MEMORANDUM TO THE DCI COMMITTEE

CONCERNING THE

2017 Annual Action Programme in favour of Cuba for theme renewable energy and energy efficiency to be financed from the general budget of the Union

1. Identification

Budget heading	21.020100 – Cooperation with Latin America			
Total cost	EUR 18 million of EU contribution			
	Grants co-financing: EUR 333,333 (around 10% of total			
	costs)			
	FIIAPP co-financing: EUR 444,444 (around 10%)			
Basic act	Regulation (EU) No. 233/2014 of the European Parliament			
	and of the Council of 11 March 2014 establishing a			
	financing instrument for development cooperation for the			
	period 2014-2020			

2. Country background

The Republic of Cuba is the largest Caribbean island with a population of over 11.38 million inhabitants. In spite of its difficult economic situation, Cuba has achieved a high human development position¹. Ranked 67th in the 2014 Human Development Index (0.769), Cuba is, within the Latin-American region, in 5th place (ahead of Brazil and Mexico). Life expectancy at birth is 79.4 years and median schooling for adults stands at 10.2 years.

A process of modernisation began gradually in 2008, initiated by President Raul Castro.

A comprehensive package of economic reforms was outlined in a strategic medium-term paper called "Guidelines of Economic and Social Policy of the Party and the Revolution" (Guidelines). These guidelines reflect the political will to maintain social achievements, whilst progressively opening the way to a more mixed economy with market components, to greater participation of new economic actors and the self-employed, and modernization of the public administration.

3. Summary of the Action Programme

The objectives pursued by the Annual Action Programme to be financed under the Development Cooperation Instrument are in line with the Multiannual Indicative Programme 2014-2020 adopted for Cuba, specifically with Sector 2 (Environment and Climate Change: Support for a better use of Key Natural Resources for Sustainable Development).

1) Background

Cuba urgently needs to reduce its high dependency on imported fossil fuels for electricity generation and to safeguard domestic financial resources. Today, Cuba depends for 96% of its electricity generation from oil, of which about 50% is imported from Venezuela.

This is one of the core problems hampering further social and economic development which the government needs to solve with urgency. The Government is increasingly aware of the fact that the energy problem can only be solved by dealing with both sides of the same coin: developing its own renewable energy sources on the one hand and, and in parallel, introducing and applying energy efficient technologies on the other hand.

2) Cooperation related policy of beneficiary country

In 2014, the Cuban Government has announced a new energy policy aiming at increasing the use of renewable energy sources for electricity generation from approximately 4.3% in 2013 to 24% by 2030, generating some 7,245 GWh of electricity and avoiding GHG emissions equivalent to 4,463 tons of CO₂. Cuban authorities are also aware that not only it is necessary to harness the potential of its abundant renewable sources, but also to introduce energy efficient technologies and to change the energy consumption patterns being utilized in all sectors of the society.

The action will be aimed at improving policy and regulatory reforms related to the promotion of renewable energy and energy efficiency, improving access to foreign investment, and developing local development projects for rural electrification with the ambitious aim of reaching 100% energy access. Therefore, these actions will directly contribute to transforming Cuba's energy matrix, reducing fossil fuel import bills, creating jobs and reducing greenhouse gas emissions.

3) Coherence with the programming documents

In line with the EU's Agenda for Change and EU-Cuba priorities in the framework of the Multiannual Indicative Programme 2014-2020, specifically with Sector 2, the Action is expected to support the Cuban government in the efficient and sustainable management of its energy resources.

4) Identified actions

The Action Document "Support to Cuba's Energy Policy" (Annex I) proposed for an amount of EU contribution EUR 18,000,000 aims at supporting the Cuban Government efforts towards the efficient and sustainable management of its resources with a view to diversifying Cuba's energy mix.

The reliability of statistical reporting has been a concern, as HDI includes GNI per capita.

The proposed Action aims at the following specific objectives:

- -Support the effective implementation of the "Policy for the perspective development of Renewable Sources and the Efficient Use of Energy" and its Regulatory framework;
- -Facilitate foreign investment in the sectors of Renewable Energy and Energy Efficiency as well as the access to international cooperation funds.
- -Support the implementation of the Programme for Energy Management and Conservation, including Energy Efficiency.
- -Support local development enhancing the access of rural communities to renewable energy, while encouraging efficient energy consumption.

5) Expected results

The expected results of the Action "Support to Cuba's Energy Policy" are fully in line with the Multiannual Indicative Programme (MIP) (2014-2020) and will be reached by sharing best practices and providing training to Cuban key actors by experts with "hands on" experience on related energy policy implementation in the sectors of renewable energy and energy efficiency, and by supporting the government in the design and execution of its strategy for attracting international investment in the energy sector.

This Action is also aligned to broader strategies for poverty reduction and to the Sustainable Development Goals, especially to objective 7 "Ensure access to affordable, reliable, sustainable and modern energy for all".

Cross cutting issues such as gender equality, environment, climate change aspects and human rights dimension are included in the Action.

6) Past EU assistance and lessons learnt.

The proposed Action builds on existing experience under 3 EU-financed projects directly promoting the use of renewable energy (including research-type projects) that concluded between 2015 and the first part of 2016, and one project dealing with climate change, which addresses energy efficiency (i.e. energy is not a core objective of the project).

Lessons learnt within the framework of the EU-financed Exchange of Experts Programme have also been taken into account for the design of the present Action.

7) Complementary actions/donor coordination.

One of the components of the proposed Action will be complementary to the Programme "Support to Sustainable Economic Modernisation" (2nd phase of the Exchange of Experts Programme), approved under the AAP 2015, which started early 2017.

As regards the current or future cooperation in the energy sector, important actors and initiatives in this sector are:

- Canada: Currently, Canada supports UNE (*Unión Nacional Eléctrica*) in the vocational training of staff members such as welders and electricians.
- **Switzerland** / **COSUDE:** Energy is one of their cooperation priorities and they are (co)-financing several interesting projects dealing with energy efficiency (BASAL co-funded with the EU), bio-energy and biomass (use of Jatropha to produce bio-diesel, following the steps of the EU-funded project "Agroenergía" and BIOMAS project).
- AECID (Agencia Española para la Cooperación y el Desarrollo) has been very active in Cuba, but not as much in this sector. In the past, AECID has supported the Cuban NGO CUBASOLAR on solar electrification projects.
- **UNDP:** Energy has been part of UNDP portfolio for several years, along with environment. UNDP is implementing BASAL (climate change adaptation and mitigation component), and is now implementing a new GEF-funded project (2016-2020) dealing with bioenergy (project "Tecnologías de Energía Limpia para las Áreas Rurales en Cuba", (focusing on the promotion of biogas and biodiesel essentially), together with CUBAENERGIA, MINEM and EEIH. UNDP had successfully carried out rural pilot electrification projects in the province of Guantanamo that can serve as examples for this Action.
- UNIDO (United Nations Industrial Development Organization). Some successful cases on electrification such as *Isla de La Juventud* are in UNIDO's portfolio in the country. The *Isla de La Juventud* project was aimed at demonstrating the technical/commercial feasibility of energy production by renewable energy (RE) and training qualified personnel.
- **AFD** (French Agency for Development) opened an office in Havana at the end of 2016. They will implement an EU-funded LAIF Facility (EUR 3 million) to fund pre-feasibility and feasibility studies to attract foreign investments. The energy sector is one of the priorities together with sustainable agriculture, water and sanitation and transport. The Cuban government has already submitted some investment projects on RE to AFD to be analysed for a possible loan. Coordination with AFD has to be ensured in the implementation of this Action.
- **Germany** carried out two identification missions in May and September 2016 consisting of representatives of KfW, GIZ and PTB (German Institute for Metronomy). The main areas of intervention selected and agreed upon with the Cubans are: (i) grid stability (RE source fed into the national grid and respective analytical and protective measures); and (ii) support measures of the national PV production (technological aspects, quality improvement, increase of quantity of PV panels). Modalities of implementation are being discussed and could take some time.
- The **Netherlands** were recently asked by the Cuban government to provide assistance in the area of wind power.

UNDP and UNIDO will be part of implementing bodies of the Programme and close synergies with the EU-funded LAIF Facility implemented by AFD has to be guaranteed.

As far as donor coordination is concerned, apart from the EU Member States Working Groups, there is not a formal mechanism in the country; but close collaboration with other donors involved in this sector will be ensured.

4. Communication and visibility

Foreseen communication and visibility activities may include: media coverage, leaflets, banners, audio-visuals, publications, workshop materials (e.g. bags, notebook and pencils) and fairs, among others. Messages will be agreed between the EU Delegation and main stakeholders. Each implanting body will elaborate a Communication and Visibility Plan and will indicate a specific budget for communication and visibility activities.

5. Cost and financing

'Support to Cuba's Energy Policy' EUR 18 million Total EU contribution to the measure EUR 18 million

The Committee is invited to give its opinion on the attached 2017 Annual Action Programme in favour of Cuba.



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ANNEX

to the Commission Implementing Decision on the 2017 Annual Action Programme in favour of Cuba

Action Document for "Support to Cuba's Energy Policy"

INFORMATION FOR POTENTIAL GRANT APPLICANTS

WORK PROGRAMME FOR GRANTS

This document constitutes the work programme for grants in the sense of Article 128(1) of the

Financial Regulation (Regulation (EU, Euratom) No 966/2012) in the following sections concerning calls for proposals: 5.4.1.					
1. Title/basic act/	Support to Cuba's Energy Policy				
CRIS number	CRIS number: 2016/040-077				
	financed under the Development Cooperation Instrument				
2. Zone benefiting	Cuba				
from the action/					
location					
3. Programming	Multiannual Indicative Programme (MIP) for Cuba 2014-2020				
document					
4. Sector of	Sector 2: Environment and climate DEV. Aid: YES				
concentration/	change: Support for a better use of				
thematic area	key natural resources for sustainable				
	development				
5. Amounts	Total amount of EU budget contribution: EUR 18,000,000				
concerned	Total estimated cost: EUR 18,600,000				
	FIAPP contribution: EUR 300,000				
	Indicative Third Party Contribution from the call for proposals: EUR 300,000				

6. Aid modality(ies)	Project Modality					
and	Direct management:					
implementation	Grants/ call for proposals					
modality(ies)	Procurement of services for Audit and Evaluation					
	Indirect management with:					
	EU Member State A	gency				
	UN Agencies					
7 a) DAC code(s)	Main DAC code: 230 – 100 %					
7 4) 2110 0040(3)	23110 – 50 %					
	23183 – 25 %					
	23210 – 25 %					
b) Main Delivery	Channel 1: 10000 – Public Sector Ins	stitutions (Th	nird country gov	vernment –		
Channel	Delegation cooperation)					
	Channel 2: 41000 – United Nations A	Agency				
	Channel 3: 51000 – University					
8. Markers (from	General policy objective	Not	Significant	Main		
CRIS DAC form)		targeted	objective	objective		
	Participation development/good governance		Х			
	Aid to environment			Х		
	Gender equality (including Women x					
	in Development)					
	Trade Development x					
	Reproductive, Maternal, New born x					
	and child health					
	RIO Convention markers Not Significant Main					
	Piological diversity	targeted	objective	objective		
	Biological diversity Combat desertification	X				
		X				
	Climate change mitigation			X		
	Climate change adaptation	X				
9. Global Public	N/A					
Goods and						
Challenges (GPGC) thematic						
flagships						

[2]

SUMMARY

Since 2008, Cuba has been undergoing a political and economic transformation process. In this context, the Cuban government has engaged in a very ambitious plan to modify its energy matrix setting itself the goal of generating 24 % of its electricity in 2030 through renewable energy (compared to approx. 4.3 % of electricity generated by renewable energy sources in 2013), engendering high interest from investors throughout the world, especially in the current period after the signature of the EU-Cuba Political Dialogue and Cooperation Agreement.

This EU Action is designed to make a meaningful contribution to Cuba's energy sector giving equal attention to both, renewable energies and energy efficiency targets. In line with the EU's Agenda for Change¹ and EU-Cuba priorities in the framework of the Multi-annual Indicative Programme 2014-2020², the Action is expected to support the Cuban government in the efficient and sustainable management of its energy resources.

This objective will be reached by sharing best practices and providing training to Cuban key actors by experts with "hands on" experience on related energy policy implementation in the sectors of renewable energy and energy efficiency, and by supporting the government in the design and execution of its strategy for attracting international investment in the energy sector.

In this context, the proposed Action aims at the following specific objectives:

- Support the effective implementation of the "Policy for the perspective development of Renewable Sources and the Efficient Use of Energy" and its Regulatory framework.
- Facilitate foreign investment in the sectors of Renewable Energy and Energy Efficiency as well as the access to international cooperation funds.
- Support the implementation of the Programme for Energy Management and Conservation, including Energy efficiency.
- Support local development enhancing the access of local communities to renewable energy, while encouraging efficient energy consumption.

The Action is expected to start at the end of 2017 with a duration of 60 months. The project will finalise in 2022.

1. CONTEXT

1.1 Country Context

The Republic of Cuba is the largest Caribbean island with a population of over 11.38 million inhabitants. Cuba's nickel reserves are estimated at 5.5 million metric tons (the 5th largest in the world). The island accounts also for 8 % of the world's cobalt production.³ The export of these commodities, of sugar and its by-products like rum, of tobacco and cigars as well as the increasing tourism are Cuba's main sources of the urgently needed foreign currencies.

Despite its current economic and social challenges, Cuba ranked 67th out of 188 countries in the global 2014 Human Development Index (HDI) ranking. Cuba's HDI is given with 0.769, the average HDI in the

Chapter 3.3 of the Agenda for Change

https://ec.europa.eu/europeaid/sites/devco/files/mip-cuba-2014-2020_en.pdf

http://investorintel.com/gold-precious-metals-intel/cracking-open-cuba-next-vietnam

All data quoted from: UNDP Human Development Report, 2015

³ UNDP Human Development Report, 2015.

LAC region is 0.748. The GNI per capita is USD 7,301 per capita, while it is USD 14,242 per capita in the LAC region².

Cuba is a country with a low demographic growth, low levels of fertility and mortality (especially infant mortality: 4.2 % per 1,000 births), high life expectancy (79.4 years, LAC region: 75 years), a consequently aging population (18 % aged 60 and over) and a negative external migration balance.

Under President Raúl Castro Ruz (since 2008), Cuba is undergoing a slow, but constant transformation process, seeking to uphold its political system and the achievements of the revolution, such as universal free healthcare and education. Cuba has the worldwide highest ratio of medical doctors per patients, has with 97 % one of the highest rate of alphabets worldwide and the mean time of schooling is high with 11.5 years compared to an average of 8.2 years in the LAC region.³

One of the key economic sectors due to be modernised and restructured is the energy sector. Cuba needs urgently to reduce its high dependency on imported fossil fuels for electricity generation and safeguard domestic financial resources. This is one of the core problems that hamper further social and economic development and that the government has to solve with urgency. The government is increasingly aware of the fact that the energy problem can only be solved by dealing with both sides of the same coin: the usage of its own indigenous renewable energy sources on one side and, in parallel, by introducing and applying energy efficient technologies and change the way energy is being utilised in all sectors of the society.

While the "Política para el Desarrollo Perspectivo de las Fuentes Renovables y el Uso Eficiente de la Energía" or Policy for the perspective development of Renewable Sources and the Efficient Use of Energy (June 2014) is not going to be published⁴, the regulatory framework for the energy sector is already formulated and it is expected to be approved and published in the Official Journal by the end of 2017.

The nine principles of this policy (November 2015) are:⁵

- 1. Meet the energy demand and consumption as determined in the Cuban economic and social development plan up to 2030 (draft adopted in 2016).
- 2. **Ensure energy supply security** in the short, medium and long-term perspective.
- 3. Ensure a socially, economically, environmentally and sustainably compatible national energy mix that reduces Cuba's dependency from imported fossil fuels.
- 4. Support Cuba's policy to develop renewable energy resources and to apply energy efficiency in all sectors.
- 5. Strengthen the national production of crude oil and gas and their refinery by acceleration of studies and researches including new technologies and production capacities.
- 6. Ensure the **optimal exploitation** of national energy sources.

- 7. Ensure the **consideration of all energy aspects** (production, transformation, transport, distribution, consumption, environment, costs) as well as energy efficiency in the technology selection process.
- 8. Ensure a broad **participation of foreign investors** in the development of the energy sector.
- 9. Strengthen the international cooperation and regional integration for sustainable development.

Information on its main objectives has been shared with the media and within the framework of Business Fora and other public events. The Policy will be translated in the regulatory framework (decrees, resolutions and other legal instruments).

Summarised and translated from: PROPUESTA DE ASPECTOS A CONSIDERAR EN LAS INDICACIONES PARA LA ELABORACIÓN DE LA POLÍTICA ENERGÉTICA NACIONAL. G. Pereira. DPEEN. MINEM. XIII SENAE. Nov. 2015.

1.1.1 Public Policy Assessment and EU Policy Framework

The planned Action falls under focal sector 2 (Environment and Climate Change: Support for a better use of Key Natural Resources for Sustainable Development) of the EU-Cuba Multi-annual Indicative Programme 2014–2020 and seeks to support the implementation of Cuba's Energy Policy.

The Guidelines (*Lineamientos*) adopted in 2011 and updated in 2016 for the period 2016-2021 outline Cuba's medium-term strategic development objectives in a package of more than 300 measures. Chapter 8 (guidelines 195 to 206) of the updated document is dedicated to Energy Policy. The measures concerning energy, renewable energy and energy efficiency aim to⁶.

- Increase national production of crude oil and gas.
- Increase the efficiency of national refinery of crude oil and gas products.
- Significantly increase electricity generation efficiency.
- Increase the thermal generation capacities.
- Maintain an active policy of power load management to decrease consumption peaks and lower its impact on generation capacity.
- Reduction of technical distribution losses by improvement of distribution grids.
- Increase of electricity supply of unserved zones by applying the most economical solutions.
- Foment co-generation and tri-generation, in particular in sugar industry.
- Maximise the use of different sources of renewable energy, with a priority given to the sources with a greater economic impact (programme till 2030).
- Give priority attention to the attainment of the energy-saving potential identified in the State sector, while in the residential sector, further efforts are foreseen to fully tap its efficiency reserves, which includes a review of the current electricity tariffs, so that they may play their role as regulators of demand.
- Further improve the planning and control in the use of energy sources, through reinforcement of power metering, as well as of the quality of energy efficiency indicators and consumption rates.
- Improve awareness on the benefits of energy efficiency and rational use of energy through the educational systems and in public media.

Aligned to the *Lineamientos*, the Policy for the perspective development of Renewable Sources and the Efficient Use of Energy was approved by the Council of Ministers of Cuba in June 2014 but not published.

The regulatory framework for the new national energy policy was due to be published in May 2015, then announced for May 2016, but is still not yet published until now. In 2014, the government disclosed the political and economic plan of diversifying significantly its energy matrix, aiming at increasing the use of renewable energy sources for electricity generation from approx. 4.3 % in 2013 (including 3.5 % from the sugar industry) to 24 % by 2030, generating some 7,245 GWh of electricity, avoiding GHG emissions equivalent to 4,463 tons of CO₂. The Ministry of Energy and Mines (MINEM), in discussions with the EU, has commented their willingness to increase the aforementioned target of 24 % of renewable energy sources for electricity generation to 29% for the year 2025. This objective can only be achieved by attracting USD 3.7 billion of foreign investments.

The Ministry of Foreign Trade and Investment (MINCEX) has been publishing every year since 2014 a portfolio of foreign investment opportunities ("Cartera de oportunidades de inversión extranjera"). This portfolio highlights the projects "on offer" about which investors can start negotiating, including

Translated from: "Actualización de los lineamientos de la política económica y social del partido para el periodo 2016 - 2021....", August 2016

22 projects in the renewable energy sector with an investment per project estimated between USD 46 million and over 200 million. The last version of this investment catalogue was published in 2016. This call to international investment contrasts quite sharply from the policy undertaken until recently, where only a few selected and usually like-minded partners (Venezuela, China, Brazil, etc.) were admitted to make business in Cuba, usually under preferential terms.

1.1.2 Stakeholder Analysis

The main institutions involved in the development of renewable energy (RE) and energy efficiency (EE) in Cuba are the following:

• The <u>Governmental Energy Commission</u> was created in 2012 by a Presidential Decree to elaborate a new sustainable energy policy, carry out several key studies and evaluations and establish required norms. The Commission is made of the following members: 8 ministries (MINEM, MINAG, MINCEX, MINDUS, MEP, MINTUR, CITMA, MINAL⁷), 2 agencies (UNE⁸, AZCUBA⁹), and 6 universities¹⁰.

The <u>Ministry of Energy and Mines (MINEM)</u> is the central government entity responsible for proposing and, once approved, controlling and managing government policies for the energy sector (including oil and electricity), as well as geological and mining sectors. Created in 2012, the Ministry controls several key state-owned companies such as the *Grupo Empresarial* CUBANIQUEL (minerals), the electric utility UNE (*Unión Eléctrica de Cuba*), the national oil and oil products company CUPET, and the *Grupo Empresarial* GEOMINSAL (geology and mining).

The **Renewable Energy Directorate** is the department in charge of defining the regulatory framework for renewable energy and energy efficiency in Cuba.

- Electricity management and supervision at municipal and provincial levels are done by staff from <u>UNE</u>, the <u>Electric Utility</u>. The UNE has the sole responsibility for the transmission, distribution and sale of electric energy to end-users. It defines the power tariffs for the consumers and purchases electricity from independent producers. Currently, UNE has 3,766,000 clients. Tariffs for electricity are regulated and controlled by the Ministry of Finance and Pricing. In the fossil fuels sector, <u>CUPET</u> is the state-owned company in charge of supplying fuel and lubricants to the national market, maximizing the value of national fuels compared to competitive products from the Caribbean area.
- o The National Office for the rational use of energy, ONURE (Oficina Nacional de Uso Racional de la Energía), is a body depending from the MINEM, responsible for developing the country's strategy regarding management and conservation of energy and applying energy efficiency measures in Cuba. It overlooks a group of about 400 energy auditors in charge of managing and planning the EE initiatives in the country. Those auditors deliver permits for new power installations and help propose appliances and equipment labelling standards for Cuba.
- The <u>Ministry of Foreign Trade and Investment (MINCEX)</u> is the government entity responsible for the preparation of the policy regarding foreign trade activities, the creation of mixed companies, economic cooperation with foreign countries, organisations and foreign associations, and the negotiation of foreign investments. In addition, this organism supervises the international cooperation Cuba receives and provides.

MINAG: Ministry of Agriculture; MINDUS: Ministry of Industries; MEP: Ministry of Economy and Planning; MINTUR: Ministry of Tourism; CITMA: Ministry of Science, Technology and Environment; MINAL: Ministry of Food Industry.

⁸ Electric Utility (*Unión Eléctrica de Cuba*).

⁹ Sugar State group – Grupo empresarial Azucarero.

Higher Polytecnical Institute "Jose Antonio Echevarria" (CUJAE); Havana University (UH); Central University "Marta Abreu" of Las Villas (UCLV); Cienfuegos University; University "Maximo Gomez Baez" of Ciego de Avila; and University of Orient.

- PROCUBA belongs to the MINCEX and is the agency in charge of promoting foreign trade and investment services.
- The <u>Ministry of Economy and Planning (MEP)</u> heads the implementation of the Guidelines and the economic planning, and consequently, has a more integrated and holistic view of the Cuban economy needs. The MEP coordinates the EU-financed "Expertise Exchange Programme" in Cuba.
- The Ministry of Agriculture (MINAG) is the government entity responsible for State policies for the use and exploitation of agricultural land (either collectively or individually), and agricultural production. Its mandate also covers forestry. As such, it is also involved in sustainable energy by means of the use of forest products and residues (including marabou bush, an invasive species widespread on non-cultivated land throughout the country), agricultural residues, sugarcane bagasse and biodiesel. Biogas installations are also under its responsibility.
- The Ministry of Science, Technology and Environment (CITMA) is the government entity overlooking the country's environmental sustainable development. It is responsible for proposing and, once approved, executing, controlling and managing state policies and decrees regarding science, technology (including nuclear energy), and environment (including climate change).
 - CUBAENERGÍA (Centre for Information Management and Energy Development) is an agency of CITMA which: a) provides energy education, dissemination of information and outreach activities; b) promotes and undertakes research, development and innovation projects; and c) provides support services to ministries and business groups upon request (e.g. advice on the development of the country's RE strategy). It is probably the best informed entity as to Cuba's energy challenges and opportunities.
- <u>MINDUS (Ministry of Industries</u>) is the government entity responsible for managing, executing and supervising the policies of the industrial activities.
- <u>MINTUR (Ministry of Tourism)</u> leads the implementation and development of touristic sector in Cuba. It participates with other entities in developing the conservation of energy and energy efficiency policies in the tourism sector.
- AZCUBA (Sugar State Group) is the government agency in charge of sugar policies in the country. It is also the owner of the sugar cane facilities and, consequently, the owner of all the associated thermal plants that uses sugarcane waste as main fuel.
- <u>Universities and Research Centres (depending on the Ministry of Higher Education MES</u>) play an important role in R&D projects, improving scientific skills and working closely with local authorities for developing specific projects. The Universities and Research Centres also work closely with the authorities in implementing the energy policies as technical advisors.

The direct beneficiaries will be officials implicated in the implementation of the Cuban policy in the sectors of renewable energy and energy efficiency, both at national and local levels as well as relevant Research and Education centres and Cuban citizens in rural/isolated areas benefitting from the electrification foreseen under the Programme.

The indirect or final beneficiary will be the entire population of Cuba.

1.1.3 Priority Areas for Support / Problem Analysis

Cuba's reality is slowly changing as a result of internal demand for economic and social advancement, as well as of external factors. Subsequently, foreign companies are increasingly seeking to invest in Cuba's economy, although very few investments are materialised.

Various barriers, gaps and issues need to be addressed. These constraints are of different nature:

• Peculiar policy and institutional environment and scarce information: Most policies, strategies and figures are not public. As regards energy policy, the government has only disclosed its objectives with regards to the changes in its energy matrix. It argues that they have already carried out all the necessary studies that sustain their ambitions and only need financial support to reach them. Donors have no access to those studies, which makes it difficult to appreciate their overall quality. The government is in charge of the generation, transmission and distribution of energy.

Investment risks: It is not clear how prioritisation of the projects referred in the portfolio for investment has taken place in terms of resource availability and variability, technology assessment and cost-benefit analysis. Negotiations with investors or donors are done in a bilateral manner, and information on how these negotiations are going-on, and what are the possible bottlenecks - if any are usually not disclosed. Most likely, MINEM officials or those who negotiate (AZCUBA, MINAG) are not used to the rules of the market economy. Electricity tariffs are cross-subsidised among the different consumer groups paid by the government which creates an additional burden on the public budget and a risk for the private sector in order to invest. Moreover the lack of a transparent and functioning energy market is an additional risk for the private sector.

Capacity, knowledge (expertise) and technological gaps: More qualified staff and specialists will be necessary if the ambitious 2030 target is to be achieved. Yet, the time period is relatively short to have people trained and get skilled local staff to work on all the energy installations that are planned to be constructed and in operation in the country by 2030¹¹.

- The universities are educating people in RE and EE relevant disciplines (especially engineering), but often in a very **theoretical way with little practical exposure** to gain and improve skills and experience. Teachers, students, and officials as well (most of MINEM staff are engineers) have very limited knowledge of the most recent RE and EE practices (in particular on investment) and technologies used throughout the world.
- Very limited knowledge at local level: The local governments are to play an increasingly important
 role in the decision-making processes regarding energy and development. People working in the local
 government will need some kind of training to understand better the challenges and opportunities in
 their localities.
- **Financial constraints to access to technology and equipment**: Cuba needs to import much of the technology, equipment and spare parts needed, all to be paid in hard currency. In this regard, an overall and unsolved constraint is the dual currency of the Cuban Peso (CUP) and the Cuban Convertible Peso (CUC)¹², and also the incompatibility of CUC with international currencies. In addition, research centres, universities but also companies work with obsolete equipment.

While enterprises manufacturing export products and tourism-related enterprises pay their electricity bill in the convertible currency (CUC), domestic households and some State-owned enterprises pay their electricity bills in national currency (CUP).

Reduced awareness of the potential benefits of energy efficiency measures: Despite the creation of ONURE, and the fact that energy efficiency is politically considered as an important way to ease the energy crisis, EE application is still at an infant stage in Cuba. The necessary metering instruments are not available to analyse the consumption of energy. In addition, there is a general lack of awareness. The subsidies of electricity, water, gas and other basic products are such that people care little about the quantities they consume and subsequently, there is no 'saving and conservation'

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In less than 15 years' time, Cuba will need to train people who can work in (updated in 2016) 25 new biomass power plants, 17 wind farms, 74 hydropower plants and an uncertain number of PV solar power plants (if we divided 700 MW among 4 MW, the minimum number is 175 PV solar power plants), yet there is very limited experience in the country to install, operate and maintain large RE-based power plants.

Official rate: http://www.bc.gob.cu/Espanol/tipo_cambio.asp (1 CUC = 1 CUP); real rate: 1 CUC = 24 CUP

culture. MINEM has stated that tariffs for the residential sector will keep on being very highly subsidisd.

2 RISKS AND ASSUMPTIONS

Risks	Risk level	Mitigating massures
RISKS	(H/M/L)	Mitigating measures
No access to the Policy for the perspective development of Renewable Sources and the Efficient Use of Energy since this document will not be published	M	MINEM has informed the EU Delegation to Cuba that the policy on renewable energies will not be officially published. However, the 'Lineamientos' updated in August 2016, reflect the basics of the envisaged RE/EE development. Also the regulatory framework, that is expected to be published shortly, will be guiding the implementation of the Cuban energy policy. This regulatory framework - with the assistance of the EU Action - will be regularly reviewed.
Lack of coordination at ministerial level and risk of staff turnover.	L/M	An appropriate management structure for the Action will be ensured which would include: - A Director of the Programme who will ensure the overall coordination and coherence of the Programme. - A management team mostly composed by officials from MINEM that will lead the implementation of the Action on behalf of the Cuban counterpart, including day-to-day coordination of the Programme, monitoring of activities, impacts and adjustment of the Action, if required. - A Steering Committee, chaired by MINEM, to coordinate all parties and guarantee the coherence and quality of all activities. It is essential to ensure a careful formulation of responsibilities of the Steering Committee and a meaningful selection of committee members. Annual Work Planning workshops with key stakeholders focusing on expected results will be also held.
Deterioration of the political relation between Cuba and the EU		In the present context and after the signature of the EU-Cuba Political Dialogue and Cooperation Agreement this risk is considered low.

Deterioration of the political relation between the USA and Cuba	M/H	Considering the new US administration as of January 2017 and the announced stop or even reverse of the current improvement of the US-Cuban relationship this risk is considered moderate to high.
		Mitigation measures: - Establishing a stable relationship between the EU and Cuba Encouragement of the EU Member States to increase their Development Cooperation with Cuba.
Difficult access to key decision-makers and interlocutors (for instance people involved in the Governmental Energy Commission)	M	The participatory approach used during the identification and formulation of the Action have ensured a high level of ownership and trust among key decision-makers and interlocutors which should ensure promptness and access during the implementation of the Action. As for the EU-Cuba Expertise Exchange Programme, a high level representative from this Ministry will have to be appointed to ensure a proper priorisation, coherence and follow-up of activities ¹³ .
Participants to trainings and other Programme activities are not duly selected	L/M	The Action will provide short to medium-term technical assistance to the MINEM as main counterpart of the Action. However, MINEM has to carefully select the recipients of such assistance/trainings in order to maximise benefits. Replication of activities (train the trainers) is also to be ensured.
Lack of involvement by local and national authorities		All parties will agree ex-ante with the Cuban government who is the target population.

Assumptions

- > The Cuban government remains committed to the implementation of its Energy Policy based on 'Lineamientos' and maintains its interest in this Action.
- ➤ The Cuban government shares with the EU its regulatory framework.
- > The Financing Agreement between the EU and the Cuban Government is signed on schedule and the beginning of the Action is not postponed.
- ➤ The Cuban government communicates the provisions of the energy regulatory framework to potential foreign investors and adapts it, as foreseen, to changing needs.
- The proposed imports of equipment and components are fluid and customs clearings processes do not delay the implementation of the Action.

Other Ministries participating to this Programme are represented at the level of Advisor to the corresponding Minister (MEP, MES)

3 LESSONS LEARNT, COMPLEMENTARITIES AND CROSS-CUTTING ISSUES

3.1 Lessons Learnt

In the framework of the EU cooperation with Cuba, the EU has financed 3 grants directly promoting the use of renewable energy (including research-type projects) that concluded between 2015 and the first part of 2016¹⁴, and one project dealing with climate change¹⁵, which addresses energy efficiency (i.e. energy is not a core objective of the project). All those projects are linked with the agricultural sector. The official counterparts have been the MINAG¹⁶, the CITMA and the MES. None of these projects have been supervised directly by MINEM.

Projects in Cuba suffer implementation delays of a year or more due to various obstacles, such as difficulties in accessing imported equipment (lack of clear importation procedures), limited availability of local equipment (inexistence of local suppliers) and problems with local transportation, excessive bureaucracy, lack of coordination and understanding at local level (not enough capacity building in the local sector, mainly in energy issues), and lack of sufficient support from ministries and decision-makers at national and local levels.

Based on the experience with those projects, some of the key elements for success seem to be:

- Ensure sufficient time to be able to consult with all parts and have their full understanding as to their involvement and level of responsibility.
- Obtain high-level support right from the beginning (i.e. identification and formulation phase) and ensure a close involvement of decision-makers in the monitoring of the project (high-level representatives attending Steering Committees as well as relevant meetings) throughout its implementation.
- Find and work with committed partners.
- Take into account logistical and administrative constraints specific to the Cuban context, especially according to imports of goods and equipment.
- Set realistic goals according to the openness and effective dedication of government staff.
- Invest significantly in capacity-building and awareness raising at all levels.
- Invest in basic equipment.

- Give priority to projects that build on successful experiences in order to promote its expansion and replicability, instead of experimenting new ideas unless those having high-level support.
- Avoid construction or civil works unless decisive support and commitment from the authorities throughout the project is secured.
- Have a clear prioritisation for investments, considering lead times and possible barriers, in such a way that low/zero investment projects that can be developed locally are supported.

⁽i) AGROENERGÍA: Fomento de fincas integrales agro-energéticas autosustentables para contribuir al desarrollo sostenible en zonas rurales de Cuba, with OIKOS, 1.4 M EUR; (ii) Fincas agropecuarias sustentadas en el uso de energías renovables en el sur oriental de Cuba, with HIVOS, 0.8 M EUR; (iii) BIOMASA MARABÚ: Aprovechamiento de la biomasa de marabú y otras especies energéticas como combustible en la generación de electricidad y recuperación ambiental en Camagüey, with Sodepaz, EUR 1.6 million.

BASAL Bases Ambientales para la Sostenibilidad Alimentaria Local, with UNDP and JRC, co-financed by COSUDE, EU financing EUR 8.3 million.

MINAG has a renewable energy unit, but they have not shown much interest in the mentioned cooperation projects.

3.2 Complementarity, Synergy and Donor Coordination

As regards the current or future cooperation in the energy sector, important actors in this sector are:

- Canada: Conclusions of the energy's stocktaking mission performed in February/March 2016 are not available ¹⁷. Currently, Canada supports UNE in the vocational training of staff members such as welders and electricians.
- **Switzerland** / **COSUDE:** Their cooperation projects are mainly focused on local development, decentralisation including municipal training, transfer of knowledge, participatory mechanisms. Energy is also a priority and they are (co)-financing several interesting projects dealing with energy efficiency (BASAL co-funded with the EU), bio-energy and biomass (use of Jatropha to produce bio-diesel, following the steps of the EU-funded project "Agroenergía" and BIOMAS project), all undertaken in collaboration with the *Estación Experimental Indio Hatûey* (EEIH).
- **AECID** (*Agencia Española para la Cooperación y el Desarrollo*) has been very active in Cuba, but not as much in this sector. In the past, AECID has supported the Cuban NGO CUBASOLAR on solar electrification projects.
- UNDP: Energy has been part of UNDP portfolio for several years, along with environment. UNDP is implementing BASAL (climate change adaptation and mitigation component), and is now implementing a new GEF-funded project (2016-2020) dealing with bioenergy (project "Tecnologías de Energía Limpia para las Áreas Rurales en Cuba", (focusing on the promotion of biogas and biodiesel essentially), together with CUBAENERGIA, MINEM and EEIH. UNDP had successfully carried out rural pilot electrification projects in the province of Guantanamo that can serve as examples for this Action.
- UNIDO (United Nations Industrial Development Organization). Some successful cases on electrification such as *Isla de La Juventud* are in UNIDO's portfolio in the country. The *Isla de La Juventud* project was aimed at demonstrating the technical/commercial feasibility of energy production by renewable energy (RE) and training qualified personnel.
- **AFD** (French Agency for Development) opened an office in Havana at the end of 2016. They will implement an EU-funded LAIF Facility (EUR 3 million) to fund pre-feasibility and feasibility studies to attract foreign investments. The energy sector is one of the priorities together with sustainable agriculture, water and sanitation and transport. The Cuban government has already submitted some investment projects on RE to AFD to be analysed for a possible loan. Coordination with AFD has to be ensured in the implementation of this Action.
- **Germany** carried out two identification missions in May and September 2016 consisting of representatives of KfW, GIZ and PTB (German Institute for Metronomy). The main areas of intervention selected and agreed upon with the Cubans are: (i) grid stability (RE source fed into the national grid and respective analytical and protective measures); and (ii) support measures of the national PV production (technological aspects, quality improvement, increase of quantity of PV panels). Modalities of implementation are being discussed and could take some time.
- The **Netherlands** were recently asked by the Cuban government to provide assistance in the area of wind power.
- IRENA organised a workshop for technical experts of MINEM and UNE on 24-26 August 2016 to exchange experiences on planning and operating the electricity system with high shares of variable renewables. A follow up workshop intended to take place in the last quarter of 2017 will facilitate exchange of experiences with neighbouring countries.

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¹⁷ The EU formulation mission took place in October-November 2016

• China is an important partner of the Cuban Government in this sector, specially in capacity building. China invites Cuban public servants every year to a training on renewable energies (the subject is decided by both parts). There is a big potential for Chinese investment in the sector but not concretize yet, mostly in solar foltovoltaic technologies.

3.3 Cross-Cutting Issues

Environmental considerations will be incorporated in the Action activities wherever relevant. In any case, it can already be foreseen the integration of environmental and **climate change aspects** in several exchanges and trainings and the strengthening of the CITMA's assessment role towards the MINEM and other key entities. It should also be ensured that the research activities take into account environmental aspects and that all the investment-related activities promoted are environmentally-sensitive.

The **gender dimension** will also be a cross-cutting component of the Action. Gender equality is a declared objective of both the Cuban authorities and EU cooperation and the gender dimension will be integrated in the different activities to be undertaken in the framework of this Action. Participation by women from both the EU and Cuba will be ensured. MINEM has a gender team, integrated by representatives of the training centres of enterprises related to this Ministry, which has developed a diagnostic and is working on a Gender Institutional Strategy. The Programme will ensure coherence with this gender strategy and will support its implementation, including trainings to the mentioned team and other officials and managers.

As for the **human rights dimension**, Cuba considers access to electricity as a fundamental right for every citizen. The Action, especially under specific objective 4, is expected to contribute to bring Cuban population access to electricity to 100 % (currently estimated at 99.6% ¹⁸).

4. DESCRIPTION OF THE ACTION

4.1 Objectives and Results

This programme is relevant for the Agenda 2030 and it contributes to the progressive achievement of SDG no. 7 "Ensure access to affordable, reliable, sustainable and modern energy for all".

The general objective is to support the Cuban Government efforts towards the efficient and sustainable management of its resources with a view to diversifying Cuba's energy mix.

The **specific objectives** of the Action are:

Specific Objective 1: Support the effective implementation of the "Policy for the perspective development of Renewable Sources and the Efficient Use of Energy" and its Regulatory Framework.

Specific Objective 1 aims at enhancing the renewable energy (RE) and energy efficiency (EE) knowledge and skills of key government officials, at national and local level, and of the academic sector, with a view to support the implementation of the national policy for RE and EE, e.g. through, among others, exchange of experiences and best practices in RE and EE with other countries, especially from EU public administrations; revision of the existing regulatory framework and identify the gaps/points for improvement and/or adapt it accordingly to international best practices selected as most fitting the Cuban context; engaging, both at legal and regulatory level, in the ambitious RE and EE targets already announced for 2030; defining the milestones to assess the performance towards meeting these targets and link them to concrete measures to be taken in case of insufficient progress; creating a RE and EE roadmap towards meeting those targets, based on reliable measurements of sources.

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¹⁸ MINEM estimates

In order to achieve this objective the following results will be sought:

- Res 1.1: Coherent legal and regulatory framework in the sectors of renewable energy and energy efficiency are in place and each time in line with the Policy objectives.
- Res 1.2: Improved know-how and skills of national and local governments and local officials.
- Res 1.3: Strengthened know-how and technical skills on RE and EE of Cuban research centres, universities and other educational institutions.

Specific Objective 2: Facilitate foreign investment in the sectors of Renewable Energy and Energy Efficiency as well as the access to international cooperation funds.

Specific Objective 2 is oriented to create an enabling environment to attract mainly foreign capital to invest in the Cuban energy sector. The Action also aims at supporting the Cuban government in creating a favourable investment environment and promoting its investment policy for foreign investors in the RE and EE areas, through among others, capacity building activities for government officials in negotiation techniques and public tendering procedures; increasing knowledge base about international experiences with incentives for foreign investments; identifying and updating financing schemes and mechanisms for development support, including through familiarising government officials with available international financial instruments and development cooperation in the the energy sector.

In order to achieve this objective the following results will be sought:

- Res 2.1: Negotiation and investment promotion capacities as regards foreign investment strengthened.
- Res 2.2: Improved capacities of the Cuban government and organizations to take advantage of the financing opportunities in the energy sector.

Specific Objective 3: Support the implementation of the Programme for Energy Management and Conservation, including Energy Efficiency.

Specific Objective 3 deals with energy efficiency as an important element of the Cuban energy sector. The expected results are the adoption by decision makers of energy efficiency measures with a view to relieving Cuba's energy consumption through, among others, enabling technicians to carry out energy audits according to international best practices in key sectors (industrial, public, residential, transport and tourism); identifying the needs for EE measures and its implementation; developing energy efficiency demonstrative projects.

In order to achieve this objective the following results will be sought:

- Res 3.1: EE needs assessment at identified institutional and corporate level (capacity building and equipment) undertaken
- Res 3.2: Capacities and equipment of identified State entities, firms and institutions involved in EE strengthened
- Res 3.3: EE demonstration projects elaborated and implemented

Specific Objective 4: Support local development enhancing the access of rural communities to renewable energy, while encouraging efficient energy consumption

Specific Objective 4 focuses on the improvement of life quality in rural communities by improving/providing energy access using renewable energy sources. This intervention will make maximum use of energy efficient technologies. This project will contribute to the rural electrification of un-served local households and communities contributing to achieve a country-wide 100% electricity

coverage. Currently the level of rural electrification in Cuba is around 99 % ¹⁹; the Programme will contribute with the electrification of around 6,000 households, contributing to reach the 100 %.

In order to achieve this objective the following results will be sought:

- Res 4.1: Needs and opportunities in terms of access to energy in some rural communities identified
- Res 4.2: Best practices with regards to the use of RE in Cuban local areas
- Res 4.3: Technical solutions using RE in local communities aiming at improvement of life quality and favouring the local productive development designed and implemented

4.2 Main Activities

In order to serve the general objective of the Action and to achieve the above-mentioned specific objectives, the following indicative activities per result will be implemented. In addition, the following activity will be undertaken for each specific objective in order to ensure adequate monitoring of the Action (see 5.8.): "Define relevant baselines and milestones for each proposed indicator".

Res²⁰ 1.1: Coherent legal and regulatory framework in the sectors of renewable energy and energy efficiency are in place and each time in line with the Policy objectives:

- Enhance knowledge and understanding of the regulatory framework among relevant stakeholders.
- Analyse different international cases of successful implementation of the regulatory framework, identifying elements that could be integrated in the Cuban one.
- Design and establish a monitoring and evaluation system for the implementation of the regulatory framework.

Res 1.2: Improved know-how and skills of national and local governments and local officials:

- Train officials on the regulatory framework and on energy technologies and their applications (e.g. RE principles of wind, hydro, solar power and bio-energy; EE principles, concepts and technologies; energy audits; and grid integration of RE).
- Ensure access to a more actualized bibliography and international data on RE and EE.
- Disseminate national and international experiences and best practices among officials.

Res 1.3: Strengthened know-how and technical skills on RE and EE of Cuban research centres, universities and other educational institutions:

- Provide access to knowledge (e.g. academic exchanges; participation in international key conferences; trainings) and elaborate/implement train-the-trainer schemes to support a wide diffusion of RE and EE know-how towards Cuban universities and other educational institutions.
- Update educational programmes related to RE and EE.
- Develop research and innovation projects on RE and EE, with a special emphasis on the applicability of results to the development of Cuban enterprises in this sector.
- Analyse/select international experiences related to RE and EE technical norms and standards that
 may prove relevant to Cuban context.

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According to MINEM data

According to OECD DAC terminology, the term of "result" covers three levels of the results chain: impact, outcome and outputs. Although some of the listed results are actually outputs; it has been decided to use the general term of "result".

Res 2.1: Negotiation and investment promotion capacities as regards foreign investment strengthened:

- Training of officials in negotiating skills and in documenting results (e.g. Memorandum of Understanding, letters of intention).
- Training of officials and managers in investment promotion strategies.
- Sharing experiences and best practices on foreign investment promotion in RE and EE.
- Organization of and participation in investment promotion fairs on RE and EE.²¹

Res 2.2: Improved capacities of the Cuban government and organizations to take advantage of the financing opportunities in the energy sector:

- Provide technical assistance to, according to international standards, analyse, interpret and update
 pre-feasibility and feasibility studies on investment opportunities and/or to elaborate new studies
 where necessary.
- Provide technical assistance for the elaboration of proposals based on international mechanisms and opportunities.
- Increase knowledge base in analysing and interpreting economic-financial documents/studies and risk assessments on investment opportunities.
- Increase knowledge base and skills to access financing mechanisms for development cooperation.

Res 3.1: EE needs assessment at identified institutional and corporate level (capacity building and equipment) undertaken:

- Define sector indicators for energy efficiency in key pre-selected sectors (eg. touristic, industrial and residential sectors among others).
- Identify measures needed to reach the indicators for the selected sectors.
- Identify equipment and training needs at identified entities in key pre-selected sectors.
- Identify equipment and training needs of employees of institutions involved in ensuring energy efficiency.

Res 3.2: Capacities and equipment of identified State entities, firms and institutions involved in EE strengthened:

- Elaborate strategies for the selected sectors to implement EE measures.
- Raise awareness and create new capacities leading to improve EE performance.
- Improve the instrumentation infrastructure to measure energy efficiency data.

Res 3.3: EE demonstration projects elaborated and implemented:

• Select and implement EE demonstration projects in the identified sectors.

Res 4.1: Needs and opportunities in terms of access to energy in some local communities identified and capacities on RE developed:

- Identify needs in selected rural communities for energy access (e.g. carry out enquiries to key actors but also take account of experiences of other projects).
- Evaluate local potentials on RE (e.g. carry out resource assessment in selected rural communities capacity of animal farming, biogas production, yields of Jatropha cultivation, availability of Marabou, solar radiation, etc.).

For all the activities related to the promotion of foreign investment in Cuba, the key institution is ProCuba, which is currently participating to the EU-Cuba Expertise Exchange Programme

- Create networks for local capacity building in RE at community or provincial level to contribute to local development programmes.
- Create or strengthen infrastructure at local level to provide local energy services (e.g. rural energy service companies, rural energy centres or agencies).

Res 4.2: Best practices with regards to the use of RE in rural areas and specifically using agroenergy identified and a number of them applied:

- Share international experiences on RE applications in local areas with key actors.
- Apply selected methodologies in identified rural areas.

Res 4.3: Technical solutions using RE in rural communities aiming at improvement of life quality and favouring the local productive development designed and implemented:

- Design and implement local electrification projects with RE in isolated communities and rural households with a local development approach (e.g. around 6,000 households will be electrified).
- Identify and suggest energy saving solutions for the small scale rural industry and communities.

Additionally, the Action will include activities related to monitoring, evaluation and audit as well as communication with beneficiaries and impacted populations.

4.3 Intervention Logic

The Cuban Government has decided to diversify its energy matrix in a substantial manner setting a very ambitious goal concerning the generation of electricity from renewable sources (from 4.3 % in 2013 to 24 % in 2030). Substantial foreign investment, estimated at USD 3.7 billion, is needed to achieve this objective. At the same time, a significant improvement in energy efficiency performance must be ensured. Besides, the Cuban Government aims at reaching 100 % of country electrification in order to ensure that even the most isolated areas have access to electricity, to which this Action will contribute with the electrification of around 6,000 households.

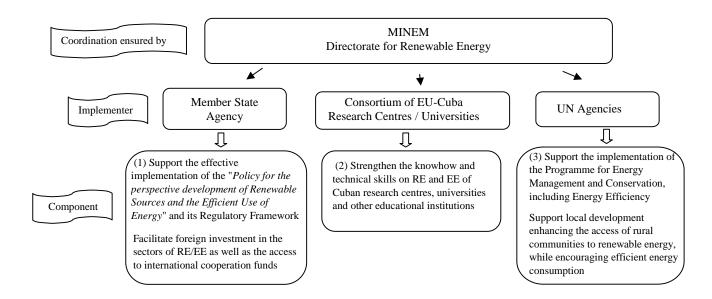
The EU can offer considerable knowledge and expertise concerning the RE and EE sectors. EU-Cuba cooperation has already witnessed some successful experiences through pilot projects on renewable energies ²². Also further to the signature of the Political Dialogue and Cooperation Agreement in December 2016 cooperation between EU and Cuba is further reinforced, which may lead to an increase in EU presence in this strategic sector in Cuba.

The proposed intervention logic was developed at the formulation stage and is based on thorough discussions and exchanges with all the concerned stakeholders. The Action will be the first one implemented with the Ministry of Energy and Mines (MINEM) as main counterpart under an EU-funded project. The MINEM, specifically the Directorate of Renewable Energies, will be in charge of the coordination of the Programme in order to ensure coherence and alignment to the national policies.

The four Specific Objectives have been grouped in three components. Component (1) focuses on Specific Objectives 1 (except Res 1.3) and 2, related to the institutional strengthening of the public entities associated to RE and EE and to the promotion of foreign investments in this sector in Cuba; whereas component (2) deals with Res 1.3, related to the academic strengthening on RE and EE; and component (3) addresses Specific Objectives 3 and 4, with a focus on specific measures and projects to promote EE and the use of RE as a driver for sustainable development.

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See under 3.1 Lessons Learnt



For component (1), taking into account the leadership of the European Union in the implementation of policies on RE and EE, a network of EU agencies will be created (the 18 Member States represented in Cuba have already been consulted) to mobilise the most suitable experts on RE and EE. This network will also be open to, among others, agencies/institutions from Member States not represented in Cuba. Apart from this network, it is foreseen to create a roster of experts in order to enlarge as much as possible the pool of potential experts leading to a successful pre-selection of experts by the Member State entrusted agency. The final choice of experts would lay with the beneficiary Cuban institution.

This component will be earmarked in the ongoing EU funded EU-Cuba Expertise Exchange Programme implemented by FIIAPP. The Direction of the Programme (Ministry of Economy and Planning) and the Ministry in charge of Cooperation (MINCEX) have supported the incorporation of MINEM. MINEM participation to this Programme will ensure relevant synergies with the institutions that are already taking part as all those institutions, to a different extent, are very relevant for the implementation of the national policy on RE/EE.²³ The methodology for searching, pre-selecting and mobilising relevant experts has been constantly improved since the beginning of the first phase of the Programme (2014) and it nowadays enables a quick and relevant response to Cuban demands. AFD will be invited to contribute to the attraction of foreign investment in the sector, establishing synergies with the EU-funded LAIF Facility in Cuba (EUR 3 million); this Facility is implemented by AFD and intends to finance pre-feasibility and feasibility studies relating to investment projects in Cuba likely to be financed by International Financial Institutions.

As for component (2), it responds to activities under Res 1.3. One call for proposals will be launched for European renewable energy and energy efficiency centres, other European public and private institutions (including universities and research centres), Cuban institutions and other educational institutions which will form consortia to respond to the Call. The successful consortium will have to work in close coordination with the entrusted Member States and UN agencies (see below) as well as with the EU Delegation and the Cuban counterparts.

Concerning component (3), UNDP and UNIDO will be in charge of, among others, designing and implementing demonstrative projects, transferring know-how on RE and EE and electrifying rural/isolated

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Ministry of Economy and Planning, MINCEX, MES, Ministry of Justice, National Statistics and Information Office (ONEI), National Economic Research Institute (INIE), National Office for Tax Administration (ONAT), Chamber of Commerce, PROCUBA

houses/areas with a local development approach, providing capacity building to representatives of productive sectors.

5 IMPLEMENTATION

5.1 Financing Agreement

In order to implement this Action, it is foreseen to conclude a financing agreement with the partner country, referred to in Article 184(2)(b) of Regulation (EU, Euratom) No 966/2012.

5.2 Indicative Implementation Period

The indicative operational implementation period of this action, during which the activities described in section 4 will be carried out and the corresponding contracts and agreements implemented, is 60 months from the date of entry into force of the financing agreement.

Extensions of the implementation period may be agreed by the Commission's authorising officer responsible by amending this decision and the relevant contracts and agreements; such amendments to this decision constitute technical amendments in the sense of point (i) of Article 2(3)(c) of Regulation (EU) No 236/2014.

5.3 N/A

5.4 Implementation Modalities

5.4.1.1. <u>Grant</u>: Call for Proposals "Support to the Implementation of Cuban Energy Policy" (Direct Management)

(a) Objectives of the Grant, Fields of Intervention, Priorities and Expected Results:

This grant as described in the present Chapter 5.4.1.1 is only one part of the overall Action as described in Chapter 4.1 of this Action Document, specifically to respond to Result 1.3.

The call for proposals will be launched to bring together European renewable energy and energy efficiency centres, other European public and private institutions (including universities and research centres), Cuban Universities, research centres and other educational institutions who will be required to form consortia in view to strengthen their know-how and technical skills on RE and EE so the educational system will be able to respond at a greater potential to the needs of diversifying the energy matrix in terms of number of people trained and technical level required, but also in terms of R&D capabilities. Cuban research centres and universities play a central role in the implementation of the Energy policy and have been key actors in the design of the regulatory framework.

The successful consortium will have to work in close coordination with the entrusted UN Organisations and with FIIAPP as well as with the EU Delegation and the Cuban counterparts.

This modality will imply opening EU-Cuba bilateral funds for competition for the first time which will be an opportunity to share in practice our public tendering procedures, and jointly with MINEM evaluate the proposals submitted.

The overall objective of the grant is to strengthen the Cuban research centres and universities know-how and technical skills.

The main specific objectives of the grant are to:

 Provide access to knowledge on RE and EE (e.g. academic exchanges; participation in international key conferences; trainings) and implement train-the-trainer schemes to support a wide diffusion of RE and EE know-how towards Cuban universities and educational networks. • Support the development of research and innovation projects on RE and EE in the country.

The overall action final beneficiaries are the Cuban research and development institutions and universities, Cuban educational institutions and any other Cuban organisations involved in RE and EE issues.

The following non-exhaustive list gives indications of the type of action, which may be considered for support, provided that they meet the overall and specific objectives of the Call for Proposals:

- Actions aimed at consolidating and/or scaling-up of proven successful initiatives of EU and Cuban research world, having high impact on energy consumption reduction and renewable energies adoption at country level;
- Actions supporting know-how transfer on RE, EE and environmental sustainability in Cuban research centres, universities and educational network;
- Actions favouring the exchange of best practices among EU and Cuban educational network and the increasing of competences of Cuban trainers;
- Actions supporting the system of Cuban enterprises in applying the results of the research and development sector achieved;
- Research and innovation activities and projects on RE and EE.

Expected Results:

• Knowledge and technology transfer on RE/EE between European and Cuban universities, research centres and other education institutions reinforced.

- EU and Cuban academic/educational networks promoted.
- Research and innovation projects developed in order to support the implementation of the national
 policies on RE and EE, with special emphasis on the applicability of results to the development of
 Cuban enterprises in this sector.

(b) Eligibility Conditions:

• In order to be eligible for a grant, the applicant must:

- Be a legal person, and
- Be non-profit-making, and

• Be a specific type of organisations such as: Civil Society Organisations (CSO)²⁴ or their associations, and Local Authorities or their associations constituted in accordance with the legislation in force of the country concerned, including actors under private law; and

- Be established in the Republic of Cuba or in a Member State of the European Union; and
- Be directly responsible for the preparation and management of the Action with the co-applicant(s) and affiliated entity(ies), not acting as an intermediary

Co-applicants and affiliated entities: the eligibility of Co-applicant and affiliated entities is restricted to all types of CSOs and/or their associations LAs and/or their associations and originating from the European Economic Area and/or CELAC Member States.

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²⁴ Civil society organisations include: NGOs, organisations representing indigenous peoples, organisations representing national and/or ethnic minorities, local traders' associations and citizens' groups, cooperatives, trade unions, organisations representing economic and social interests, organisations fighting corruption and fraud and promoting good governance, civil rights organisations and organisations combating discrimination, local organisations (including networks) involved in decentralised regional cooperation and integration, consumer organisations, women's and youth organisations, teaching, cultural, research and scientific organisations, universities, churches and religious associations and communities, the media and any nongovernmental associations and independent foundations, including independent political foundations, likely to contribute to the implementation of the objectives of this Regulation.

Subject to information to be published in the call for proposals, the indicative amount of the EU contribution per grant will be between EUR 1,500,000 and 3000,000 and the grants may be awarded to consortia of beneficiaries (coordinator and co-beneficiaries). The indicative duration of the grant (its implementation period) is 40 months (assuming that the call for proposal can only be launched in the second year of the overall duration of the Action of 60 months).

(c) Essential Selection and Award Criteria:

The essential selection criteria are financial and operational capacity of the applicant(s).

The essential award criteria are relevance of the proposed action to the objectives of the call; design, effectiveness, feasibility, sustainability and cost-effectiveness of the Action.

(d) Maximum Rate of Co-financing:

The maximum possible rate of co-financing for grants under this call is 90 %.

In accordance with Articles 192 of Regulation (EU, EURATOM) No 966/2012, if full funding is essential for the Action to be carried out, the maximum possible rate of co-financing may be increased up to 100 %. The essentiality of full funding will be justified by the Commission's authorising officer responsible in the award decision, in respect of the principles of equal treatment and sound financial management.

(e) Indicative timing to launch the call: Last quarter of the year 2017.

5.4.1.2 Procurement (direct management)

Subject in generic terms, if possible	Type (works, supplies, services)	Indicative number of contracts	Indicative trimester of launch of the procedure
Evaluation	Services	2	2020Q3; 2023Q2
Audit	Services	2	2020Q2; 2023Q2

5.4.1.3 Indirect Management with a EU Member State agency

A part of this Action will be implemented in indirect management with the *Fundación Internacional y para Iberoamérica de Administración y Políticas Públicas (FIIAPP)* in accordance with Article 58(1)(c) of Regulation (EU, Euratom) No 966/2012. This implementation entails the preselection and mobility of experts and civil servants, the logistics of the different activities and the procurement of equipment, inputs and visibility material.

Taking into account the leadership of the European Union in the implementation of policies on renewable energies (RE) and energy efficiency (EE) and in the development of technologies in this sector, a network of EU agencies will be created (the 18 Member States represented in Cuba have been consulted) to mobilise the most suitable experts on RE and EE. This network will also be open to, among others, agencies and institutions from Member States not represented in Cuba and will be coordinated by FIIAPP in the framework of the existing Expertise Exchange Programme. FIIAPP will be requested to create a roster of experts in this thematic as well, in order to enlarge as much as possible the pool of potential

experts leading to a successful pre-selection of experts (the final choice of experts would lay with the beneficiary Cuban institution).

Also, the Programme will encourage the signature of Memorandums of Understanding with institutions such the French Cooperation Agency (AFD) whose expertise proves relevant for topics related to the attraction of foreign investment in response to Objective 2 of this Programme; this would ensure due coordination with the EU/LAIF-funded Facility (EUR 3 million), implemented by AFD, which intends to finance pre-feasibility and feasibility studies relating to investment projects in Cuba likely to be financed by International Financial Institutions.

It is considered that the EU-funded Expertise Exchange Programme Phase II whose implementation has been entrusted to FIIAPP and just started beginning of 2017 is the best placed to assume the implementation of Component 1 of this programme budgeted at EUR 4 million. FIIAPP will enable the operations foreseen under Component 1 to be running in a maximum period of 1 month from the signature of the corresponding Financing Agreement, i.e. that exchanges and transfer of knowledge to the benefit of local officials and other stakeholders would be effective in record time, also national efforts to attract foreign investment and other financing lines are supported from the very start of activities seizing the momentum in Cuba and maximizing the chances to support opportunities as soon as they arise. This is the main reason why the FIIAPP has been entrusted with the implementation of this component.

The inclusion of this component into the Expertise Exchange Programme will significantly contribute to ensure a relevant inter-ministerial ²⁵ and institutional coordination and the levelling-up of synergies created. Also, the use of an existing operational structure and a constantly improved methodology that is fully endorsed by authorities and has proven successful is the most efficient option, i.e. lesser time and cheaper, as there are no start-up costs and it will create economies of scale for the implementer's human resources-related costs. In addition, MINEM explicitly confirmed the adequacy of this ongoing Programme for the fulfilment of most of the training needs identified under Component 1 and for the identification of relevant experiences for the Cuban context. The Direction of the Programme (Ministry of Economy and Planning) and the Ministry in charge of Cooperation (MINCEX) also favour the participation of MINEM to the ongoing Programme.

The entrusted entity would carry out the following budget-implementation tasks: conducting procurement and managing the resulting contracts, carrying out payments to contractors and recovery of undue payments.

FIIAPP will be entrusted with the implementation of Component 1 that groups activities/results under Specific Objective 1 and 2 (excluding R.1.3). A new delegation agreement under the same conditions as those established in the PAGODA with FIIAPP (grant delegation agreement) covering the current EU-Cuba Expertise Exchange Programme (ie, no local office or permanent Team Leader placed in Havana under the programme, and same conditions for Human Resources). FIIAPP would be in charge of the preselection and mobility of relevant civil servants and experts for, among others, capacity building, on-the-job training, individual coaching, short and medium-term technical assistance, etc. FIIAPP would be also in charge of ensuring the logistics of the different activities (seminar, workshops, study visits, etc.) and the procurement of equipment, inputs and visibility material.

The Expertise Exchange Programme Cuba-UE II includes MINCEX, Ministry of Economy and Planning, Ministry of Higher Education, Ministry of Justice, Ministry of Finance and Prices.

5.4.1.4 Indirect management with UN Agencies

A part of this action may be implemented in indirect management with United Nation Development Programme (UNDP) and United Nations Industrial Development Organisation (UNIDO) in accordance with Article 58(1)(c) of Regulation (EU, Euratom) No 966/2012.

This implementation entails among other tasks: (i) the increase of energy efficiency of priority sectors in Cuba, in close cooperation with Cuban organisations already engaged at country level; (ii) capacity building on energy auditing and other related topics; (iii) the implementation of projects aimed at promoting EE in key sectors; (iv) supporting the assessment of RE potentials in rural areas (including the provision of measurement instruments); (v) the completion of the electrification by RE of those Cuban households not connected to the grid (around 6,000 un-served households in rural areas); (vi) the implementation of demonstrative projects using RE to provide sustainable energy for local development.

The entrusted entity would carry out the following budget-implementation tasks: conducting procurement and managing the resulting contracts, awarding and managing grant contracts, carrying out payments to contractors and recovery of undue payments.

The proposal is to delegate the implementation of this component to UN Agencies accredited in Cuba and with a long history of work and support in this sector, for activities/result under Specific Objectives 3 and 4. The first option would be to sign a PAGODA with UNDP and UNIDO. If it is not possible to reach an agreement for this modality, the alternative proposal would be to sign a PAGODA with UNDP ensuring a full participation of UNIDO for activities and results under Specific Objective 3, related to the development of energy efficiency measures in selected sectors.

UNDP and UNIDO are well established in Cuba, enjoy excellent relations with the Cuban government and prove very relevant experience in the implementation of cooperation projects, including in the energy sector. UNDP and UNIDO trust-building process with MINEM started 3 years ago. Professional UNDP and UNIDO teams have been or are in charge of environment / energy projects: excellent experience with the implementation of the BASAL project (EU funding: EUR 7.6 million²⁶ for the UNDP component²⁷) and successful experience of UNIDO with the renewal energy project in the Isla de Juventud (EUR 5.34 million); UNIDO is also providing advisory support on Industrial Policy.

This implementation modality is justified because of UNDP and UNIDO experience both in the thematic area and in the country. UNDP e.g. is engaged in rural development including the electrification of 702 houses in the Guantanamo province, the realisation of 602 bio-digesters and the implementation of technologies. Design and implementation of demonstration and pilot projects, know-how transfer on RE and EE issues, capacity building involving officials and technicians, representatives of rural productive sectors and service providers of EE and RE applications are other reference activities. PNUD is also implementing at the moment the PADIT (Plataforma Articulada para el Desarrollo Integral Territorial de Cuba programme, on territorial development. Also, UNDP experience in procurement of specialized equipment as well as the knowledge acquired under the EU-funded projects in the agricultural sectors on very specific and cumbersome importing procedures proves crucial to the success of this component considering the important bulk of equipment to be procured.

UNIDO, starting in the 1990's, strongly contributed to improve the skills of the operators of several industrial sectors for increasing energy efficiency and clean production in Cuban factories of various sizes (e.g. project: "Red Nacional de Producción Más Limpia" involving more than 1,600 technical operators). The signature of the "Marco Programático de País" between the Cuban government and UNIDO in December 2015 provides a further proof for the trust and reputation UNIDO is enjoying in Cuba. This reconfirms Cuba's commitment to the exploitation of RE and the implementation of respective

²⁶ COSUDE is also financing this project.

²⁷ EUR 0.7 million are implemented by the JRC within the framework of the BASAL project.

environmental policies. UNIDO is also advising the government on formulating its industrial policy which offers a unique chance to implement Energy Efficiency as an obligatory principle in a priority sector in Cuba.

5.5 Scope of Geographical Eligibility for Procurement and Grants

The geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased as established in the basic act and set out in the relevant contractual documents shall apply, subject to the following provisions:

In accordance with Article 9(2)(a) of Regulation (EU) No 236/2014, the Commission decides that natural and legal persons from the following countries having traditional economic, trade or geographical links with neighbouring partner countries shall be eligible for participating in procurement and grant award procedures: CELAC member states. The supplies originating there shall also be eligible.

The Commission's authorising officer responsible may extend the geographical eligibility in accordance with [Article 9(2)(b) of Regulation (EU) No 236/2014 on the basis of urgency or of unavailability of products and services in the markets of the countries concerned, or in other duly substantiated cases where the eligibility rules would make the realisation of this action impossible or exceedingly difficult.

5.6 Indicative Budget

	EU Contribution (Amount in EUR)	Indicative Third Party Contribution (Amount in EUR)
Direct Contract (Call for Proposal)	3,000,000	300,000
5.4.1.1 Grants: Call for Proposals "Support to the Implementation of Cuban Energy Policy" (Direct Management)		
5.4.2.1 Indirect Management with FIIAPP	4,000,000	300,000
5.4.3.1 Indirect Management with UN Agencies (UNDP/UNIDO)	10,500,000	
Audit and Evaluation	200,000	
Contingencies	300,000	
TOTAL	18,000,000	18,600,000

5.7 Organisational Set-up and Responsibilities

5.7.1 General Coordination

The Cuban Energy Ministry (MINEM), is the central government entity responsible for proposing, controlling and implementing the National Energy Policy and its regulatory framework to foster the application of energy efficient technologies in all sectors as well as the increased use of renewable energy sources and to achieve Cuba's ambitious energy goals.

MINEM, specifically the Directorate of Renewable Energies, will be the Cuban counterpart for this Programme. As such, MINEM will be responsible for the overall coordination of the Programme, in close collaboration with the EU Delegation in Cuba, and will ensure proper coordination among the international implementing agencies and the relevant national stakeholders (other Ministries, universities, research centres, energy sector State companies, local governments, etc.).

5.7.2 Institutional Arrangements

MINEM will appoint a Director of the Programme who will ensure the overall coordination and coherence of the Programme.

MINEM will also nominate a management team mostly composed by officials from the Ministry that will lead the implementation of the Action on behalf of the Cuban counterpart, including day-to-day coordination of the Programme, monitoring of activities, impacts and adjustment of the Programme, if required.

Both the Director and the management team will be in close contact with the EU Delegation.

5.7.3 Steering and Supervision

A Programme Steering Committee, chaired by MINEM, will further guarantee the coherence and quality of all activities. A careful formulation of responsibilities of the Steering Committee and a meaningful selection of committee members will be ensured.

The Steering Committee will meet at least once per year.

Another technical/administrative committee will be created. It will be composed of, at least, the Director of the Programme, the implementing entities²⁸ with their national counterparts and the EU Delegation in Cuba. They will meet on a regular basis and steer and supervise the implementation of the Programme as planned.

5.8 Performance Monitoring and Reporting

The day-to-day technical and financial monitoring of the implementation of this Action will be a continuous process and part of the implementing partners' responsibilities. To this aim, the implementing partners shall establish a permanent internal, technical and financial monitoring system for the Action component for which they are responsible and elaborate regular progress reports (not less than annual) and final reports. Every report shall provide an accurate account of implementation of the Action component for which they are responsible, difficulties encountered, changes introduced, as well as the degree of achievement of its results (outputs and direct outcomes) as measured by corresponding indicators, using as reference the LogFrame matrix. The report shall be laid out in such a way as to allow monitoring of the means envisaged and employed and of the budget details for the Action. The final report, narrative and financial, will cover the entire period of the Action component for which they are responsible implementation.

Before the signature of the corresponding contract, each implementing partner/implementer (see 4.3 above) together with the Cuban Government and with the assistance of the EU Delegation to Cuba, will

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See point 5.4

elaborate a LogFrame Matrix for the component under its responsibility. As for relevant baselines and milestones for indicators, they will be duly defined during the first year of implementation of the mentioned contracts. These baselines and milestones will be the base for the monitoring of the Action. The general LogFrame matrix of the whole Programme will be properly adapted in coherence with the baselines and milestones proposed for each component.

MINEM, as main coordinator of the Action, will be responsible of the general monitoring and reporting of the whole Action.

Besides regular meetings and exchanges, the Commission will undertake additional Programme monitoring visits through its own staff -at least two per year- and through independent consultants -at least one for each component- recruited by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews), based on previously defined indicators.

5.9 Evaluation

With regards to the importance of the Action, a mid-term evaluation will be carried out for this action or its components via independent consultants contracted by the Commission and/or via an implementing partner. Mid-term evaluation will be carried out for learning purposes, in particular with respect to maximise the sustainability and impact of the programme.

Final evaluation will be carried out for accountability and learning purposes at various levels (including for policy revision), taking into account in particular the fact that the Action will contribute to the implementation of governmental policies.

The Commission shall inform the implementing partner at least three months in advance of the dates foreseen for the evaluation missions. The implementing partner shall collaborate efficiently and effectively with the evaluation experts, and inter alia provide them with all necessary information and documentation, as well as access to the project premises and activities. The evaluation reports shall be shared with the partner country and other key stakeholders. The implementing partner and the Commission shall analyse the conclusions and recommendations of the evaluations and, where appropriate, in agreement with the partner country, jointly decide on the follow-up actions to be taken and any adjustments necessary, including, if indicated, the reorientation of the project. Indicatively, two (2) contracts for evaluation services shall be concluded in 2020 and 2022.

5.10 Audit

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audits or expenditure verification assignments for one or several contracts or agreements. Indicatively, two (2) contracts shall be concluded following the signature of the Financing Agreement.

5.11 Communication and visibility

Communication and visibility of the EU is a legal obligation for all external actions funded by the EU.

This action shall contain communication and visibility measures which shall be based on a specific Communication and Visibility Plan of the Action, to be elaborated at the start of implementation and supported with the budget indicated in section above.

In terms of legal obligations on communication and visibility, the measures shall be implemented by the Commission, the partner country, contractors, grant beneficiaries and/or entrusted entities. Appropriate contractual obligations shall be included in, respectively, the financing agreement, procurement and grant contracts, and delegation agreements.

The Communication and Visibility Manual for European Union External Action shall be used to establish the Communication and Visibility Plan of the Action and the appropriate contractual obligations.

The communication and visibility measures will be executed by the implementation entities.