VERIFICATION STATEMENT

(STATEMENT No. 1/21.07.2022)

FOR THE GHG EMISSIONS OF

TERNA ENERGY S.A.

85 Mesogeion Ave. 11527 Athens, Hellas

REPORTING PERIOD

2021

VERIFICATION STATEMENT

Date of Verification Insurance:	1/7/2022
Verification Body:	TÜV HELLAS
Address:	282 Mesogeion Ave, 155 62 Cholargos, Hellas
Accreditation data Hellenic Accreditation System S.A (E.SY.D S.A.):	Certificate No.: 884-3/ 10.09.2019

Information on Installation Owner	
Name of Installation Owner:	**TERNA ENERGY S.A.**
Contact Person:	Mr. Antonios Voutsis, QHSE Manager
Address:	85 Mesogeion Ave. 11527 Athens, Hellas
Telephone/Fax:	+ 30 2106968215/-
E-mail of contact person:	avourtsis@terna-energy.com

Information on Installation Identity:	
Installation:	Operation of Wind & Solar Parks & Head Offices
Contact Person:	Mr. Antonios Voutsis, QHSE Manager
Address:	See attached list of Wind & Solar Parks
Geographic Location:	
Telephone/Fax:	+ 30 2106968215/-
E-mail of contact person:	avourtsis@terna-energy.com
Year for GHG Assertion Reporting:	**2021**
Type of Activity:	Production of Energy from Renewable Energy Sources

Decision of TÜV HELLAS Technical Committee	
Installation's GHG Assertion Report Accepted	☒
Installation's GHG Assertion Report Accepted with Comments	☐
Installation's GHG Assertion Report not Accepted	☐
Current Statement deals with GHG Assertion Report of date	07/2022

Verification Scope

TÜV HELLAS was contracted by TERNA ENERGY S.A. for the independent third party verification of direct and indirect carbon dioxide equivalent emissions CO_{2e} consisting of CO_2 CH_4 N_2O as provided in the **TERNA ENERGY S.A. Greenhouse Gas Statement 2021** to a **reasonable** level of assurance.
Verification activities were performed in accordance with ISO 14064-3:2018 *Specification with guidance for the validation and verification of greenhouse gas assertions* and the verification time period was 01.01.-31.12.2021.

Roles and responsibilities

The QHSE management of TERNA ENERGY S.A. is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the quantification and reporting of GHG emissions.
It is TÜV HELLAS's responsibility to express an independent GHG verification opinion on the emissions as provided in the **TERNA ENERGY S.A. Greenhouse Gas Statement 2021**.

Title or description of activities

The organizational boundaries were established following the financial control approach on a global basis. The scope of this verification covered coterminous emissions from the following GHG sources occurring within TERNA ENERGY S.A. facilities and head offices:

Scope 1 Emissions	Scope 2 Emissions	Scope 3 Emissions
➢ Emissions from fuels consumption other than used in fleet (Diesel, Petrol), ➢ Emissions from fuels consumption used in fleet (Diesel, Petrol, LPG)	➢ Indirect emissions from imported electricity (Market and location based)	➢ Purchased goods and services ➢ Capital goods ➢ Fuel- and energy-related activities - Capital goods ➢ Upstream transportation and distribution ➢ Waste generated in operations ➢ Employee commuting

Objectives

The objectives of this verification were, by review of objective evidence, to confirm whether the GHG emissions as declared in the organization's GHG assertion were:

- accurate,
- complete,
- consistent,
- transparent and
- free of material error or omission

in accordance with the criteria outlined below.

Verifier's work involved review and substantiation of information through selected interrogation of both source and consolidated data in conjunction with interviews with corporate staff responsible for data collation, management and report content.

Criteria

Criteria against which the verification assessment was undertaken:

1. Reporting standards:

- World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol: *A Corporate Accounting and Reporting Standard*, Revised Edition (the GHG Protocol),

2. Reference calculation methodologies:

- National Inventory Report for Greece (NIR 2021, IEA 2021 for Bulgaria, Poland, USA, Serbia
- UK Government GHG Conversion Factors for Company Reporting 2021 v. 2.0, v. 2.1, v. 2.2, v. 2.3

Level of Assurance and Materiality

The level of assurance agreed was the **"reasonable"** one and a 5% materiality threshold was applied at the gross organizational level. The assessment of compliance and materiality was undertaken against the stated calculation methodology. An overall (GHG emissions) uncertainty of below 5% was calculated.

Conclusion

TÜV Hellas's Lead Verifier has planned and executed the TERNA ENERGY S.A. GHG Assertion verification obtaining information, explanations and evidence considered necessary to provide a reasonable level of assurance for a fair statement of the reported GHG emissions for the indicated time period.
TÜV Hellas's Lead Verifier has conducted TERNA ENERGY S.A. GHG Assertion verification including evaluation of the company's GHG information system and monitoring and reporting methodology.

Based on the data and information provided by TERNA ENERGY S.A. and the processes and procedures conducted, TÜV Hellas's Lead Verifier concludes that the TERNA ENERGY S.A. GHG Assertion

- is materially correct and is a fair representation of the GHG data and information, and
- is prepared in accordance with the related International Standard on GHG quantification, monitoring and reporting, or to relevant national standards or practices

The TERNA ENERGY S.A. GHG Assertion for the time period 01.01. - 31.12.2021 disclosing **emissions of 94.381 tn CO_{2eq}** is verified by TÜV HELLAS to a **reasonable level of assurance**, consistent with the agreed verification scope, objectives and criteria as follows:

VERIFICATION STATEMENT

Reference Period:	01.01. – 31.12.2021

Overall GHG during the reference period:

Total Emissions	94.381	tn CO_{2eq}
Scope 1 Emissions	333,00	tn CO_{2eq}
Scope 2 Emissions	195,00	tn CO_{2eq}
Scope 3 Emissions	93.853	tn CO_{2eq}

Energy Carrier / Fuel used: (Scope 1 & 2)	1: Electricity from National Interconnected Transmission Grid
	2: Diesel
	3: Petrol
	4 LPG
Emissions categories: (Scope 3)	1. Purchased goods and services
	2. Capital goods
	3. Fuel- and energy-related activities - Capital goods
	4. Upstream transportation and distribution
	5. Waste generated in operations
	6. Employee commuting

GHG Emissions Information

4.1 Direct non-biogenic emissions (Scope 1)

- **Emissions from fuels consumption other than used in fleet**

Fuel Type	Fuel Quantity (lt)	Emission factor ($kgCO_2/lt$)	Greenhouse gas emissions (kg CO_{2e})
Diesel	12.058,2	2,51233	30.294,18
Petrol	65,19	2,19352	143,00
		Total Emissions:	**30.437,18**

- **Emissions from biogas production**

Fuel Type	Energy (KWh)	Emission factor ($kgCO_2/kWh$)	Greenhouse gas emissions (kg CO_{2e})
Biogas	21.696.959,4	0,00022	4.773,33
		Total Emissions:	**4.773,33**

- **Emissions from fuels consumption used in fleet**

Fuel Type	Fuel Quantity (lt)	Emission factor ($kgCO_2/lt$)	Greenhouse gas emissions (kg CO_{2e})
Diesel	113.198,38	2,51233	284.391,69
Petrol	4.993,59	2,19352	10.953,54
LPG	1.693,54	1,55709	2.636,99
		Total Emissions	**297.982,22**

4.2 Indirect non-biogenic emissions (Scope 2) – Location Based

- **Electrical energy consumption**

Electrical energy consumption (MWh)	Emission factor ($kgCO_2/MWh$)	Greenhouse gas emissions ($kg\ CO_{2e}$)
Greece (6186,54)	0,6027	3.728.627,66
Bulgaria (213,10)	0,4373	93.188,63
Poland (39,57)	0,6679	26.428,80
USA (193,65)	0,3839	74.342,24
Serbia (1,02)	0,7452	760,10
Total Scope 2 emissions – Location Based		**3.923.347,43**

- **Indirect non-biogenic emissions (Scope 2) – Market Based**
- **Electrical energy consumption**

Electrical energy consumption (MWh)	Emission factor ($kgCO_2/MWh$)	Greenhouse gas emissions ($kg\ CO_{2e}$)
Greece from RES (6186,54)	0,6027	0
Bulgaria (213,10)	0,4373	93.188,63
Poland (39,57)	0,6679	26.428,80
USA (193,65)	0,3839	74.342,24
Serbia (1,02)	0,7452	760,10
Total Scope 2 emissions – Market Based		**194.719,77**

4.3 Scope 3 emissions

Category	tCO_{2e}
1. Purchased goods and services	160,58
2. Capital goods	93.396,27
3. Fuel- and energy-related activities - Capital goods	130,0
4. Upstream transportation and distribution	1,4
5. Waste generated in operations	20,7
6. Employee commuting	143,9
Total	**93.853**

KPI Data Assurance

In addition to the GHG data verification detailed above, a total quantity of 4.700.300.573 m^3 of water withdrawn from freshwater for the operation of TERNA ENERGY hydropower stations has also been verified as follows:

- Dafnozonara hydropower station (Acheloos River Basin): **2.627.089.373 m^3**
- Eleousa hydropower station (Axios River Basin): **2.073.211.200 m^3**

Installation's GHG Assertion Accepted:

The **GHG Assertion of TERNA ENERGY S.A.** for the year 2021 is considered as accepted.

For the Verification Athens, 21/07/2022	Dr.-Ing. Panagiotis Achladas Lead Verifier	
For Technical Reviewing Athens, 21/07/2022	Dr.-Ing. Dionisios Giannakopoulos Lead Verifier	
For the Approval Athens, 22/07/2022	Savvas Peltekis Managing Director	

ANNEX

COMPANY NAME	Installation
TERNA ENERGY S.A.	Wind farms Louzes and Skopia, Nafpaktos, Greece Wind farms Profitis Ilias, Tsouka, Tsilikoka and Pyrgari, Aliveri, Evia, Greece Wind farm Perdikokorfi, Crete, Greece Hydropower station in Dafnozonara, Aitoloakarnania,Greece PV park, Louzes, Nafpaktos, Greece Wind farms Karapelite I, II, III and Vranino, Bulgaria Wind farms CZARNOZYLY, GORZKOWICE, KRZYZANOW, Sieradz, Szadek, Makow, Nasielsk, Chelmza, Chojnice, Tuchola, Poland Wind farms in USA Offices in Greece, Serbia
DELTA AXIOU ENERGIAKI SA	Adendro Biogas Production Unit, Thessaloniki, Greece
COMPANY NAME	**Installation**
PPCR-TERNA ENERGY SA	Hydropower station in Eleousa, Thessaloniki,Greece
ENERGIAKI DERVENOCHORION SA	Wind farm Krekeza, Voiotia, Greece
AIOLIKI PANORAMATOS DERVENOCHORION SA	Wind farms Mavrovouni I, II, Voiotia, Greece
AIOLIKH RACHOULAS DERVENOCHORION SA	Wind farms Rachoula I,II,III, Voiotia, Greece
VATHICHORI ENA PHOTOVOLTAIKI SA	PV park, Vathichori I, Psatha, Attica, Greece
VATHICHORI DYO ENERGIAKI SA	PV park, Vathichori II, Psatha, Attica, Greece
TERNA ILIAKI PANORAMATOS SA	Wind farm Mavroplagia, Voiotia, Greece
TERNA ILIAKI VIOTIAS SA	Wind farm Plagia Psiloma, Voiotia, Greece
TERNA ILIAKI PELOPONISOU SA	Wind farm Mouggoulios, Voiotia, Greece
AIOLIKI PASTRA ATTIKIS SA	Wind farm Gkouri Meles, Voiotia, Greece
ENERGIAKI SERVOUNIOU SA	Wind farm Didymos Lofos, Thrace, Greece
TERNA ENERGIAKI EVROU SA	Wind farm Mytoyla, Thrace, Greece
ENERGIAKI FERON EVROU SA	Wind farm Xylos, Thrace, Greece
AIOLIKI DERVENI TRAIANOUPOLEOS SA	Wind farm Derveni, Thrace, Greece
ENERGIAKI XIROVOUNIOU SA	Wind farm Xsirovouni, Thrace, Greece
IWECO CHONOS KRITIS SA	Wind farm Chonos, Crete, Greece
ENERGIAKI PELOPONISOU SA	Wind farm Eressos, Veroia, Greece
ENERGIAKI NEAPOLEOS LAKONIAS SA	Wind farm Lefkes, Veroia, Greece
EUROWIND SA	Wind farm Stavroti, Rodos, Greece
AIOLIKI ILIOKASTROU SA	Wind farm Loggarakia, Argolida, Greece
TERNA ENERGY ST. GEORGE SA	Wind farm Agios Georgios Island, Greece

TERNA AIOLIKI AMARINTHOU SA	Wind farms Vorina Litharia & Kalogeriki Rachi, Aliveri, Evia, Greece
AIOLIKI ANATOLIKIS ELLADOS SA	Wind farms Pyrgari II, Voureza, Koskina-Lakka, Aliveri, Evia, Greece
ENERGIAKI DISTION EVIAS SA	Wind farms Agriachladia and Mesokipi, Aliveri, Evia, Greece
AIOLIKI MARMARIOU EVIAS SA	Wind farms Karampila, Gkalosi, Pyrgari Dardiza, Evia, Greece
ENERGIAKI STYRON EVIAS SA	Wind farm Exostis, Marmari, Evia, Greece
AIOLIKI PROVATA TRAIANOUPOLEOS SA	Wind farm Taratsa, Voiotia, Greece