MINISTRY OF INDUSTRY AND TRADE	**SOCIALIST REPUBLIC OF VIETNAM**
-------	**Independence – Freedom – Happiness**

No. 25/2020/TT-BCT	*Hanoi, September 29, 2020*

CIRCULAR

STIPULATING

PLANNING AND REPORTING THE IMPLEMENTATION PLANS FOR ENERGY EFFICIENCY; IMPLEMENTAITON OF ENERGY AUDIT

Pursuant to Law on Economical and Efficient Use of Energy dated June 17, 2010;

Pursuant to Decree No. 98/2017/ND-CP dated August 18, 2017 of the Government on functions, tasks, powers, and organizational structure of the Ministry of Industry and Trade;

Pursuant to Decree No. 21/2011/ND-CP dated March 29, 2011of Government on elaborating to Law on Economical and Efficient Use of Energy;

At request of Director General of Energy Efficiency and Sustainable Development Department;

Minister of Industry and Trade promulgates the Circular on planning and reporting the implementation of plans for economical and efficient use of energy and energy audit.

Chapter I

GENERAL PROVISIONS

Article 1. Scope of governance

This Circular prescribes:

1. Preparation of the list of key energy users annually.

2. Preparation of plans and reports on the implementation of annual and 5-year plans for economical and efficient use of energy of key energy users.

3. Preparation of plans and reports on annual energy use of agencies and entities with annual energy consumption of 100,000 kWh or more .

4. Procedures for implementation and details of energy audit report.

Article 2. Subjects of application

1. This Circular applies to:

a) Key energy users (hereinafter referred to as “users”);

b) Agencies and entities using the state budget or part of the state budget (hereinafter referred to as “agencies and entities”);

c) Energy audit organizations;

d) Other relevant agencies, organizations and individuals.

2. This Circular does not apply to agencies and entities operating in national defense and security sectors. With respect to intermediary entities that transport, trade or distribute energy, the amount of energy traded and distributed within their consumption quota shall be excluded.

Article 3. Term interpretation

In this Circular, the terms below are construed as follows:

1. *“Website”* refers to an information website of national database on energy consumption at the address of http://dataenergy.vn.

2. *“Key energy user”* refers to an industrial, agricultural or transportation facility having annual energy consumption of 1,000 tons of oil equivalent (TOE) or more; construction buildings used as head office, working office or house; education institution, medical establishment, amusement park or sport facility; hotel, supermarket, restaurant or shop having annual energy consumption of 500 tons of oil equivalent (TOE) or more.

3. *“year N”* refers to the reporting year, determined by calendar year

Chapter II

PREPARATION OF LIST OF KEY ENERGY USERS, PLANS AND REPORTS ON THE IMPLEMENTATION OF PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY

Section 1. PREPARATION OF LIST OF KEY ENERGY USERS ANNUALLY

Article 4. Consolidation and collection of annual energy consumption data

1. Before December 15 of the year N-1, Departments of Industry and Trade (DoITs) are responsible for issuing Official Dispatches requesting energy users in the areas to report on energy consumption data in the year N-1, including:

a) Key energy users according to Decisions of the Prime Minister on approving list of key energy users for the year N-2;

b) Energy users having energy consumption of 600 TOE (or 3.6 million kWh) or more participating in industrial, agricultural or transportation sector; 300 TOE (or 1.8 million kWh) or more for construction buildings. This list of key energy users shall be verified by DoITs based on the list of energy users of the latest year issued by the General Statistics Office of Vietnam and estimated accumulated electrical production for the entire N-1 year of energy users under list of EVN's major customers at the website: https://sudungdien.evn.com.vn.

In the Official Dispatches requesting annual report on energy consumption, DoITs shall provide accounts and login instructions for online reporting at the website http://dataenergy.vn.

2. Hanoi City Power Corporation, Ho Chi Minh City Power Corporation and provincial and municipal Power Corporations are responsible for cooperating and informing local DoITs on energy users' consumption data in N-1 year in its locality in order for preparation of annual list of key energy users.

Article 5. Report on energy consumption of energy users

1. Before January 15 of the year N, energy users specified under Points a and b, Clause 1 of Article 4 are responsible for submitting reports to local DoITs on energy consumption in the year N-1 using Form 1.1 under Annex I attached to this Circular at the website http://dataenergy.vn.

2. Annual reports on energy consumption of energy users shall be produced according to following procedures:

a) Energy users shall access the website http://dataenergy.vn, input data according to the steps shown on the website and submit reports to DoITs;

b) Immediately after receiving the reports, DoITs shall verify the data before officially responding to the energy users at the website http://dataenergy.vn within 5 working days;

c) In case energy users are requested by DoITs to revise, revise and complete the reports at the website within 5 working days;

3. If energy users specified under Points a and b Clause 1 Article 4 fail to submit reports to DoITs before the end of January 15 of the N year, DoITs shall:

a) send Official Dispatches to energy users requesting submission of reports on energy consumption to DoITs within 5 working days;

b) submit Official Dispatches to Department of Transport, Department of Agriculture and Rural Development and Department of Construction requesting cooperation and data on energy consumption within 5 working days;

c) submit Official Dispatches to Power Company and Corporations in the areas requesting data on energy consumption of energy users within 5 working days.

Article 6. Preparation of annual list of key energy users and report thereon

1. DoITs are responsible for consolidating the list of key energy users of the year N-1 in their localities, requesting their provincial/ municipal People's Committees to approve, submitting written copies to the Ministry of Industry and Trade and uploading onto the website http://dataenergy.vn before February 1 of the year N.

2. To annually report the list of key energy users in conformance to Form 1.9 under Annex I attached to this Circular.

Section 2. PREPARATION OF PLANS AND REPORTS ON THE IMPLEMENTATION OF PLANS FOR ECONOMICAL AND EFFICIENT USE

Article 7. Preparation of plan and report for the implementation of annual plan for economical and efficient use of energy

1. Before April 30 of every year, the users must produce their plan for economical and efficient energy use of the year N year and reports on implementation of economical and efficient energy use plan for the year N-1, and register with local DoITs at the website http://dataenergy.vn.

2. The users' Year N plan and implementation report of the year N-1 on economical and efficient use of energy shall include details specified under Forms 1.2 to 1.8 under Annex I attached to this Circular. The users shall choose a Form suitable for their field of operation to develop the year N plan and reports on implementation of the year N-1 plan.

3. Preparation and registration for the year N plan and implementation report for the year N-1 on economical and efficient use of energy of the users shall conform to following procedures:

a) Access the website http://dataenergy.vn, input data according to the steps shown on the website;

b) Add, revise and update their plan and implementation report at the website as requested by DoITs;

4. The Users are responsible for fully implementing their annual plan for economical and efficient use of energy once registering.

Article 8. Preparation of plan and report on the implementation of 5-year plan for economical and efficient use of energy of the users

1. Before the first April 30 of every 5 years, the users must produce their plan for economical and efficient energy use for the next 5 years and report on implementation of the previous 5-year plans, then submit to local DoITs at the website http://dataenergy.vn.

2. The users' 5-year plan and the report on implementation of the 5-year plan for economical and efficient use of energy shall include details specified under Annex II attached to this Circular.

3. Preparation and registration for the 5-year plan and the report on implementation of the 5-year plan for economical and efficient use of energy of the users shall conform to following procedures:

a) Access the website http://dataenergy.vn, input data according to the steps shown on the website;

b) To add, revise and update their 5-year plan and report on implementation of the five-year plans at the website as requested by DoITs;

c) Reports on implementation of the 5-year plans shall be automatically calculated and updated via database on national energy use based on the users' report on implementation of their annual plan.

4. The users are responsible for fully implementing their 5-year plan for economical and efficient use of energy once registering.

Article 9. Preparation of annual plans and reports on annual energy use of agencies and entities

1. Before December 15 of the year N-1, DoITs are responsible for issuing Official Dispatches requesting local agencies and entities having annual energy consumption of at least 100,000 kWh (according to list of major customers of Vietnam Electricity under the website https://sudungdien.evn.com.vn) to produce year N plan and energy use of N-1 year. DoITs shall attach accounts and online report login instruction on the website http://dataenergy.vn to the Official Dispatches.

2. Before April 30 of each year, agencies and entities specified under Clause 1 of this Article are responsible for developing, registering plans and submitting reports to local DoITs on energy consumption in the year N-1 using Form 1.5 under Annex I attached to this Circular on the website http://dataenergy.vn.

3. Development and registration of annual plan and report on annual energy consumption of agencies and entities specified under Clause 1 of this Article shall conform to following procedures:

a) Access the website http://dataenergy.vn, input data according to the steps shown on the website;

b) To add, revise and update their plan and report on energy consumption as requested by DoITs at the website;

4. Agencies and entities are responsible for fully implementing their annual plan once registering; fully complying with Articles 30 and 31 of Law on Economical and Efficient Use of Energy.

Article 10. Deadline for confirmation and completion of reports on energy consumption, registration of plans and reports on the implementation of annual plan and 5-year plan for economical and efficient use of energy of agencies and entities

1. No later than 20 working days from the date of receiving the users' registration for annual plan and 5-year plan and the report on implementation of the annual and five-year plans on economical and efficient use of energy; registration for annual plans for economical and efficient use of energy of agencies and entities, DoITs shall examine, respond and verify the results on the website http://dataenergy.vn.

2. In case the registration for annual and 5-year plans, and reports on the implementation of the annual and 5-year plans for economical and efficient energy use of the users, agencies and entities are inadequate or inaccurate, DoITs are responsible for requesting the said users, entities and agencies to revise their reports. The users, agencies and entities shall revise and finalize their reports within 20 working days after receiving DoITs' request for revision.

Article 11. Development of energy management model

1. The users must adopt energy management model in compliance with requirements specified under Article 8 of the Governmental Decree No. 21/2011/ND-CP dated March 29, 2011 on elaborating to the Law on Economical and Efficient Use of Energy, report to local DoITs through the report on implementation of annual energy consumption plan at the website http://dataenergy.vn.

2. DoITs are responsible for examining and encouraging users to adopt energy management model.

a) In case the users have not adopted energy management model, DoITs are responsible for requesting the users to adopt energy management model and list the users for next year examination;

b) With respect to the users recently included in the list of key energy users according to the Prime Minister's Decision, within 1 year from the date on which the Prime Minister's Decision is issued, the users are responsible for developing and adopting energy management model and reporting to DoITs in their annual report on energy consumption plan at the website http://dataenergy.vn.

Article 12. Compliance report of users, agencies and entities

DoITs are responsible for producing assessment reports on the implementation of annual plans and 5-year plans of local users, entities and agencies using Form 1.10 under Annex I attached to this Circular.

Before June 15 every year, DoITs shall consolidate the list and report to Ministry of Industry and Trade at the website http://dataenergy.vn and send reports to the corresponding provincial/ municipal People's Committees.

Chapter III

ENERGY AUDIT

Article 13. Implementation of energy audit for key energy users

1. The esers are responsible for mandatory energy audit every 3 years. Steps for energy audit and details of the users' energy audit reports are specified under Annex III attached to this Circular.

2. Energy audit results are energy audit reports which include survey, metrological figures and collected data on energy consumption of users, analysis, calculation and assessment of energy consumption efficiency, assessment of energy saving potential, proposal of energy saving solutions, analysis of investment efficiency of proposed energy saving solutions to enable the users to select and implement.

3. Within 30 days after performing energy audit, the users are responsible for submitting the energy audit reports to local DoITs in writing.

4. Within 30 days after receiving the energy audit reports, DoITs are responsible for receiving and approving or requesting revisions according to Annex 4 of this Circular. The users are responsible for completing the energy audit reports and submitting to DoITs in writing within 60 days after receiving DoIT's request for revision of .

5. With respect to the users recently added to list of key energy users according to the Prime Minister's Decision, within 1 year from the date on which the Prime Minister's Decision is issued, the users are responsible for finishing their energy audit reports and submitting to DoITs.

Article 14. Conducting of energy audit for users outside the list of key energy users

Industrial, agricultural, construction and transportation users not included in the list of key energy users are encouraged to periodically perform energy audit once every 3 to 5 years to identify energy saving opportunities, select and apply methods for efficient and economical use of energy.

Article 15. Exemption from energy audit

1. Key energy users operating in transportation sector are exempted from performing energy audit.

2. Users operating in multiple sectors which include transportation shall be exempted from implementing energy audit for transportation field only.

Chapter IV

IMPLEMENTATION

Article 16. Responsibilities of Energy Efficiency and Sustainable Development Department

1. Organizing supervision, examining energy consumption of users, agencies and entities.

2. Cooperating with provincial People's Committees, economic corporations and state-owned corporations in preparing the list of key energy users in the country, reporting to the Minister to request approval of the Prime Minister and publicize annually.

3. Cooperating with DoITs in guiding users in preparing plans and reports on the implementation of annual plan and 5-year plan for economical and efficient energy consumption; guiding implementation of regulations on economical and efficient energy consumption and energy audit.

4. Publicizing list of key energy users annually and managing, guiding access, use and extraction of the website http://dataenergy.vn if needed by organizations and individuals as per the law.

Article 17. Responsibilities of DoITs

1. Cooperating with Energy Efficiency and Sustainable Development Department in guiding, encouraging and examining the implementation of efficient and economical energy consumption plans.

2. Examining and supervising the fulfillment of this Circular within their management.

3. Taking the lead and cooperating with Departments of different sectors in examining, expediting and instructing entities specified under Points a and b, Clause 1 of Article 4 to fully exercise obligations specified under this Circular.

4. Guiding and encouraging local-based agencies and entities to fully exercise responsibility for preparing annual plan and report on annual energy consumption as per the law.

5. Taking the lead and cooperating with relevant agencies in communication and dissemination of information regarding economical and efficient use of energy in the locality; promptly encouraging and commending organizations and individuals that deal with violations in economical and efficient use of energy in a timely manner.

6. Requesting People's Committees of provinces and central-affiliated cities to adopt measures to promote economical and efficient use of energy in locality in accordance with regulations, laws, and this Circular.

Article 18. Responsibilities of economic groups and state-owned corporations

1. Thoroughly publicizing, directing, encouraging and assisting member entities of the groups and the corporations in fully complying with this Circular.

2. Specifying energy efficiency objectives in line with operating conditions of the groups and the corporations.

3. Developing programs for economical and efficient use of energy and applying in the groups and the corporations.

4. Selecting and directing entities to adopt measures to manage and apply appropriate technology to improve energy usage, reduce energy intensity and decrease the energy needed per product unit .

5. Cooperating with DoITs in guiding and encouraging key energy users under management of the groups and the corporations to fully exercise responsibility for reporting their annual energy consumption; reviewing and reporting the list of energy-intensive customers as requested by Ministry of Industry and Trade.

Article 19. Implementation

1. This Circular comes into force from November 13, 2020.

2. This Circular replaces the MoIT's Circular No. 09/2012/TT-BCT dated April 20, 2012 on preparing plans and reports on the implementation of plans for economical and efficient use of energy; implementation of energy audit.

3. To annul Article 1 of the MoIT's Circular No. 42/2019/TT-BCT dated December 18, 2019 on amendments to periodic reporting regime in the Circulars issued or jointly issued by the Minister of Industry and Trade.

4. Difficulties that arise during the implementation of this Circular shall be reported to the Ministry for consideration/

Recipients:
- Prime Minister, Deputy Prime Ministers,
- Ministries, Ministerial-level agencies, Governmental authorities,
- Provincial and Municipal People's Committees,
- Office of the President, Office of the National Assembly, Office of the Central Party and of Party Committees,
- Supreme People's Procuracy of Vietnam, and Supreme People's Court of Vietnam,
- Ministry of Justice (Department of Examination of Legal Normative Documents),
- Official Gazette,

MINISTER

Tran Tuan Anh

- State Audit,
- The Government's website,
- MoIT's website,
- MoIT: Minister, Vice Ministers, Departments and Authorities under the Ministry,
- Provincial and municipal DoITs,
- Archive: Office file, DEESD

ANNEX I:

REPORTS ON ENERGY USAGE, FORMS FOR ANNUAL PLANS AND REPORTS ON IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(Attached to Circular No. 25/TT-BCT dated September 29, 2020 of Minister of Industry and Trade)

Form 1.1	Report on use of energy of energy consumers and entities
Form 1.2	Form for Annual plans and Report on implementation of annual plans for economical and efficient use of energy of primary energy consumers *(For industrial manufacturing facilities and facilities for preparing and processing agricultural products)*
Form 1.3	Form for Annual plans and Report on implementation of annual plans for economical and efficient use of energy of primary energy consumers *(For power generating facilities)*.
Form 1.4	Form for Annual plans and Report on implementation of annual plans for economical and efficient use of energy of primary energy consumers *(For office buildings, workplaces, houses, education institutions, medical establishments, recreational venues, sports locations; hospitals, supermarkets, restaurants, stores)*
Form 1.5	Form for Annual plans and Report on implementation of annual plans for economical and efficient use of energy of entities utilizing state budget *(For entities utilizing state budget which are primary energy consumers or having annual power consumption of at least 100,000 kWh)*
Form 1.6	Form for Annual plans and Report on implementation of annual plans for economical and efficient use of energy of primary energy consumers *(For facilities operating in transport sectors)*.
Form 1.7	Form for Annual plans and Report on implementation of annual plans for economical and efficient use of energy of primary energy consumers *(For fishery facilities; machinery serving agricultural production)*.
Form 1.8	Form for Annual plans and Report on implementation of annual plans for economical and efficient use of energy of primary energy consumers *(For irrigation facilities serving agricultural production)*.
Form 1.9	Form for Annual list of primary energy consumers submitted to Ministry of Industry and Trade
Form 1.10	Form for Report on compliance with regulations and law of entities *(For Department of Industry and Trade reporting to Ministry of Industry and Trade on the website http://www.dataenergy.vn)*

Form 1.1

REPORT ON USE OF ENERGY OF ENERGY CONSUMERS AND ENTITIES

[Entity] reporting on use of energy for [N year] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]

Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: ……..

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…….. Fax: ……., Email: ……

Affiliated to: …… (parent company)

Address: …….. [……District] […… Province]

Phone:…….. Fax: ……., Email: ……

Ownership: (State-owned/other economic sectors)

Information on energy use

No.	Type of energy		Unit (*)	Consumption rate	Note
1	Electricity (2*)	Purchased electricity	kWh		
		Manufactured electricity	kWh		
		Sold electricity	kWh		
2	Coal (3*)		Tonne		
3	Diesel oil		1,000 Liter (Tonne)		
4	Fuel oil		1,000 Liter (Tonne)		
5	Liquefied petroleum gas		Tonne		
6	Natural gas		Tonne		
7	Gasoline		Tonne		
8	Jet fuel		Tonne		
9	Wood/husk		Tonne		
10	Other biomasses		Tonne		
11	Externally purchased gas (4*)		Tonne		
12	Other energy (5*)		Unit		

Note:

(*): Select appropriate unit;

(2*): Total electricity consumed = Purchased electricity + Manufactured electricity – Sold electricity;

(3*): Choose appropriate types of coal on http://dataenergy.vn;

(4*): Choose gases with appropriate pressure;

(5*): For other energy, specify type of energy and heating value of the energy.

REPRESENTATIVE

Form 1.2

FORM FOR ANNUAL PLANS AND REPORT ON IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For industrial manufacturing facilities and facilities for preparing and processing agricultural products)

REPORT ON ANNUAL PLANS AND IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY

[Entity] reporting on annual plans for [N year] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: …….

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:……. Fax: ……., Email: ……

Affiliated to (parent company): ……

Address: …….. […… District] […… Province]

Phone: …… Fax: …… E-mail: ……..

Ownership: (State-owned/other economic sectors)

Revenue: ……

Has the facility adopted energy management models?

□: Has not

□: Has adopted energy management models

□: Has adopted energy management models according to TCVN:ISO 50001

I. Information on the facility and products

1.1 Manufacturing capacity of the facility in [year N-1]

Manufacturing capacity **Product**	**Measurement unit (1)**	**By design**	**Current manufacturing capacity**	**Use of energy by products (2)**	**Revenue by products (VND million)**
……					

(1) choose units suitable for products such as tonne/year; m/year; m^2/year; m^3/hour, etc.

(2) Choose type of energy and appropriate unit of measurement on the system, may include multiple types of energy if any

1.2 Attained results regarding annual efficient and economical use of energy in [year N-1]:

Solutions and attained results (Compare with the plans registered under Section 2.3 in Plan for year N-1 for using efficient and economical use of energy and specify additional solutions – if any)

Adopted energy-saving solutions	**Type of fuel**	**Energy-saving solutions for system (4)**	**Description of solutions**	**Attained results**	**Expenditure (VND million)**	**Note**
				Amount of energy saved (unit of measurement) Percentage of energy saved (%)(3) Expenditure saved (VND million) Other benefits (specify)		
				Amount of energy saved (unit of measurement)		

				Percentage of energy saved (%)(1) Expenditure saved (VND million) Other benefits (specify)		

(3) Compare with use purpose (namely lighting, air conditioning, etc.) rather than total energy used.

(4) Fill in system code by selecting within list of system codes.

II. Annual plans for efficient and economical use of energy [year N]

2.1 Estimated quotas

Manufacturing capacity by plan of the facility

(choose units suitable for products such as tonne/year; m/year; m^2/year; m^3/hour, etc.)			
Manufacturing capacity **Product**	**Unit of measurement**	**By design**	**Estimated manufacturing throughput**

2.2 Estimated fuel use rate

2.2.1. Fuel use rate

No.	Type of energy	Unit(*)	Consumption rate	Note
1	Coal (2*)	Tonne		
2	Diesel oil	1,000 Liter (Tonne)		
3	Fuel oil	1,000 Liter (Tonne)		
4	Liquefied petroleum gas	Tonne		
5	Natural gas	Tonne		
6	Gasoline	Tonne		
7	Jet fuel	Tonne		
8	Wood/husk	Tonne		
9	Other biomasses	Tonne		
10	Externally purchased gas (3*)	Tonne		
11	Other energy (4*)	(specify unit of measurement)		

Note:

(*): Select appropriate unit;

(2*): Choose appropriate types of coal on http://dataenergy.vn;

(3*): Choose gases with appropriate pressure;

(4*): For other energy, specify type of energy and heating value of the energy.

2.2.2. Use of electricity

I. Electricity purchased from grid:	Registered capacity: …… kW	Capacity: …… 10^6 kWh/year
II. Manufactured electricity (if any):	Installed capacity: …… kW	Manufactured capacity: …… 10^6 kWh/year
1. Biomass		
2. Biogas		
3. Wind power		
4. Solar power		
III. Sold electricity (if any)	Sold capacity: …… kW	Sold electrical production: …… 10^6 kWh/year

2.3. Annual plan and objectives of efficient and economical use of energy [year N]:

Solutions and estimated results *(Compare with previously registered 5-year plan and additional solutions, if any, in the planning year)*

Adopted energy-saving solutions	Type of fuel	Energy-saving solutions for system	Description of solutions	Attained results	Expenditure (VND million)	Note
…… …… …….				Amount of energy saved (unit of measurement) Percentage of energy saved (%)(1) Expenditure saved (VND million) Other benefits (specify)		

(1) Compare with use purpose (namely lighting, air conditioning, loading for motion devices, etc.) rather than total energy used.

(2) Fill in system code by selecting within list of system codes.

Commitment

Under authorization of Director of [Company] regarding drafting and reporting on annual plans for efficient and economical use of energy and effectiveness in [year N] of [Company/Branch/affiliated Factory included in the plan], I hereby guarantee to have thoroughly inspected data included in the report and assure precision of the date according to my knowledge and shall be responsible for reported data.

Reporting date: ……

Planner

Head of approving facility

Form 1.3

FORM FOR ANNUAL PLANS AND REPORT ON IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For power generating facility)

REPORT ON ANNUAL PLANS AND IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY

[Entity] reporting on annual plans for [N year] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: ……..

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…… Fax: ……., Email: ……

Affiliated to (parent company): ……

Address: …….. […… District] […… Province]

Phone: …… Fax: …… E-mail: ……..

Ownership: (State-owned/other economic sectors)

Has the facility adopted energy management models?

□: Has not

□: Has adopted energy management models

□: Has adopted energy management models according to TCVN:ISO 50001

I. Information on the facility and products

1.1 Manufacturing capacity of the facility

Used fuel	**Type of fuel**	**Use amount/year**	**Low heating value** *(kJ/kg)*
Primary fuel Replacement fuel Auxiliary fuel 1 Auxiliary fuel 2			

Machine No.	**Capacity** *(MW)*	**Design capacity**	**Average operational capacity**	**Machine No.**	**Capacity** *(MW)*	**Design capacity**	**Average operational capacity**
Machinery 1				Machinery 3			
Machinery 2				Machinery 4			

1.2 Attained results regarding annual efficient and economical use of energy in [year N-1]:

Solutions and attained results (Compare with the plans registered under Section 2.3 in Plan for year N-1 for using efficient and economical use of energy and specify additional solutions – if any)

Adopted energy-saving solutions	**Type of fuel**	**Energy-saving solutions for system (2)**	**Description of solutions**	**Attained results**	**Expenditure (VND million)**	**Note**
				Amount of energy saved (unit of measurement) Percentage of energy saved (%)[1] Expenditure saved (VND million) Other benefits (specify)		
……	…	…	…	Amount of energy saved (unit of measurement) Percentage of energy saved (%)1	…	…

				Expenditure saved (VND million) Other benefits (specify)		

(1) Compare with use purpose (namely lighting, air conditioning, loading for motion devices, etc.) rather than total energy used.

(2) Fill in system code by selecting within list of system codes.

II. Annual plans for efficient and economical use of energy [year N]

2.1 Estimated quotas

Manufacturing capacity by plan of the facility

(choose units suitable for products such as tonne/year; m/year; m^2/year; m^3/hour, etc.)			
Manufacturing capacity **Product**	**Unit of measurement**	**By design**	**Estimated manufacturing throughput**
……..			

2.2 Estimated fuel usage

2.2.1. Fuel use rate

No.	Type of fuel	Unit(*)	Consumption rate	Note
1	Coal (2*)	Tonne		
2	Diesel oil	1,000 Liter (Tonne)		
3	Fuel oil	1,000 Liter (Tonne)		
4	Liquefied petroleum gas	Tonne		
5	Natural gas	Tonne		
6	Gasoline	Tonne		
7	Wood/husk	Tonne		
8	Other biomasses	Tonne		
9	Other energy (3*)	(specify unit of measurement)		

Note:

(*): Select appropriate unit;

(2*): Choose appropriate types of coal on http://dataenergy.vn;

(3*): For other energy, specify type of energy and heating value of the energy.

2.2.2. Use of electricity

I. Electricity purchased from grid:	Registered capacity: …… kW	Capacity: …… 10^3 kWh/year
II. Manufactured electricity (for usage of the facility)		Self-use capacity: ……10^3 kWh/year

2.3. Annual plan and objectives of efficient and economical use of energy [year N]:

Solutions and estimated results *(Compare with previously registered 5-year plan and additional solutions, if any, in the planning year)*

Adopted energy-saving solutions	Type of fuel	Energy-saving solutions for system (2)	Description of solutions	Attained results	Expenditure (VND million)	Note
……. ……. …….				Amount of energy saved (unit of measurement) Percentage of energy saved (%)(1) Expenditure saved (VND million) Other benefits (specify)		

(1) Compare with use purpose (namely lighting, air conditioning, loading for motion devices, etc.) rather than total energy used.

(2) Fill in system code by selecting within list of system codes.

Commitment

Under authorization of Director of [Company] regarding drafting and reporting on annual plans for efficient and economical use of energy and effectiveness in [year N] of [Company/Branch/affiliated Factory included in the plan], I hereby guarantee to have thoroughly inspected data included in the report and assure precision of the date according to my knowledge and shall be responsible for reported data.

Reporting date: ……
Planner

Head of approving facility

Form 1.4

FORM FOR ANNUAL PLANS AND REPORT ON IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For office buildings, workplaces, houses, education institutions, medical establishments, recreational venues, sports locations; hospitals, supermarkets, restaurants, stores and agencies utilizing state budget)

ANNUAL PLAN

FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[Entity] reporting on annual plans for [N year] on […/…/……]

ID: [*Specify code provided by National energy database*]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: ……

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…….. Fax: ……., Email: ……

Affiliated to (parent company): ……

Address: …….. […… District] […… Province]

Phone: …… Fax: …… E-mail: ……..

Ownership: (State-owned/other economic sectors)

Has the facility adopted energy management models?

□: Has not

□: Has adopted energy management models

□: Has adopted energy management models according to TCVN:ISO 50001

I. Information on infrastructure and operation

1.1. Information on infrastructure

Year in which the building is brought into operation		Type of structure	
Total floor area	…… m^2	Number of storey	
Total covered area(1)	…… m^2	Total half-covered area(2)	…… m2

Total non-covered area(3)	…… m^2	ACed area (4)	…… m2
Total office area	…… m^2	Number of offices	
Total area of conference rooms	…… m^2	Number of conference rooms	
Area for hire as store	…… m^2	Number of stores	
Area for cafeteria and services	…… m^2	Recreational area	…… m^2
Number of basements (if any)		Total basement area (if any)	…… m^2
Number of parking levels/buildings (if any)		Area of parking levels/building	…… m^2

Note:

(1) Area with roof and surrounding wall

(2) Area with roof and partial surrounding wall;

(3) Area without roof and surrounding wall (outdoors);

(4) AC – Air conditioners.

(Other contents according to Form 1.2, Section: 1.2, II;)

Form 1.5

FORM FOR REPORT ON ANNUAL PLANS AND IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF ENTITIES UTILIZING STATE BUDGET

(For entities utilizing state budget which are primary energy consumers or having annual power consumption of at least 100,000 kWh)

ANNUAL PLAN

FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[Entity] reporting on annual plans for [N year] on […/…/……]

ID: [*Specify code provided by National energy database*]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: …….

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…….. Fax: ……., Email: ……

Affiliated to (parent company): ……

Address: …….. […… District] […… Province]

Phone: …… Fax: …… E-mail: ……..

Has the facility adopted energy management models?

□: Has not

□: Has adopted energy management models

□: Has adopted energy management models according to TCVN:ISO 50001

I. Information on infrastructure and operation

1.1. Information on infrastructure

Year in which the building is brought into operation		Type of structure	
Total floor area	…… m^2	Number of storey	
Total covered area(1)	…… m^2	Total half-covered area(2)	…… m^2
Total non-covered area(3)	…… m^2	ACed area (4)	…… m^2
Total office area	…… m^2	Number of offices	
Total area of conference rooms	…… m^2	Number of conference rooms	
Area for hire as store	…… m^2	Number of stores	
Area for cafeteria and services	…… m^2	Recreational area	…… m^2
Number of basements (if any)		Total basement area (if any)	…… m^2
Number of parking levels/buildings (if any)		Area of parking levels/building	…… m^2

Note:

(1) Area with roof and surrounding wall

(2) Area with roof and partial surrounding wall;

(3) Area without roof and surrounding wall (outdoors);

(4) AC – Air conditioners.

1.2 Attained results regarding annual efficient and economical use of energy in [year N-1]:

Solutions and attained results (Compare with the plans registered under Section 2.3 in Plan for year N-1 for using efficient and economical use of energy and specify additional solutions – if any)

Adopted energy-saving solutions	Type of fuel	Energy-saving solutions for system [4]	Description of solutions	Attained results	Expenditure (VND million)	Note
				Amount of energy saved (unit of measurement) Percentage of energy saved (%)[3] Expenditure saved (VND million) Other benefits (specify)		
				Amount of energy saved (unit of measurement) Percentage of energy saved (%)(1) Expenditure saved (VND million) Other benefits (specify)		

[3] Compare with use purpose (namely lighting, air conditioning, etc.) rather than total energy used.

[4] Fill in system code by selecting within list of system codes.

1.3 Results of replacing, upgrading and supplementing technology devices in [year N]:

Solutions and attained results (Compare with the plans registered under Section 2.4 in Plan for year N-1 for using efficient and economical use of energy and specify additional solutions – if any)

No.	Devices installed/upgraded/replaced according to plan	Methods of installation/upgrade/replacement	Energy brand of devices	Implemented (Yes/no)	Reason (In case of failure to implement)

II. Annual plans for efficient and economical use of energy [year N]

2.1 Estimated energy use rate

2.1.1. Fuel use rate

No.	Type of fuel	Unit(*)	Consumption rate	Note
1	Diesel oil	1,000 Liter (Tonne)		
2	Liquefied petroleum gas	Tonne		
3	Natural gas	Tonne		
4	Gasoline	Tonne		
5	Other energy (2*)	(specify unit of measurement)		

Note:

(*): Select appropriate unit;

(2*): For other energy, specify type of energy and heating value of the energy.

2.1.2. Use of electricity

I. Electricity purchased from grid:	Registered capacity: …… kW	Capacity: ……10^6 kWh/year
II. Manufactured electricity (if any):	Installed capacity: …… kW	Manufactured capacity: ……10^6 kWh/year
1. Biomass		
2. Biogas		
3. Wind power		
4. Solar power		
III. Sold electricity (if any)	Sold capacity: …… kW	Sold electrical production: …… 10^6 kWh/year

2.3. Annual plan and objectives of efficient and economical use of energy [year N]:

Solutions and estimated results *(Compare with previously registered 5-year plan and additional solutions, if any, in the planning year)*

Adopted energy-saving solutions	Type of fuel	Energy-saving solutions for system (2)	Description of solutions	Attained results	Expenditure (VND million)	Note
…… …… ……				Amount of energy saved (unit of measurement) Percentage of energy saved (%)[1] Expenditure saved (VND million) Other benefits (specify)		

(1) Compare with use purpose (namely lighting, air conditioning, loading for motion devices, etc.) rather than total energy used.

(2) Fill in system code by selecting within list of system codes.

2.4 Results of replacing, upgrading and supplementing technology devices in [year N]:

No.	Devices installed/upgraded/replaced according to plan	Methods of installation/upgrade/replacement	Energy brand of devices	Reason for installation, upgrade or replacement

Commitment

Under authorization of Head of [Company] regarding drafting and reporting on annual plans for efficient and economical use of energy and effectiveness in [year N] of [Entity included in the plan], I hereby guarantee to have thoroughly inspected data included in the report and assure precision of the date according to my knowledge and shall be responsible for reported data.

Planner

Reporting date: ……
Head of approving entity

Form 1.6

FORM FOR ANNUAL PLANS AND REPORT ON IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For facilities operating in transport sectors)

ANNUAL PLAN

FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[Entity] reporting on annual plans for [N year] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: ……..

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…….. Fax: ……., Email: ……

Affiliated to (parent company): ……

Address: …….. […… District] […… Province]

Phone: …… Fax: …… E-mail: ……..

Ownership: (State-owned/other economic sectors)

Has the facility adopted energy management models?

□: Has not

□: Has adopted energy management models

□: Has adopted energy management models according to TCVN:ISO 50001

I. Information on infrastructure and operation

1.1. Capacity of the facility

Type of vehicle:	**Quantity** (piece)	**Type of fuel**	**Transport capacity/year**	
			Passengers x km	*Tonne x km*
Taxi				
Bus				
Coach (other than taxi and bus)				
Truck of all kinds				
Train				
Ship				
Inland waterway ships				
Aircraft				
Other				

1.2 Attained results regarding annual efficient and economical use of energy in [year N-1]:

Solutions and attained results (Compare with the plans registered under Section 2.3 in Plan for year N-1 for using efficient and economical use of energy and specify additional solutions – if any)

Adopted energy-saving solutions	Type of fuel	Energy-saving solutions for system [2]	Description of solutions	Attained results	Expenditure (VND million)	Note
…… …… ……				Amount of energy saved (unit of measurement): Percentage of energy saved (%)[1]: …… Expenditure saved (VND million): Other benefits (specify)		

[1] Compare with use purpose (namely lighting, air conditioning, loading for motion devices, etc.) rather than total energy used.

[2] Fill in system code by selecting within list of system codes.

II. Annual plans for efficient and economical use of energy [year N]

2.1 Estimated operation quotas

Type of vehicle:	Quantity (piece)	Type of fuel	Transport capacity/year	
			Passengers x km	*Tonne x km*
Taxi				
Bus				
Coach (other than taxi and bus)				
Truck of all kinds				
Train				
Ship				
Inland waterway ships				
Aircraft				
Other				

2.2 Estimated energy use rate

2.2.1. Fuel use rate

No.	Type of fuel	Unit [*]	Estimated consumption amount	Note
1	Diesel oil	1,000 Liter (Tonne)		
2	Fuel oil	1,000 Liter (Tonne)		

3	Liquefied petroleum gas	Tonne		
4	Natural gas	Tonne		
5	Gasoline	Tonne		
6	Jet fuel	Tonne		
7	Other energy (2*)	(specify unit of measurement)		

Note:

(*): Choose appropriate unit of measurement on http://dataenergy.vn;

(2*): For other energy, specify type of energy and heating value of the energy.

2.2.2. Use of electricity

I. Electricity purchased from grid:	Registered capacity: …… kW	Capacity: ……10^6 kWh/year
II. Manufactured electricity (if any):	Installed capacity: …… kW	Manufactured capacity: …… 10^6 kWh/year
1. Biomass		
2. Biogas		
3. Wind power		
4. Solar power		
III. Sold electricity (if any)	Sold capacity: …… kW	Sold electrical production: …… 10^6 kWh/year

2.3. Annual plan and objectives of efficient and economical use of energy [year N]:

Solutions and estimated results *(Compare with previously registered 5-year plan and additional solutions, if any, in the planning year)*

Adopted energy-saving solutions	Type of fuel	Energy-saving solutions for system (2)	Description of solutions	Attained results	Expenditure (VND million)	Note
…… …… ……				Amount of energy saved (unit of measurement) Amount of energy saved (%)(1) Expenditure saved (VND million) Other benefits (specify)		

(1) Compare with use purpose (namely lighting, air conditioning, loading for motion devices, etc.) rather than total energy used.

(2) Fill in system code by selecting within list of system codes.

Commitment

Under authorization of Director of [Company] regarding drafting and reporting on annual plans for efficient and economical use of energy and effectiveness in [year N] of [Company/Branch/affiliated Factory included in the plan], I hereby guarantee to have thoroughly inspected data included in the report and assure precision of the date according to my knowledge and shall be responsible for reported data.

Reporting date: ……
Planner

Head of approving facility

Form 1.7

FORM FOR ANNUAL PLANS AND REPORT ON IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For fishery facilities; machinery serving agricultural production)

ANNUAL PLAN

FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[Entity] reporting on annual plans for [N year] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: ……..

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…….. Fax: ……., Email: ……

Affiliated to (parent company): ……

Address: …….. […… District] […… Province]

Phone: …… Fax: …… E-mail: ……..

Ownership: (State-owned/other economic sectors)

Has the facility adopted energy management models?

□: Has not

□: Has adopted energy management models

□: Has adopted energy management models according to TCVN:ISO 50001

I. Information on infrastructure and operation

1.1. Manufacturing capacity of the facility

Type of machinery:	Quantity (piece)	Type of fuel/energy
- Fishing boats		
- Vessels/ships		
- Tractors		
- Ploughs		
- Combines		
- Thresh machine		
- Trucks		
….		

(Other contents according to Form 1.2, Section: 1.2, II)

Form 1.8

FORM FOR ANNUAL PLANS AND REPORT ON IMPLEMENTATION OF ANNUAL PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For irrigation facilities serving agricultural production)

ANNUAL PLAN

FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[Entity] reporting on annual plans for [N year] on […/…/……]

ID: [*Specify code provided by National energy database*]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and

	Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: ……

Entity: ……

TIN: ……..

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…….. Fax: ……., Email: ……

Affiliated to (parent company): ……

Address: …….. […… District] […… Province]

Phone: …… Fax: …… E-mail: ……..

Ownership: *(State-owned/other economic sectors)*

Has the facility adopted energy management models?

□: Has not

□: Has adopted energy management models

□: Has adopted energy management models according to TCVN:ISO 50001

I. Information on infrastructure and operation

1.1. Manufacturing capacity of the facility

Work items	Unit of measurement	Quantity
Land area receiving watering	*ha*	
Number of pumping stations	*(station)*	
Number of pumps	*(pump)*	
Total power capacity for pumping Amount of water pumped daily	*kW* *m^3/day*	
…..		

(Other contents according to Form 1.2, Section: 1.2, II)

Form 1.9

CONSOLIDATED LIST OF PRIMARY ENERGY CONSUMERS

People's Committee of ……
Province/City
Department of Industry and Trade

No.	Facility's name	Address, phone, fax number, and email	Primary line of business	Consumed fuel in year N							Conversion [1] *(TOE)*	Note
				Electricity *(kWh)*	***Coal*** *(tonne)*	***Diesel oil*** *(tonne)*	***Fuel oil*** *(tonne)*	***Gasoline*** *(tonne)*	***Gas*** *(m^3)*	***Other*** *(measurement)*		

Note: *Classify by lines of business (Industrial manufacturing, agricultural production, buildings, commercial services, transportation); If possible, extend to subclasses of lines of business according to Decision No. 27/2018/QD-TTg dated July 6, 2018 of Prime Minister on Vietnam's system of business lines.*

Form 1.10

FORM FOR REPORT ON COMPLIANCE WITH REGULATIONS OF ENTITIES

(For Department of Industry and Trade reporting to Ministry of Industry and Trade on the website http://dataenergy.vn)

REPORT ON COMPLIANCE WITH REGULATIONS OF ENTITIES **NOTE:** **Input by hand** **Update automatically**

Province/City: **Reporting year:**

I. Compliance with regulations and law of primary energy consumers

No.	Primary energy cons	TIN	Field of operation	Line of business	PART II. ENERGY ACCOUNTING REPORT	PART III. REPORT ON PLAN FOR 1 YEAR	PART IV. REPORT ON PLAN FOR 5 YEARS	PART V. DEVELOP ENERG

	ume r																Y MANA GEMEN T MODEL
					Energy accounting report	New energy accounting report	Report contents	Number of energy-saving projects according to plan	Number of completed energy-saving projects	Ratio of completed energy-saving projects	Adequate report	Contents of report on 1-year plan	Objectives of previous year by quantity	Objectives of previous year by saved amount	Adequate report	Contents of report on 5-year plan	Developed energy management model
1					(Adequate)	(Yes)	(Inadequate)	(5)	(3)	(%)	(Adequate)	(Inadequate)	(Qualified)	(Unqualified)	(Adequate)	(Adequate)	(Yes)
2					(Inadequate)	(No)		(5)	(2)	(%)	(Inadequate)	(Inadequate)	(Unqualified)	(Unqualified)	(Adequate)	(Adequate)	(No)
3																	
4																	
5																	

II. Compliance with regulations and law of entities

No.	Entity	REPORT ON 1-YEAR PLAN OF ENTITY			
		Adequate report	Contents of report on 1-year plan	Objectives of previous year by quantity	Objectives of previous year by saved amount
1		(Adequate)	(Inadequate)	(Qualified)	(Unqualified)
2		(Inadequate)	(Inadequate)	(Unqualified)	(Unqualified)
3					
4					
5					

LIST OF CODES FOR SYSTEM USING ENERGY

Systems using	*System*	*Code*	Systems using fuel	*System*	*Code*
	Cooling system	E1		Furnace system	T1

electricity (electrical systems)	Chilling system	E2	**(Thermal systems)**	Drying system	T2
	Air conditioning system	E3		Vaporizing system1	T3
	Compressed air system	E4		General heat tracing system	T4
	Pumping system	E5		Boiler and steam distribution system	T5
	Fan system	E6		Transport system	T6
	Lighting system	E7		Agricultural machinery system	T7
	General heat tracing system	E8		Other system	T8
	Hot water system	E9			
	Manufacturing equipment system	E10			
	Other system	E11			

ANNEX II

FORMS FOR 5-YEAR PLANS AND REPORTS ON IMPLEMENTATION OF 5-YEAR PLAN FOR ECONOMICAL AND EFFICIENT USE OF ENERGY PRIMARY ENERGY CONSUMERS
(Attached to Circular No. 25/TT-BCT dated September 29, 2020 of Minister of Industry and Trade)

Form 2.1	Forms for Annual plans and Report on implementation of annual plans for economical and efficient energy consumption of primary energy consumers (For industrial manufacturing facilities and facilities for preparing and processing agricultural products)
Form 2.2	Form for 5-year plan and Reports on implementation of 5-year plans for economical and efficient use of energy of primary energy consumers (For power generating facilities)
Form 2.3	Form for 5-year plan and Reports on implementation of 5-year plans for economical and efficient use of energy of primary energy consumers (For office buildings, workplaces, houses, education institutions, medical establishments, recreational venues, sports locations; hospitals, supermarkets, restaurants, stores, and entities utilizing state budget)
Form 2.4	Form for 5-year plans and Reports on implementation of 5-year plans for economical and efficient use of energy of primary energy consumers *(For facilities operating in transport sectors)*
Form 2.5	Form for 5-year plans and Reports on implementation of 5-year plans for economical and efficient use of energy of primary energy consumers *(For fishery facilities; machinery serving agricultural production)*
Form 2.6	Form for 5-year plans and Reports on implementation of 5-year plans for economical and efficient use of energy of primary energy consumers *(For irrigation facilities serving agricultural production)*

Form 2.1

FORM FOR 5-YEAR PLANS AND REPORTS ON IMPLEMENTATION OF 5-YEAR PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For industrial manufacturing facilities and facilities for preparing and processing agricultural products)

5-YEAR PLAN FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[Entity] reporting on 5-year plans for [from year N to year N+4] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: …….

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…… Fax: …….. Email: ……..

Affiliated to (parent company): ……

Address: …….. [……District] […… Province]

Phone:…… Fax: …….. Email: ……..

Ownership: (State-owned/other economic sectors)

I. Information on the facility and products

1.1 Manufacturing capacity of the facility

(choose units suitable for products such as tonne/year; m/year; m^2/year; m^3/hour, etc.)			
Manufacturing capacity **Product**	**Unit of measurement**	**By design**	**Current manufacturing capacity**
……			

1.2. Plan execution results *(Consolidated from reports on execution results of annual plans)*

Year	20…	20…	20…	20…	20…
Solution 1: *(Name)*					
Amount of energy saved – Expected in theory *(kWh)*					
Amount of energy saved – Achieved in practice *(kWh)*					

Amount of energy saved – Expected in theory *(%)*					
Amount of energy saved – Achieved in practice *(%)*					
Amount of expense saved – Expected in theory *(VND million)*					
Amount of expense saved – Achieved in practice *(VND million)*					
Expense – Expected in theory *(VND million)*					
Expense – Implemented in practice *(VND million)*					
Solution 2: *(Name)*					
Amount of energy saved – Expected in theory *(kWh)*					
……					

II. Plans and objectives for efficient and economical use of energy in the next 5 years

2.1. Solutions and expected results

Energy-saving solutions to be adopted	Initial year	Final year	Objectives of efficient and economical use of energy					
			Type of fuel	Description of solutions	Expected amount of energy saved	Expected expense *(VND million)*	Payback *(year)*	Level of commitment and capacity for implementation (2)
1…… 2…… 3……					Saved: …… *(Unit)* Equivalent to (1): …… % Amount: …… VND million Other benefits *(specify)*			

Note: (1) Compare with use purpose (namely lighting, air conditioning, loading for motion devices, etc.) rather than total energy used.

(2) Specify capacity for implementation (e.g. from 0 to 100%); level of commitment (low, moderate, high).

Commitment

Under authorization of Director of [Company] regarding drafting and reporting on annual plans for efficient and economical use of energy and effectiveness in [year N] of [Company/Branch/affiliated Factory included in the plan], I hereby guarantee to have thoroughly inspected data included in the report and assure precision of the date according to my knowledge and shall be responsible for reported data.

Reporting date: ……

Planner **Head of approving facility**

Form 2.2

FORM FOR 5-YEAR PLANS AND REPORTS ON IMPLEMENTATION OF 5-YEAR PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For power generating facility)

5-YEAR PLAN FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[Entity] reporting on 5-year plan for [from year N to year N+4] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: ……..

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…… Fax: …….. Email: ……..

Affiliated to (parent company): ……

Address: …….. [……District] […… Province]

Phone:…… Fax: …….. Email: ……..

Ownership: (State-owned/other economic sectors)

I. Information on the facility and products

1.1 Manufacturing capacity of the facility

Used fuel	**Type of fuel**	**Use amount/year**	**Low heating value** *(kJ/kg)*
Primary fuel Replacement fuel			

Auxiliary fuel 1 Auxiliary fuel 2			

Machine No.	Capacity *(MW)*	Design capacity	Average operational capacity	Machine No.	Capacity *(MW)*	Design capacity	Average operational capacity
Machinery 1				Machinery 3			
Machinery 2				Machinery 4			

(Other contents according to Form 2.1, Section: 1.2, II)

Form 2.3

FORM FOR 5-YEAR PLANS AND REPORTS ON IMPLEMENTATION OF 5-YEAR PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For office buildings, workplaces, houses, education institutions, medical establishments, recreational venues, sports locations; hospitals, supermarkets, restaurants, and stores)

5-YEAR PLAN FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[Entity] reporting on 5-year plan for [from year N to year N+4] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: …….

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…… Fax: …….. Email: ……..

Affiliated to (parent company): ……

Address: …….. [……District] […… Province]

Phone:…… Fax: …….. Email: ……..

Ownership: (State-owned/other economic sectors)

I. Information on infrastructure and operation

Year in which the building is brought into operation		Type of structure	
Total floor area	…… m^2	Number of storey	
Total covered area(1)	…… m^2	Total half-covered area(2)	…… m^2
Total non-covered area(3)	…… m^2	ACed area (4)	…… m^2
Total office area	…… m^2	Number of offices	
Total area of conference rooms	…… m^2	Number of conference rooms	
Area for hire as store	…… m^2	Number of stores	
Area for cafeteria and services	…… m^2	Recreational area	…… m^2
Number of basements (if any)		Total basement area (if any)	…… m^2
Number of parking levels/buildings (if any)		Area of parking levels/building	…… m^2

Note:

(1) Area with roof and surrounding wall

(2) Area with roof and partial surrounding wall;

(3) Area without roof and surrounding wall (outdoors);

(4) AC – Air conditioners.

(Other contents according to Form 2.1, Section: 1.2, II)

Form 2.4

FORM FOR 5-YEAR PLANS AND REPORTS ON IMPLEMENTATION OF 5-YEAR PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For facilities operating in transport sectors)

5-YEAR PLAN FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[*Entity*] reporting on 5-year plan for [from year N to year N+4] on […/…/……]

ID: [Specify code provided by National energy database]

Date of receiving reports (including revisions thereof)	*[Section for Department of Industry and Trade]*
Date of processing and approving reports	*[Section for Department of Industry and Trade]*

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: ……..

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…… Fax: …….. Email: ……..

Affiliated to (parent company): ……

Address: …….. [……District] […… Province]

Phone:…… Fax: …….. Email: ……..

Ownership: *(State-owned/other economic sectors)*

I. Information on the facility and operation

1.1. Current manufacturing capacity

Vehicle capacity of the facility				
Type of vehicle	**Quantity** *(piece)*	**Type of fuel**	**Transport capacity/year**	
			Passengers x km	*Tonne x km*
Taxi				
Bus				
Coach (other than taxi and bus)				
Truck of all kinds				
Train				
Ship				
Inland waterway ship				
Aircraft				
Other				

(Other contents according to Form 2.1, Section: 1.2, II)

Form 2.5

FORM FOR 5-YEAR PLANS AND REPORTS ON IMPLEMENTATION OF 5-YEAR PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For fishery facilities; machinery serving agricultural production)

5-YEAR PLAN FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[*Entity*] reporting on 5-year plans for [from year N to year N+4] on […/…/……]

ID: [*Specify code provided by National energy database*]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: ……

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…… Fax: …….. Email: ……..

Affiliated to (parent company): ……

Address: …….. [……District] […… Province]

Phone:…… Fax: …….. Email: ……..

Ownership: *(State-owned/other economic sectors)*

I. Information on infrastructure and product

1.1. Current manufacturing capacity

Type of vehicle	**Quantity** *(piece)*	**Type of fuel/energy**
Fishing boats		
Vessels/ships		
Tractors		
Ploughs		
Combines		
Thresh machine		
Trucks		
……..		

(Other contents according to Form 2.1, Section: 1.2, II)

Form 2.6

FORM FOR 5-YEAR PLANS AND REPORTS ON IMPLEMENTATION OF 5-YEAR PLANS FOR ECONOMICAL AND EFFICIENT USE OF ENERGY OF PRIMARY ENERGY CONSUMERS

(For irrigation facilities serving agricultural production)

5-YEAR PLAN FOR EFFICIENT AND ECONOMICAL USE OF ENERGY

[*Entity*] reporting on 5-year plans for [from … to …] on […/…/……]

ID: [*Specify code provided by National energy database*]

Date of receiving reports (including revisions thereof)	[Section for Department of Industry and Trade]
Date of processing and approving reports	[Section for Department of Industry and Trade]

Discipline: Select disciplines under the National energy database http://dataenergy.vn

Entity: ……

TIN: …….

Address: …….. [……District] […… Province]

Individual(s) responsible for report contents: ……

Phone:…… Fax: ……. Email: ……..

Affiliated to (parent company): ……

Address: …….. [……District] […… Province]

Phone:…… Fax: ……. Email: ……..

Ownership: (State-owned/other economic sectors)

I. Information on infrastructure and operation

1.1. Current manufacturing capacity

Work items	Unit of measurement	Quantity
Land area receiving watering	*ha*	

Number of pumping stations	*(station)*	
Number of pumps	*(pump)*	
Total power capacity for pumping	*kW*	
Amount of water pumped daily	*m^3/day*	
……		

(Other contents according to Form 2.1, Section: 1.2, II)

ANNEX III

PROCEDURES FOR ENERGY ACCOUNTING AND FORM FOR ENERGY ACCOUNTING REPORTS
(Attached to Circular No. 25/TT-BCT dated September 29, 2020 of Minister of Industry and Trade)

A. PROCEDURES FOR IMPLEMENTATION OF ENERGY ACCOUNTING

I. SPECIFIC PROCEDURES

Specific procedures for energy accounting are summarized under Schedule 1.

Schedule 1. Specific procedures for energy accounting

Step 1	Determine accounting scope
Step 2	Form accounting groups
Step 3	Estimate duration and expense
Step 4	Gather available data
Step 5	Conduct physical examination and surveys . Determine strategic spots of measurement; . Install measuring instrument;
Step 6	Analyze gathered data . Determine potentials for energy saving; . Determine investment expenditure; . Standardize data; . Ensure normal operation of technology processes

Step 1. Determine energy accounting scope

Specify scope of work and resources that can be mobilized for implementation of energy accounting. Resources include personnel, time and expense. Based on level of concern, support and request of heads of enterprises, accounting groups shall identify accounting scope, localize equipment/technology

processes to be accounted, level of detail of accounting, prediction of energy saving capacity, opportunities for energy saving to be adopted after accounting, improvement of operation and maintenance affairs on the basis of energy accounting results, training demands after energy accounting or other supporting activities, etc. On the basis of issues mentioned above, energy accounting plans will henceforth be executed.

Step 2. Form accounting groups

Accounting groups shall be established on the basis of:

Determine number of accounts and specific tasks of each accountant;

Invite architects and technicians of accounted enterprises to the group (to provide information on equipment features, states of operation and maintenance, etc.);

In case number of accountants of enterprises is inadequate, hire additional energy accounting experts externally (from centers for energy saving and universities capable of energy accounting as per the law).

Step 3. Estimate duration and expense

On the basis of resource availability, accounting groups must identify duration and expense required for accounting. Expense on accounting is primarily calculated based on personnel cost (number of hours spent by members of accounting groups from data collection to completion of energy accounting reports). Take into account expense on hiring measuring instrument and necessary equipment in case of unavailability and expense on hiring external experts.

Step 4. Collect available data

Data and information to be collected consist of:

a) Technical properties of equipment and technology processes to be accounted; (in case of buildings, pay attention to storey area, construction structure, orientation, front structure, type and number of equipment using energy, etc.)

b) Equipment operation procedures; technical drawings, plan view of premises; guidelines for equipment repair, experiment instructions and equipment acceptance records;

c) Books and reports regarding operation and maintenance of equipment, records of measurement readings regarding temperature, pressure, electric current, number of hour of operation, etc.

d) Records regarding energy-saving opportunities that have been adopted and to be adopted;

e) Records regarding use of energy, maximum use demands of manufacturing processes and areas in the last 3 years;

f) Energy purchase invoices in the last 3 years;

g) Productivity of each product type in the last 3 years.

In general, assume that enterprises store documents and technicians preserve records of technical properties of equipment, technology processes and operation conditions. Accounting groups must identify appropriate subjects to gather data and discuss in order to get used to equipment and technology

processes to be subject of energy accounting and discuss in detail with operators and end energy users (e.g. satisfaction of users regarding microclimate conditions in buildings, etc.). Accounting groups must prepare questionnaires for end users regarding their concerns.

After collecting all or the majority of information on features and conditions of equipment, technology processes, energy use methods, etc., accounting groups may identify subsequent survey requirements. At this point, accountants must comprehend information relating to basic equipment properties namely:

- Flowcharts illustrating energy currents, inputs and outputs of each equipment and technology process; establish energy balance and material balance for subjects of accounting (flowcharts in “black box” fashion); operational properties of equipment using energy;

- Type and characteristics of heat generating boilers and steam generating systems;

- Type and capacity of cooling systems and technical properties (cooling pressure, temperature, water amount for chilling and temperature, pressure, etc.);

- Type of air conditioning systems, system components (pumps, fans, pressurizes, pipes, etc.), operational characteristics (amount, temperature, pressure, etc.)

- Level of participation of equipment and systems;

- Control mechanisms for equipment and systems (controllers, compliant equipment, sensors, etc.);

- Lighting equipment, technical characteristics and controlling scheme;

- Characteristics of electricity distributing systems;

- In case of accounting for buildings, accountants must also acknowledge:

. Characteristics of buildings;

. Operational characteristics of elevators and escalators (separate service areas, types of engines, control systems, etc.);

Accounting groups must compare operational characteristics of current equipment with design figures or with relevant technical documents to detect any discrepancy and areas where energy is wasted. Figures to be compared consist of:

- Efficiency of boilers and losses during burning of fuel;

- Losses along heat supply pipes (Pa/m)

- Efficiency of engines (%);

- Operational efficiency of cooling devices;

- Capacity of fan systems (kW/liter of air provided/second);

- Efficiency of fans (%);

- Efficiency of pumps (%);

- Efficiency of pressurizes (%);

- Lighting density (W/m^2);

- Illuminance of lighting systems (Lm/W);

- Losses of lighting control systems (W);

- Etc.

For heating, ventilating and air conditioning (HVAC) system, areas where energy is wasted may be identified based on records for quantitative changes corresponding to changes in temperature and pressure. For electricity generating systems, areas where energy is wasted may be identified based on records for electric current and voltage. In case records are not available, accounts must do measurement to identify which equipment/system underperforms. Number of measurement spots is determined at request and according practical capacity.

Step 5. Conduct physical examination and surveys

Primary activities consist of:

- Prepare specific survey plans for areas, equipment/equipment groups that need to be surveyed. Assign members of accounting groups;

- Consider dividing into groups to deal with areas, equipment/equipment groups. Namely divide into groups based on number of storey, technology processes, etc. Group division must also take into account availability of measuring instruments;

- Design figure records logically and keep record of all findings;

- Conduct measurements according to plan to complete data or examine collected data.

Step 5.1. Determine strategic spots of measurement

During measurement, sensors must be installed in order to reflect necessity or figures that need to be controlled. E.g. in order to measure illuminance in offices, lux meters must be installed at an approximate height of 0.8 m from the floor, thermometer must be installed at an approximate height of 1.1 m and sensors for measuring pressure and traffic in vents must be positioned in places according to technical documents.

Regarding measurement of traffic, standard holes, pipes and stands for measurement are prepared. In case measurement spots are not prepared, accounting groups must install measuring holes and necessary equipment or utilize sonar measuring instruments. Additional anemometers or measuring vanes are usually not installed on the inside of water pipes. In such cases, accounting groups may utilize available equipment namely measuring pipes located before and after pumps, measure pressure of the flow, calculate flow rate and employ charts highlighting relation between pressure/flow rate of pumps, valves, pipes, etc. and those of other systems with similar size.

Step 5.2. Install measuring instruments

The majority of data and characteristics of equipment/equipment systems can be collected from architects and operational and maintenance technicians. However, accounts must rely on necessary measuring

instruments for temperature, pressure, flow, illuminance, electric current, voltage, etc. Common measuring instruments in energy accounting are listed under Schedule 2.

Schedule 2. Common measuring instruments serving energy accounting

Instrument	**Reading/Note**
Electricity-related measurement	
Voltmeter	To measure voltage
Ammeter	To measure electric current
Ohmmeter	To measure resistance
Multi-meter	To measure voltage, electric current and resistance
Wattmeter	To measure electric power (kW)
Power factor meter	To measure capacity factor/calculate apparent power (kVA)
Lux meter	To measure lux
Power quality analyzer	To analyze harmonics and other electric figures
Temperature-related measurement	
Thermometer	To measure dry bulb temperature (^oC)
Sling psychrometer/thermometer	To measure dry/wet bulb temperature (^oC)
Instrument	**Reading/Note**
Infrared remote temperature sensing gun	To determine heat loss due to poor maintenance/leak
Digital thermometer with temperature probe	To measure temperature in vents carrying gas/hot air (utilize platinum probes for temperature from 0 to 100 ^oC, utilize thermocouples for temperature up to 1200 ^oC)
Humidity-related measurement	
Hair hygrometer	To measure humidity/wet bulb temperature
Digital thermometer	To measure humidity/wet bulb temperature
Temperature and velocity-related measurement	
Pitostatic tube manometer	To measure pressure and flow velocity of air
Digital type anemometer with probe	To measure pressure and flow velocity of air
Vane type anemometer	To measure air velocity in pipes/at inputs/at outputs with velocity of 0.25 to 15 m/second
Pressure gauge	To measure pressure of liquid
Ultrasonic flow meter with pipe clamps	To measure liquid flow/velocity
Other measuring instrument	
Exhaust gas analyzer with probe	To measure temperature and contents of O_2, CO, CO_2 and NOx in exhaust
Ultrasonic leak detector	To detect leaking compressed gas

Steam leak detector	To detect leaking steam
Refrigerant leak detector	To detect leaking refrigerant
Tachometer	To measure revolution velocity

Step 6. Analyze gathered data

Accounting groups upon collecting information on:

- Characteristics of equipment/equipment systems via field survey;

- Operational data of equipment/equipment systems via records;

- Operational data of equipment/equipment systems via field measurement;

- Operation conditions of equipment/equipment systems based on design documents and/or other relevant technical documents.

On the basis of collected figures, accounting groups must screen and combine the figures with values, analyze possible deviation trends compared to figures that must be or can be achieved by equipment/equipment systems. That is potential energy-saving opportunities. Although, cautious analysis of possible deviation in case of changes to operational modes or other activities is required.

Step 6.1. Determine potentials for energy saving

In order to determine implementation solutions for discovered energy-saving potentials, accounting groups must calculate in order to prove each renovation solution proposed for implementation by energy-saving quota. Energy-saving solutions are commonly separated into 3 groups:

Solution groups	**Expense**
Group I: Energy-saving solution without investment	Including solutions that do not require investment in practice and are not affected by investment in terms of regular operation of equipment/technology processes. These solutions consist of reasonable changes to operational maneuvers, rationalization of manufacturing lines, orderly arrangement of factories, and adoption of simple measures such as turning off air conditioners, turning off lights, cutting power of unused equipment, setting appropriate temperature of air conditioners, etc.
Group II: Energy-saving solution with low investment	Including solutions that require low investment and may interfere operation of equipment/technology processes to a negligible extent namely installing additional shutdown, turn-on timers for equipment/shutdown and initiation timers for technology processes, installing energy-saving lights, installing additional on-spot gauges, etc.
Group III: Energy-saving solution with high investment	Including solutions that require relatively high investment and may significantly interrupt operation of equipment and/or technology processes such as installing additional inverter components for engines, installing equipment to adjust capacity, replace and/or renovate boilers and chillers, etc.

Article 6.2. Determine investment expenditure

When calculating effectiveness of adopting energy-saving opportunities, accounting groups must determine payback period, net present value (NPV) or internal rate of return (IRR). The majority of calculations may employ basic payback period approach by dividing investment expenditure for energy-saving opportunities by value of energy saved and the result shall be basic payback period by year. Although, in case of significant differences between shifts in energy price and interest or in case investment expenditure for energy-saving opportunities appears unreasonable in different stages compared with energy-saving capacity that can be achieved from time to time, accounting groups must assess life cycle cost to get a better understanding of effectiveness of investment for energy-saving opportunities.

Step 6.3. Standardize data

Measurement readings may not occur on the same day each month on energy procurement invoices. For a more accurate comparison especially when different fuel types are measured over several days to calculate invoices, the data must be normalized similar to data of normal days.

Step 6.4. Ensure normal operation of technology processes

Perform energy accounting to improve energy efficiency. However, an energy-saving opportunity must not worsen operational quality of equipment/equipment systems or lower equipment/equipment systems below design standards.

II. LEVEL OF DETAIL OF ENERGY ACCOUNTING

Level of detail of energy accounting must relate to accounting scope and level of detail of surveys that must be conducted and findings that must be analyzed. Based on allocated resources, size of subjects of energy accounting and purpose of energy accounting sessions, accountants shall choose appropriate energy accounting methods and levels. Accountants may choose any of the 2 levels of survey and assessment for energy accounting:

a) Overall survey and assessment;

b) Specific survey and assessment.

In general, energy accounting consists of simple research on a piece of primary equipment/a group of primary equipments; then comes thorough research on all equipment/groups of equipment in manufacturing processes of enterprises.

2.1. Overall survey and assessment

These activities require minimal resources to examine energy-saving opportunities that may have been previously estimated and potentially available for adoption. Accounting groups shall perform a quick survey. Pay attention to certain primary equipment/groups of equipment using energy namely boilers, heaters, chillers, engines, operational and use methods of lighting systems, etc. when conducting overall surveys. Consult catalogues of equipment, records on operation and repair manuals for rapid localization of underperforming equipment/groups of equipment. Perform simple calculations to evaluate energy-saving capability when adopting energy-saving solutions. The survey shall take only up to 2 days and shall be performed by an accountant or a small group of accountants depending on the size and complexity of technology process and survey scope. Simple necessary measuring instruments are mercury thermometers, multi-purpose gauges and lux meters.

In this step, accounting groups must identify requirements for specific survey and assessment for groups of equipment/workshops/whole enterprises.

2.2. Specific survey and assessment

Accounting groups shall examine most of the equipment/groups of equipment in great detail in order to detect as many energy-saving opportunities as possible, classify by groups and submit plans proposing implementation to heads of enterprises. Specific survey and assessment usually take 5 to 10 times as long as overall survey and assessment depending on complexity of equipment/equipment systems and size of subjects of accounting sessions.

B. ENERGY ACCOUNTING REPORT

I. STRUCTURE OF ENERGY ACCOUNTING REPORT

Energy accounting reports shall be structured in chapters as follows:

Chapter 1. **Summary**

- Summarize findings on energy-saving potentials and arrange by order of priority.

- Propose solutions to be prioritized for investment.

Chapter 2. **Introduction**

- Provide brief introduction on facility subject to the accounting session.

- Organize accounting personnel.

- Overview and scope of affairs.

- Contents of energy accounting reports.

Chapter 3. **Affairs of the company**

- History of development and current conditions.

- Operational and manufacturing structure.

Chapter 4. **Description of procedures in technology processes**

- Manufacturing lines.

- Energy-saving potentials.

Chapter 5. **Energy demands and supply capacity**

- Energy and water use demands.

- Specifications and characteristics of fuel and energy used.

- Energy consumption rate.

Chapter 6. **Financial – technical obligations**

- Technical – technological and environmental issues.

- Economic solutions and assessment.

Chapter 7. **Energy-saving solutions**

- Identify and present energy-saving solutions in detail.

- Chosen technical solutions.

- Financial, energy and environmental analysis.

II. CHAPTER DETAILS

Chapter 1. **Summary**

Chapter 1 consolidates survey results, findings and assessment of accounting groups regarding recommended energy-saving opportunities. Energy-saving opportunities are arranged in order of priority in order to enable enterprises to choose solutions for subsequent implementation. Despite being a brief summary, the report must provide a full picture on findings on energy-saving opportunities gathered from energy accounting and this Chapter must mention following issues:

- Energy-saving potentials

Summary of energy-saving potentials for proposed solutions and present according to Schedule 3.

Schedule 3. Energy-saving potentials and estimated investment expenditure

No.	**Solutions**	**Saved energy**		**Estimated investment** *(10^3 VND)*	**Saved expenditure** *(VND 10^3/year)*	**Payback period** *(year)*
		Electrical power *(MWh/year)*	Fuel *(T/year)*			
1						
2						
3						
	Total					

- Potentials for implementing energy-saving solutions and projects (short presentation)

- Proposed plans for implementation.

Chapter 2. **Introduction**

This Chapter introduces and describes operation scope namely: Name and address of accounted facility, introduction of accounting groups, name of members and list of measuring instruments employed during survey period at the facility.

- Facility subject to energy accounting and accounting groups

Name and address of company subject to energy accounting;

Duration of energy accounting;

Components of energy accounting groups;

- *Scope of energy accounting:* Control the whole/part of enterprise, etc.

- *Measuring solutions and measuring instruments;*

Present procedures for energy accounting and accounting contents. Prepare lists of measuring instruments presented under Schedule 4.

Schedule 4. List of equipment employed during energy accounting

No.	Name of measuring instrument	Code	Quantity	Manufacturing country

Chapter 3. **Affairs of the company**

This Chapter describes affairs of the facility: brief characteristics of the company, field of operation, primary products and annually used energy. This Chapter primarily aims to introduce charts on energy use, compare energy use rate of the facility with technical regulations, and provide overall assessment regarding energy-saving potentials, advantages/disadvantages in energy use of the facility.

- *Development process of the company and current conditions*

- *Operational modes and manufacturing conditions*

Used fuel and total products of the facility are presented under Schedule 5.

Schedule 5. Total products of the company in …… (year)

No.	Work items	Unit	Figures
I	**Fuel used in practice in …… (year)**		
1			
2			
….			
II	**Primarily manufactured products in practice in …… (year)**		
1			

2			
…..			

Total working period of areas using energy/workshops is presented under Schedule 6.

Schedule 6. Annual working hours of areas using energy/workshops

No.	**Areas/workshops**	**Working hours** *(hour/year)*
1 2 …..		

Chapter 4. **Description of procedures in technology processes**

This Chapter provides technical and technological description to describe phases in operational processes in a “black box” manner and present flows of materials and energy at inputs/outputs. This Chapter aims to describe operational processes and detect phases in which energy is not utilized effectively. These findings are extracted from observations during on-site surveys, discussions with architects, technicians, and operators, analysis of data collected from records of the facility and readings on gauges at the site.

- Phases in technology processes/number of manufacturing workshops:

Full description of primary technology processes/manufacturing processes of workshops.

- Energy-saving potentials discovered at each stage respectively.

Chapter 5. **Energy demands and supply capacity**

This Chapter describes ability to provide input energy and energy demands of all equipment/equipment systems that use energy in the facility. Equipment description shall be attached by examination and assessment results; detect underperforming stages as defined above. In addition, energy accountants must identify energy consumption rate of the facility and compare with regulations on energy consumption quota of the sector (if any).

- Electricity supply and consumption

Wiring diagrams of electricity supply systems

Electricity price adopted according to price schedule of …… (year) according to Schedule 7

Schedule 7. Electricity price schedule by hour in …… (year)

No.	**Items**	**Price** *(VND/kW.h)*	**Hours for adoption**
1	Regular hours		
2	Peak hours		
3	Off-peak hours		

4	Average electricity price		

Energy consumption situations and monthly electricity price of the facility in …… (year) are presented under Schedule 8.

Schedule 8. Monthly energy consumption and electricity price according to invoices of the company

Month	**Electricity by hour** *(kW.h)*			**Total** *(kW.h)*	**Electricity price** *(VND 10^3/kW.h)*			**Total electricity price** *(VND 10^3)*
	Regular	Peak	Off-peak		Regular	Peak	Off-peak	
January …… December								
Total								
Percentage								

- Fuel supply and consumption

Energy consumption in ……. (year) is presented under Schedule 9 and Schedule 10.

Schedule 9. Expense on fuel in …… (year)

(Fuel 1)		*(Fuel 2)*		*(Fuel 3)*		**Total expense** *(VND 10^3/year)*
Amount *(T/year)*	**Expense** *(VND 10^3/year)*	**Amount** *(T/year)*	**Expense** *(VND 10^3/year)*	**Amount** *(T/year)*	**Expense** *(VND 10^3/year)*	

Schedule 10. Monthly energy consumption in …… (year)

Month	**Unit**	**Fuel 1**		**Fuel 2**		**Fuel 3**	
		Amount	**Expense** *(VND 10^3/year)*	**Amount**	**Expense** *(VND 10^3/year)*	**Amount**	**Expense** *(VND 10^3/year)*
January							
February							
…….							
December							
Total							

- Compressed gas supply and consumption

- Water supply and consumption

Schedule 11. Water consumption in ……. (year)

Month	Unit	Usage	Water sources
January	m^3		
February	m^3		
….	m^3		
December	m^3		
Total	**m^3**		

- Energy consumption rate

In this section, energy accountants must identify energy consumption rate of the facility:

o For facilities operating in sectors mandated by law on energy consumption quota (steel industry, paper and paper pulp industry, etc.):

▪ Identify practical energy consumption rate of the facility using methods under documents prescribing energy consumption quota of the sectors;

▪ Identify energy consumption quota of the facility as per the law;

▪ Compare practical energy consumption rate with energy consumption quota mandated by law;

▪ Advise the facility on solutions for implementing regulations on energy consumption quota.

o For facilities not operating in sectors mandated by law on energy consumption quota:

▪ Identify general energy consumption rate and energy consumption rate based on factors that affect energy consumption (productivity, etc.) of the facility;

▪ Compare energy consumption rate of the facility with general energy consumption rate of the sectors or advance technologies around the world;

▪ Advise the facility on solutions for improving energy consumption rate.

Chapter 6. **Financial – technical obligations**

This Chapter presents technical-financial framework and obligations. This Chapter consists of schedules on primary technical specifications and price of energy types employed, detailed analysis and energy-saving opportunities.

- Compare operational conditions in practice of equipment/equipment systems with original designs (if such documents exist) and/or on-site measurement and identify causes of discrepancies;

- Identify fields that require further research, if any;

- Discover energy-saving opportunities and attach proof of legitimacy (calculate energy-saving potentials that can be achieved and provide detailed description under Annex(es));

- Classify proposed solutions (by group I, II, III);

- Investment expenditure for execution of solutions (specify reference order for findings, detailed expenditure calculations, charts and drawings and include in Annex(es));

- Compare solutions for execution of each energy-saving opportunity and select appropriate solutions;

Basic financial obligations

- Price types and expenses for base year of …… (year)

- Price types and expenses based on conversion rate of USD 1 = VND ……

Energy and standards

Energy-related obligations and energy use are summarized under Schedule 12. Fuel expense and fuel use rate are collected from documents and energy invoices of accounted enterprises. CO_2 emission shall be average coefficient for reference and use in calculation when necessary.

Schedule 12. Obligations regarding energy and standards

Fuel types and standards	**Unit**	**Heating value/unit**		**CO_2 emission**	
		MJ/unit	KWh	Kg/GJ	Kg/MWh
Solid fuel					
Fossil coal	kg				
Anthracite	kg				
Wood	m^3				
Liquid fuel					
Diesel oil (ρ=0,86 kg/d m^3)	Liter				
Fuel oil (ρ =0,94 kg/dm^3)	Kg				
Gas fuel					
Natural gas	m^3				
Liquefied petroleum gas (LPG)	Kg				
Electricity	**MWh**				

Assess energy-saving solutions

Assess energy-saving solutions based on the followings:

- Energy-saving by heating value (kJ or kWh)

- Energy-saving by natural unit (tonne, liter, m^3)

- Annual energy expense saved (VND 10^3/year)

- Investment expenditure on adoption of energy-saving solutions (VND 10^3)

- Basic payback period (year)

$$\textit{Payback period} = \frac{\textit{Initial investment expenditure [VND thousand]}}{\textit{Annual saved expenditure [VND thousand/year]}} \textit{[year]}$$

- Limitation

- Discussion on current energy-saving strategies of the company

- Propositions of long-term strategies

Rely on energy accounting groups to propose energy use strategies;

- Price of fuel types and shifting trend of fuel price in the future;

- Fuel available in Vietnam and potential for extraction;

- Expense on transporting fuel;

- Permitted limits on pollution concentration in current and future emission;

- Environmental pollution alleviation strategies of Vietnam;

- Development trends of technologies for burning oil, coal and processing waste materials.

Chapter 7. **Energy-saving solutions**

This Chapter consolidates energy-saving solutions including specific technical description and estimated saved amount of energy-saving opportunities.

- Utilize Excel spreadsheet to calculate and assess selected solutions, and include all necessary figures and data in Annex(es).

- Propose implementation programs;

- Request relevant parties to implement programs, identify advantages and disadvantages and propose measures to remediate the disadvantages;

- Consolidate investment expenditure and payback period.

- Manage and develop energy consumption quota after adopting solutions

- Propose organization of energy management (i.e. employ energy managers/boards for energy management in enterprises, identify functions and tasks of energy managers/boards for energy management; roles of departments in companies regarding energy management, propose installation of gauges at necessary locations, etc.). Identify sustainable energy management strategies (long-term, mid-term and short-term policies and objectives of the company regarding use of energy, policies on financial, development of human resources and training and policies on encouraging workers in saving energy, etc.)

Propositions

- Consolidate propositions by systems;

- Gather energy-saving solutions in groups of natural processes/departments/use methods or solutions without investment/with low investment/with high investment.

ANNEX IV

FORM FOR ACCEPTING AND APPROVING ENERGY ACCOUNTING REPORTS
(Attached to Circular No. 25/TT-BCT dated September 29, 2020 of Minister of Industry and Trade)

PEOPLE'S COMMITTEE OF …… PROVINCE/CITY DEPARTMENT OF INDUSTRY AND TRADE	**SOCIALIST REPUBLIC OF VIETNAM**
-------	**Independence – Freedom – Happiness**

RECORD OF ACCEPTING AND APPROVING ENERGY ACCOUNTING REPORTS

I. INFORMATION ON THE ENTITY

Entity: ……

Address: …….. [……District] […… Province]

Date of issuing reports: …….

Entity in charge of energy accounting: ……

II. ASSESSMENT

No.	Assessment contents	Yes	No
1	**Report method**		
1.1	Energy accounting report using form specified under Annex III of Circular No. ……/2020/TT-BCT		

1.2	Energy accountant(s) having certificate for energy accounting as per the law		
1.3	Energy accounting report signed by energy accountant(s)		
1.4	Energy accounting report approved by head of enterprise		
2	**Report contents**		
2.1	Description of technology process		
2.2	Up-to-date property of energy data		
2.3	Description of energy supply systems		
2.4	Assessment of energy management system of the facility		
2.5	Recommendations for renovation suitable for current conditions of the facility		

III. CONCLUSION

1. Energy accounting report:

□ Approve □ Request revision

2. Feedback (Reasons for revision):

.....

.....

.....

1 Vaporizer: A system that separates liquid from the products