтепродуктов: автомобильного бензина, битума, газойля/дизельного топлива, мазута;
- Производство прочих энергетических продуктов: каменного угля, бурого угля, нефти, природного газа;
- Выработка электроэнергии на ТЭС и ГЭС;
- Электроэнергетический баланс: производство, импорт, экспорт, потребление в секторах промышленности, домохозяйств, транспорта, сельскохозяйственных домохозяйств и потери при распределении.

После первого обзора полученных данных, эксперты ITS пришли к выводу, что, хотя данные о поставках энергии достаточно хороши, остаются значительные пробелы. В целом, отсутствующие данные включают данные о конечном энергопотреблении во всех секторах потребления и статистику использования возобновляемых источников энергии. После получения подтверждения от Таджстата, что никакие дополнительные энергетические данные недоступны, эксперты ITS работали со специалистами Таджстата над формированием энергетического баланса и заполнением пяти совместных вопросников МЭА/ Евростата/ ЕЭК ООН на 2014 г.

Выводы и рекомендации для Таджстата:

Поскольку энергетическая система Таджикистана не слишком сложна, Таджстат может легко улучшить национальный энергетический баланс и внедрить международные стандарты, если сможет собрать данные о конечном энергопотреблении в секторах промышленности, домохозяйств, услуг, сельского хозяйства и транспорта, и если Таджстат сможет собирать другие энергетические данные энергии, приведенные ниже:

- Данные о конечном энергопотреблении необходимо собирать, используя обследования в секторах домохозяйств, услуг, промышленности и транспорта. Рекомендуется ежегодно проводить обследования в секторах домохозяйств и промышленности. Сек-
торы услуг и транспорта можно обследовать один раз каждые 3-5 лет, а для промежуточных периодов использовать оценочные значения.

- Таджстату необходимо улучшить свою статистику данных о поставках и потреблении возобновляемых источников энергии, которые отсутствуют в системе сбора энергетических данных. Эта проблема может быть решена за счет использования данных из обследований энергопотребления. Это подтверждает, что обследования энергопотребления имеют двойную цель, и должны очень тщательно планироваться. На основании результатов обследования, демонстрирующих потребление возобновляемых источников энергии по видам конечного потребления, Таджстат сможет определить уровень их производства.

- Отсутствуют данные о поставках, особенно нефти и нефтепродуктов, используемых и производимых в процессах преобразования энергии (на нефтеперерабатывающих заводах, ТЭЦ). Также отсутствуют данные о потреблении на собственные нужды электростанций, о потерях при передаче и распределении энергии.

- Существует также необходимость улучшения статистики о производстве электроэнергии на малых гидроэлектростанциях (ГЭС). В 2014 году эксперты ИЭС разработали и предоставили Таджстату методику, которая может быть использована для оценки выработки электроэнергии на малых гидроэлектростанциях (ГЭС).

- Данные об импорте и экспорте энергетических товаров должны быть дезагрегированы по странам происхождения и странам назначения.

- Таджстату следует пересмотреть свою классификацию энергетических продуктов и привести её в соответствие с международными стандартами в области энергетической статистики (Классификатором основных продуктов, Гармонизированной системой 2007 или других). Например, было отмечено, что данные об импорте угля не детализированы по типу угля: каменный уголь, буровый уголь и др. Аналогична ситуация с нефтепродуктами.

- Таджстат должен утвердить и принять значения тепловой способности для различных видов энергетических продуктов. В то же время, Таджстат может использовать значения тепловой способности, применяемые в соседних странах.

В дополнение к улучшению базовой системы сбора энергетических данных и формирования баланса, Таджстату рекомендуется начать разработку концепции публикации официальных годовых энергетических балансов. Официальные энергетические балансы должны распространяться через официальный сайт Таджстата и направляться непосредственно ключевым заинтересованным сторонам

Таджстату следует рассчитывать и публиковать ключевые показатели развития энергетики в соответствии с международными стандартами, и использовать данные энергетического баланса и макроэкономические данные. Это позволит Таджкистану провести сравнение между собой и другими странами в регионе и за его пределами (например, сравнить показатели энергоёмкости по секторам потребления).

В тесном сотрудничестве с Министерством энергетики и промышленности Республики, Таджстату следует рассмотреть вопрос о сборе данных от основных энергетических компаний Таджикистана относительно запланированного потребления и поставок для составления прогнозного энергетического баланса на год вперед. Для достижения этой цели, Таджстату и Министерству энергетики и промышленности необходимо будет разработать и согласовать новую методику подготовки прогнозных энергетических балансов.
При условии наличия соответствующих финансовых и человеческих ресурсов Таджстату следует рассмотреть вопрос о расширении своей деятельности в области энергетической статистики и инициировать следующие задания:

- Формирование ежемесячной статистики и подготовка/ подача ежемесячных вопросников в МЭА. Ежемесячные статистические данные могут внести значительный вклад в повышение точности и качества ежегодной статистики.

- Таджстату следует рассмотреть вопрос о сборе данных, необходимых для расчета показателей энергоэффективности (ПЭЭ), в частности, из-за важности энергоемкой промышленности Таджикистана. Расчет показателей энергоэффективности является сложной деятельностью, и разработка и реализация этих показателей может занять несколько лет. При подготовке концепции для расчета ПЭЭ Таджстату следует учитывать необходимость в разработке детальных обследований энергопотребления в секторах домохозяйств, услуг и транспорта. Рекомендуется разрабатывать концепцию ПЭЭ в тесном сотрудничестве с другими ответственными учреждениями, поскольку эта деятельность не является чисто статистической. Она требует технического опыта и разработки энергетических моделей для постоянного мониторинга и верификации экономии энергии.

- Таджстату следует рассмотреть вопрос о расчете долей возобновляемых источников энергии в Таджикистане, а также о выбросах CO₂. В отношении этих новых видов деятельности Таджстат может опираться на знания и опыт, наработанные Беларусью, Молдовой, Азербайджаном и Грузией;

- Для соответствия международным стандартам необходимо разработать соответствующую документацию о качестве энергетической статистики.
2.3 Main Report

In this section, we describe in more detail the methodology and approach used by ITS Experts to compile the pilot energy balance of Tajikistan for 2014.

After receiving energy data from Tajstat, ITS experts observed that the following energy forms are produced and used in Tajikistan:

- Other Bituminous coal, Lignite, Fuel wood, Natural gas, Crude oil, Liquefied petroleum gas, Motor gasoline, Kerosene type jet fuel, Road diesel, Fuel oil – high sulphur, Fuel oil – low sulphur, Lubricants, Bitumen, Hydro energy, Wind energy, Electricity and Heat.

During the Regional workshop in Zagreb (RWP.13), ITS experts and Tajstat specialists discussed the fact that Tajstat recognises only one kind of coal imports and does not recognise the following product classification: Bituminous coal, lignite and other. Also, Tajstat needs to adopt calorific values for the different energy products. During the workshop in Zagreb it was agreed to use the same calorific values as other countries in the region.

After analysing data on energy products, ITS experts reviewed energy flows in the country:

- Primary energy production;
- Transformations in Power/CHP plants;
- Final energy consumption.

After analysing the structure of Tajikistan’s energy system, ITS experts identified the following relevant energy flows for Tajikistan’s energy balance, which was then structured around these flows.

Domestic supply
- Production
- Imports
- Exports
1. Transformations
   - MA HPPs Power Plants (HPPs)
   - MA CHP plants
   - Oil refineries
2. Energy sector own use
   - MA HPPs Power Plants (HPPs)
   - MA CHP plants
   - Oil refineries
3. Distribution Losses
4. Final Consumption
5. Industry Sector
   - Iron and steel
   - Chemical (including petrochemical)
   - Non-ferrous metals
   - Non-metallic minerals
   - Transport equipment
   - Machinery
   - Mining and quarrying
   - Food, beverages and tobacco
   - Paper, pulp and printing
   - Wood and wood products
- Construction
- Textiles and leather
- Not elsewhere specified (Industry)

6. Transport Sector
- International aviation
- Domestic aviation
- Road
- Rail
- Domestic navigation
- Pipeline transport
- Not elsewhere specified (Transport)

7. Other Sectors
- Commercial and public services
- Residential
- Agriculture/forestry
- Fishing
- Not elsewhere specified (Other)

8. Non-Energy Use
- Transformation sector
- Energy sector
- Transport sector
  - International aviation
  - Domestic aviation
  - Road
  - Rail
  - Domestic navigation
  - Pipeline transport
  - Not elsewhere specified (Transport)
- Industry sector
  - Iron and steel
  - Chemical (including petrochemical)
  - Non-ferrous metals
  - Non-metallic minerals
  - Transport equipment
  - Machinery
  - Mining and quarrying
  - Food, beverages and tobacco
  - Paper, pulp and printing
  - Wood and wood products
  - Construction
  - Textiles and leather
  - Not elsewhere specified (Industry)
- Other sectors
  - Commercial and public services
  - Residential
  - Agriculture/forestry
  - Fishing
  - Not elsewhere specified (Other)
The main data estimated for the purpose of energy balance compilation were as follows:

- Calorific value of coal and natural gas based on calorific values observed in the region;
- Disaggregation of coal imports between bituminous coal and lignite;
- Fuel consumption in CHPs based on data on electricity and heat generation;
- Own energy consumption in HPPs and CHP, distribution and transmission losses based on common benchmarks or typical values for these types of power plants;
- Final energy consumption in all consumption sectors was classified as “Non-specified energy consumption”;
- Fuel wood and wood residues are not estimated but marked as a gap in the energy balance.
2.4 Annexes

2.4.1 Key contact persons

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