EN

PROGRAMMING DOCUMENT

ARUBA

THE TERRITORIAL ALLOCATION OF

THE 11th EUROPEAN DEVELOPMENT FUND

The European Commission and the Government of Aruba hereby agrees as follows:

The European Commission, represented by ……., …… and the Government of Aruba, represented by ……., ……., hereinafter referred to as 'the parties', held discussions with a view to determining the general approach to cooperation between the European Union and Aruba.

During these discussions this Programming Document was drawn up in accordance with the provisions of the Association of the Overseas Countries and Territories with the European Union as provided for in the Treaty on the Functioning of the European Union, in particular Article 198, as well as the Council Decision 2013/755/EU of 25 November 2013 on the association of the overseas countries and territories with the European Union ('Overseas Association Decision').

Signatures

For the European Commission,	**For the Government of Aruba,**
Date:	Date:
Place:	Place:

Contents

List of Acronyms and Abbreviations

CBS	**Centraal Bureau voor de Statistiek**
EDF	European development Fund
EU	European Union
NGOs	Non-Governmental Organisations
OAD	Overseas Association Decision
OCTs	Overseas Countries and Territories
SAMOA	Small Island Developing States Accelerated Modalities of Action
SDGs	Sustainable Development Goals
SISSTEM	Sustainable Island Solutions through Science, Technology, Engineering and Mathematics
STEM	Science, Technology, Engineering and Mathematics
UNDP	United Nations Development Programme

EXECUTIVE SUMMARY

Aruba is a Dutch Overseas Country and Territory and associated with the European Union in accordance with Part IV of the Treaty on the Functioning of the European Union. Aruba is a small Caribbean island with a population of approximately 110.000, located north of Venezuela. King Willem-Alexander of the Netherlands is the constitutional monarch of the four countries of the Kingdom of the Netherlands (Aruba, Curaçao, the Netherlands and Sint Maarten). In Aruba, the King is represented by a Governor. An eight-member Council of Ministers headed by a Prime Minister holds the executive power.

Based on sustainable development as a common denominator, education and training with a specific focus on the higher education level is the primary sector of concentration identified for the implementation of the 11th European Development Fund (EDF) funds (EUR 13.05 million). This is complemented by research and innovation as the secondary sector supporting the establishment of a group of programmes for Sustainable Island Solutions through Science, Technology, Engineering and Mathematics (SISSTEM) at the University of Aruba. The overall objective of the programme is to increase the number of people with expertise and technical skills for innovative sustainable development available in Aruba and able to work on Science, Technology, Engineering and Mathematics (STEM) related projects in the Caribbean small island states.

The specific objective is to strengthen the capacity of the University of Aruba to deliver a high education (Bachelor and Master level) and research offer, with a particular focus on STEM subjects.

In order to respond to these objectives, the proposed activities are:

a) Support the faculty set-up of the 'SISSTEM', including research facilities and laboratories that comply with the European Qualifications Framework in consortium with the University of Leuven
b) Launch a Science Technology, Engineering and Mathematics (STEM) Bachelor programme which will be taught in English
c) Establish a Master programme in 'Sustainability' which will be taught in English
d) Facilitate and implement research and innovation programmes (at local and regional levels) resulting in PhD graduates, publications, certificate programmes and other research outcomes in the field of sustainability.

The SISSTEM will embody the policies on an academic level, supporting Aruba's ambitious goals, amongst other the transitioning of fossil fuels to sustainable resources, while also educating a workforce that has the skill and capacity to make this a reality. Additionally, the SISSTEM Faculty will raise awareness among potential students in Caribbean small island states about the availability of this educational offer in Aruba.

The proposed implementation modalities are indirect management with UNDP as a pillar assessed international organisation and direct management with Katholieke Universiteit Leuven.

PART A: EU RESPONSE STRATEGY

1. OBJECTIVES OF THE EU'S FINANCIAL COOPERATION WITH THE OCT

In accordance with Article 198 of the Treaty on the Functioning of the European Union, the purpose of the association between the European Union and the Overseas Countries and Territories shall be '*to promote the economic and social development of the countries and territories and to establish close economic relations between them and the Union as a whole*'. These objectives have been confirmed and further developed in successive Council Decisions on the association of the overseas countries and territories with the European Union. The Decision currently in force is the Council Decision of 25 November 2013[1] ('Overseas Association Decision' - OAD), which came into force on the 1 January 2014.

The association between the Overseas Countries and Territories (OCTs) and the European Union constitutes a reciprocal partnership to support the OCTs' sustainable development, as well as to promote the values and standards of the Union more widely in the world (Part I of the Overseas Association Decision).

Whilst Part II of the Overseas Association Decision defines the areas for cooperation for the OCTs' sustainable development in the framework of the Association, Part IV includes detailed provisions on the financial cooperation between the EU and the OCTs in the context of the 11th European Development Fund (EDF). Under this framework, Aruba requested that the EU financial cooperation under the 11th EDF, for a maximum indicative territorial allocation of EUR 13.05 million and based on a mutual interest for green growth, be based on sustainable development as a common denominator, with education and training as the primary sector of concentration, and with a specific focus on the higher education levels. The primary sector of concentration is to be complemented by research and innovation as the secondary sector supporting the establishment of a 'Green Faculty' at the University of Aruba.

The objectives of the requested cooperation are fully consistent with Part IV of the Treaty on the Functioning of the European Union and with Article 33 of the OAD, which states that 'In the context of the association, cooperation in the field of education and training may cover: (a) the provision of high quality, inclusive education at primary, secondary and higher education levels and in the area of vocational education and training; and (b) the support to the OCTs in defining and implementing education and vocational training policies'. In addition, Article 31 of the OAD, dealing with cooperation in research and innovation, is also relevant for Aruba's proposal. Indeed, Article 31 states that: 'In the context of the association, cooperation in the field of research and innovation may cover science, technology, including information and communication technologies, with the aim of contributing to the OCTs' sustainable development and to promoting the OCTs' role as regional hubs and centres of excellence as well as their industrial competitiveness'.

[1] Council Decision 2013/755/EU, Official Journal of the European Union, L 344 of 19.12.2013

In this respect, Article 31(b) of the OAD specifies that cooperation in the field of research and innovation may cover: policy and institutional building within OCTs and concerted actions at local, national or regional level, with a view to developing science, technology and innovation activities and their application.

In compliance with Articles 34, 83-85 of the OAD the OCTs have the overall responsibility for the 11th EDF programming and implementation, with support from the European Commission and through a close dialogue between the OCTs, the Member States to which they are linked and the European Commission. Cooperation should be conducted predominantly in conformity with the OCTs' territorial regulations and should underpin support for monitoring, evaluating and auditing the operations programmed.

2 POLICY AGENDA OF ARUBA

2.1 Increasing Aruba's resilience through the development of a knowledge-based economy

The 'Nos Aruba 2025 National Integrated Strategic Plan' sets the long-term framework for the national sustainable development of the country. It is articulated around four key Strategic Directions, namely:

- Multi-faceted empowerment of Aruban Society;
- Consolidation of Aruban economy;
- Protection of the environment and promotion of a conscious use of natural resources; and
- Promotion of Good Governance. In aiming at these four Strategic Directions, Aruba has set out to create a balance between sustained economic growth and the quality of life of the Aruban citizens. For the period 2013-2017 the Government Plan is notably focused on: (i) infrastructural investments, (ii) sustainable economic diversification, and (iii) a sound public financial management.

As part of its primary goal to increase the overall well-being of Aruban citizens and in accordance with the 'Nos Aruba 2025 National Integrated Strategic Plan', the Government of Aruba is increasingly prioritising the research and innovation agenda in order to develop a new economic pillar based on knowledge. Innovation must be understood in a broad perspective in the sense that it would not be only business organizations, but the whole community (government, NGOs and citizens included) that contribute to innovation to the benefit of the society as a whole. The three building blocks for developing innovation in Aruba are: "smart people", "smart ideas" and "the right environment for collaboration".

Aruba's sustainability policies are detailed in the 2013 document 'The Creation of sustainable prosperity in Aruba' and the 2016 updated policy note 'The Creation of Sustainable and Shared Prosperity in Aruba'. Aruba aims to increase educational opportunities for sustainable technology on the island, as well as to offer an innovative platform for learning and research on all facets of sustainability.

The global financial crisis severely affected Aruba's economy due to its dependence on tourism in general and on US-sourced tourism in particular. The closure of Aruba's oil refinery in 2012 has removed another important source of foreign exchange earnings.

Therefore, Aruba has been developing a new economic pillar – a knowledge-based economy – to bring greater diversification, sustainable economic growth and stability to the country, in particular, leveraging its strategic geographic location in the wider Caribbean Sea, situated at the crossroads of Europe and the Americas. Indeed, Aruba is naturally well-endowed with sun, wind and waves, the energy which can be used to generate power and reduce imports of petroleum products, with multiple benefits for the economy (foreign exchange savings, cheaper power for businesses, government and households). Aruba could therefore further develop this potential, through research and innovation, and grow in a regional technological centre focusing on sustainable energy solutions. The ambition is for Aruba not just to substitute imported petroleum products with renewable energy but also to export technological knowhow, contributing to Aruba's sustainable development and its industrial competitiveness as well as promoting its role as regional hub and centre of excellence.

Established in 1988 with the Faculty of Law, the University of Aruba now comprises four faculties that strive to contribute to academic discussion, participate in the sustainable development of Aruba and in research and innovation, and promote critical open-minded thinking. The University of Aruba has been a pivotal factor in building capacity among Aruban citizens, increasing self-reliance and ownership of social and economic progress. With the accreditation of the Dutch-Flemish Higher Education Accreditation Organisation in 2014, the University of Aruba laid a solid foundation to commence with the implementation of its internationalisation plan. The University of Aruba currently has an agreement with the University of Maastricht for a double degree Master in International Tax Law. The University also has linkages with other European universities through the signing of the Erasmus Charter in 2014, which has enabled Aruban students to study in Europe and vice versa. This growing international network also enables growth in research collaboration and exchange for both students and staff.

2.2 Establishing a Green Faculty at the University of Aruba in support of the Government's education and research & innovation policy

The current Education sector policy is based on the National Education Plan for 2007-2017 and the 'Education Vision and Policy, 2013-2017', with a focus on primary and secondary education. The implementation of the National Education Plan started three years late, so in practice the National Education Plan will run until 2020. The scope of the Education Plan also includes technical and vocational education (provided through EPI, which is a technical and vocational education institute), which falls under secondary education. The implementation of the National Education Plan and the Education Vision and Policy 2013-2017 are both supported through the 10th EDF.

Though the main focus of the National Education Plan and of the Education Vision and Policy is on primary and secondary education, the Government Plan and both of these refer to the importance of the higher education sector in the form of University of Aruba. The

Government Plan as well as the 'Education Vision and Policy' document refer to the role that the University could play to support the development of Aruba as a knowledge hub and centre of excellence in sustainable development. The National Education Plan will have to be amended to ensure that the focus on higher education and research is fully embodied in the future national education plan.

In order to fully translate these policies into actions, the Aruba government intends to collaborate with the University of Aruba and private sector stakeholders to locally establish a triple helix platform. This platform will enable Aruba to forge a network with the goal of bringing science technology engineering and math disciplines to research, education and application through the 'Green Faculty'. Through this triple helix platform, the government seeks to link local and international parties to enable resources sharing in higher education, scientific research and contextualized application locally, regionally and internationally. The 'Green Faculty' would function as a hub enabling businesses, institutes, governments and NGOs to share experiences, knowledge and resources in innovative ways. This would help the country to establish itself as an example of renewable initiatives, which can be replicated in other small island developing states.

Hence, the University of Aruba prepared a new strategic plan 2015-2020, that provides for the establishment of the so-called 'Green Faculty'. The 'Green Faculty' takes its name from the modern concept of sustainability seeking the unity of environment and development under which humans and nature can exist in productive harmony, and that permits fulfilling the social, economic and other requirements of present and future generations. This concept is often symbolized by the colour green.

The 'Green Faculty' will be a division within the University of Aruba comprising the subject of sustainability as a general discipline and is key to establishing the disciplines necessary to generate and maintain a sustainable society in Aruba. At the core of these disciplines are the STEM fields: Science, Technology, Engineering and Mathematics, connected to multiple social awareness programmes in an interdisciplinary and applied approach. The GF will embody the policies on an academic level, supporting Aruba's ambitious goals in, amongst others, the transitioning from fossil fuels to sustainable resources while also educating a workforce that has the skill and capacity to make this a reality.

The objective is that the 'Green Faculty' will provide the (research) skills and disciplines, supported by its research centres and laboratories, within the scope of achieving sustainable development with a focus on sustainable energies, bio-environmental awareness, sustainable technology and engineering, as well as informatics and data sciences for the support of sustainable development. Initiatives to incorporate and integrate STEM fields with social engineering as core factors will be developed and deployed to achieve technological and social advances geared at generating sustainable innovation and wellbeing. Research will be conducted and public and private sector pilots launched to purposefully study sustainable solutions and ways to duplicate and distribute these solutions. As such the 'Green Faculty', providing the technical basis with STEM-educated professionals, links academic formation and research with the private sector's needs and Government of Aruba's policy objectives.

This is how the 'Green Faculty' fits in the overall picture and how the triple helix platform will function in Aruba.

In line with the 2013-2017 Government Plan and the University of Aruba's strategic plan, the specific objective of establishing a 'Green Faculty' is organised in four Strategic Imperatives (SI):

- SI.1: Support the set-up of the 'Green Faculty', including laboratories, that complies with the European Qualifications Framework[2] in consortium with a leading university.
- SI.2: Launch a Science Technology, Engineering and Mathematics (STEM) bachelor programme.
- SI.3: Establish a master programme in 'Sustainability'.
- SI 4: Facilitate and implement research and innovation programmes (at local and regional level) resulting in PhD graduates, publications, certificate programmes and other research outcomes in the field of sustainability.

The objectives of the 'Green Faculty' are consistent – and match in planning terms – with the 'Nos Aruba 2025 National Integrated Strategic Plan'. A key feature of the proposed 'Green Faculty' is the academic involvement of partner universities and applied science institutions. The structure of the STEM Bachelor and a double degree Master structure on Sustainability studies for the GF is being developed in advanced negotiations with the Belgian Katholieke Universiteit Leuven (KUL) (SI1, 2 and 3).

The establishment of a 'Green Faculty' at the University of Aruba requires the design of a new curriculum for scientific research and academic education programme, the formation of PhD level educators and researchers, a network for thematic research and application of STEM disciplines, and the infrastructure of an ICT-platform and laboratory (SI 2, 3, and 4). The renovation of a building made available by the Government of Aruba, including the setup of a local sustainability incubator and an innovation factory with a laboratory that qualifies under the European Qualifications Framework supports the objectives of the 'Green Faculty'. With the creation of a new ICT platform, the faculty can also be used for e-learning and long distance learning to serve both local and regional students and to foster international research. These innovative structures are also part of the triple helix approach, bringing Government of Aruba, University of Aruba and private sector stakeholders into a common platform with common benefits for the labour market, research needs and the promotion of sustainable behaviour in society (SI 1 and 4).

Research on sustainability, especially in an island context, is very important. Not only to solve current and future environmental and socio-economic challenges, but also to serve as a model and living lab for global issues. A research institute will also offer the possibility for and the coordination of the dissemination of research results through publication and furthermore help the researchers become experts in their fields. Structural collaboration in an international context is needed for sustainable capacity building that will progressively

[2] Part of the Bologna process to act as a translation device to make national qualifications more readable across Europe.

enhance the resilience of Aruba as a small island developing state. Establishing a thematic research, education and application network will create the foundation necessary for the sophisticated sharing. This network will need to be set up both locally and internationally with the purpose of sharing knowledge and resources in the fields of research, education and social application (SI 4).

Institutional setup is sourced through a three-way Memorandum of Understanding outlining the cooperation between University of Aruba, University of Leuven and Government of Aruba. The Memorandum of Understanding was signed in 2016 by the rectors of both universities and the prime minister of Aruba. It includes a programmatic approach where a joint working group develops actions along the identified strategic imperatives. Revenue sources for the 'Green Faculty' would be primarily based on student enrolment, tuition fees paid by local and foreign students, public and private sector research funding, and a yearly operating subsidy from Government of Aruba.

3 EU'S RESPONSE STRATEGY

3.1 Choice of single sector of concentration and justification

Government of Aruba's policy objective of diversifying the economy away from tourism and reducing its dependence on fossil-fuel based power generation through exploitation of Aruba's abundant renewable resources is a tall order. The Government has recognized the existing socio-economic and environmental challenges and has developed policies and strategies to address them. Major vehicles for meeting these objectives are:

- the 'Green Faculty' at the University of Aruba
- nationwide awareness of the importance of sustainable behaviour, energy conservation, wise use of energy and continuous pursuit of opportunities for improving the use of energy
- modernizing the energy infrastructure and enhancing energy generation capacity, ensuring that energy supplies are safely, reliably and affordably transported
- a well-defined institutional, legal and regulatory framework supporting the future developments in the renewable energy sector supported by active consultation and citizen participation[3]
- Green Aruba Conferences
- a "Smart Community" consisting of 20 houses in a fully sustainable environment
- Smart growth, Urban renewal[4]

The 'Green Faculty' would provide the research and education necessary for forming a pool of specialized generalists consisting of skilled well-rounded graduates who have a grasp of concepts and the right aptitudes to match Aruba's sustainability ambition. Additionally the faculty will not only educate new professionals, but also offer life-long learning to help

[3] European Commission, Study on renewable energies and green policies in the overseas countries and territories [2014]

[4] Government of Aruba, The creation of Sustainable prosperity in Aruba [2014]

existing professionals enhance their knowledge and skills through Professional Development Certificates to help them grow and develop with all the technological changes in their field of work. Integration of STEM fields with social engineering as core factors will help achieve technological and social advances geared at generating sustainable innovation and wellbeing.

Professionals in science fields related to sustainable energy, with modules on e.g. sustainable development, sustainable economics, alternative energy systems, environmental engineering, transport and logistics, and digital electronic systems, to name a few, is a prerequisite for a major increase in the proportion of sustainable energy and for developing non- or less energy dependent solutions as well as other sustainable development paths for small island states.

A key component of the Government of Aruba's consolidation efforts for the development of the Aruban economy is to become a Centre of Excellence and knowledge hub for the region and for Small Island Developing States, enabling businesses, institutes, governments and NGOs to share experiences, knowledge and resources on sustainability in innovative ways. The 'Green Faculty' would also attract foreign students and foreign research investments. Attracting foreign-based research companies and institutions would effectively result in another export sector in addition to tourism and become an example to other small island developing states.

Considering that the 'Green Faculty' encompasses multiple themes with the overall aim of contributing to 'sustainable development', the proposed sector of concentration is 'education' also encompassing 'research and innovation' as the secondary and interlinked sector of concentration.

3.2 Institutional and infrastructural capacity assessment

Establishing the 'Green Faculty' at the University of Aruba poses administrative, institutional and infrastructural challenges. These are as follows:

1) Strategic planning: University of Aruba submitted a revised strategic plan in August 2016 which was updated and approved by the University's Board of Trustees. Additionally, the University is working on more detailed information that includes concrete results and outputs for financing through the 11th EDF. Furthermore, the University of Aruba has also updated the feasibility study on the establishment of the 'Green Faculty'. A programmatic approach is foreseen where joint working groups with the strategic academic partner will develop actions along the four Strategic Imperatives.

2) Funding arrangements: At present, the University of Aruba receives about 90 % of its funding from the Government of Aruba in the form of an annual subsidy mainly related to the number of students. The establishment of the 'Green Faculty' also envisages funding from external sources (e.g. tuition fees paid by foreign students, funding for public sector and private sector research mainly from the energy, IT and communications sectors). The possibility to develop third party research programmes will also support the sustainability of the 'Green Faculty'.

3) Financial management and procurement capacity: As indicated by the Central Accountancy Service (Centrale Accountantsdienst Aruba), the University of Aruba appears to have insufficient financial management and procurement capacity. Nonetheless, the University is bringing its annual accounts up to date and has them audited each year. Establishing the 'Green Faculty' would further strain this capacity and the University would be responsible for managing procurement of big construction projects, regardless of funding modality. It does not yet have sufficient capacity in this area.

Steps taken to address these issues could include delegating budget implementation tasks in indirect management to a pillar-assessed organisation. In that case, the risk associated with capacity constraints can be mitigated by working with a qualified delegate. The Government of Aruba is currently considering the United Nations Development Program (UNDP), Netherlands Development Finance Company (FMO), Dutch Ministry of Foreign Affairs and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) as possible pillar assessed organisations.

4) The 'Green Faculty' programme will have a strong impact on the needs for facilities of the University of Aruba as no teaching labs are available that meet the capacity and focus of the Faculty. In order to meet these needs, laboratory space, classroom space and office space will need to be provided for teaching and research purposes, and new facilities will have to be provided to host the international students. A preliminary calculation has shown that roughly 2 000 square meters is required for a high tech lab space, multifunctional classrooms including ICT platforms, housing facilities for international students, and office space, all complying with the standards of European universities. There are three locations adjacent to the University of Aruba which are suitable and available for renovation and refurbishment: the current Post Office building (owned by the Government of Aruba), a building called 'Frere Bonifacius" and a building called the "Maria Convent" (owned by the Archdiocese of Willemstad). All buildings may be available for a budget-neutral transfer as an in-kind contribution of the Government and/or the Archdiocese, subject to the proportion of 11th EDF funding available for renovation and refurbishing.

3.3 Choice of funding modality

Budget support is the preferred funding modality under the 11th EDF. The effective use of the Budget Support modality for Aruba under the 11th EDF might be difficult due to the institutional relationship between University of Aruba and the Ministry of Sustainable Development, as well as between the Ministry of Sustainable Development and the Ministry of Finance. Funds allocated through Budget Support cannot be earmarked and because of Aruba's strict budget ceiling legislation, there is a risk that funds transferred to Aruba through Budget Support will automatically be used for debt payment. The mechanics and politics of the budget preparation process imply, in the context of expenditure ceilings imposed by Ministry of Finance, a significant risk of University's approved budget not being large enough to fund the 'Green Faculty'.

Budget Support also requires that the four Budget Support eligibility criteria be met. The macro-economic stability criterion is now met, as the Government of Aruba has made

progress in taking the necessary measures. The College of Financial Supervision of Aruba addressed its concern with regards to the fiscal deficit/Gross Domestic Product target ratio in relation to the 2015 budget out-turn. Macro-economic instability, the risk of which is still significant, could lead to in- year disruptions to budgets of ministries and autonomous bodies. In the case of the Ministry of Sustainable Development, it could decide in the face of funding shortfalls to give priority to those activities directly assigned to the Ministry.

Considering the above-mentioned risks, the Government of Aruba requested to use the project approach funding modality as the most suitable way for the European Union to support the establishment of the 'Green Faculty'. This request was accepted by the European Commission on February 13, 2017.

The use of the project approach modality by the University of Aruba will require the Government to use EU procurement and financial management procedures. The proposed implementation modalities are indirect management with the UNDP as a pillar assessed international organisation, and direct management with the Katholieke Universiteit Leuven.

PART B: THE TERRITORIAL PROGRAMME

MULTIANNUAL[5] PROGRAMME

This document constitutes the multiannual work programme in the sense of Article 110(2) of the Financial Regulation and action programme/measure in the sense of Articles 2 and 3 of Regulation N° 236/2014.

1. Title/basic act/ CRIS number	11th EDF Territorial Programme for Aruba CRIS number: FED/2018/41657 Financed under European Development Fund	
2. Zone benefiting from the action/location	Aruba The action shall be carried out at the following location: Aruba.	
3. Programming document	Financial cooperation with Aruba in the context of the 11th European Development Fund for the period 2014-2020 Part A of Single Programming Document	
4. SDGs	SDG 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all SDG 11: Make cities inclusive, safe, resilient and sustainable	
5. Sector of concentration/ thematic area	Education; Research and Innovation	DEV. Aid: YES
6. Amounts concerned	Total estimated cost: EUR 13,050,000 Total amount of EDF contribution: EUR 13,050,000	
7. Aid modality(ies) and implementation modality(ies)	Project Modality Direct management through grants to Katholieke Universiteit Leuven Indirect management with UNDP	
8. a) DAC code(s)	11110	
b) Main Delivery Channel	Channel 1 – Direct management through grants Channel 2 – UNDP - 41114 Channel 3 – Direct management through procurement	

[5] Within the maximum contribution of the European Union, the Authorising Officer responsible may adjust the allocation to the respective budgetary years subject to the availability of the commitment appropriations.

9. Markers (from CRIS DAC form)	**General policy objective**	**Not targeted**	**Significant objective**	**Main objective**
	Participation development/good governance	☐	X	☐
	Aid to environment	☐	☐	X
	Gender equality (including Women In Development)	☐	X	☐
	Trade Development	X	☐	☐
	Reproductive, maternal, newborn and child health	X	☐	☐
	RIO Convention markers	**Not targeted**	**Significant objective**	**Main objective**
	Biological diversity	X		☐
	Combat desertification	X		☐
	Climate change mitigation	X		
	Climate change adaptation	X		☐
10. Global Public Goods and Challenges (GPGC) thematic flagships	**Thematic Area 1:** "enhance environmental and climate change dimensions of development at all levels to promote sustainability and support transformation towards an inclusive green economy and strong international environmental and climate governance in order to ensure people-centred inclusive sustainable development within the limits of planetary boundaries".			

1. CONTEXT ANALYSIS

1.1. Context Description

The sector of concentration proposed under the 11th European Development Fund (EDF) is education, encompassing 'research and innovation' as a secondary and interlinked sector of concentration.

The Government of Aruba intends to collaborate with the University of Aruba and private sector stakeholders to establish a local 'triple helix' platform. This platform will enable Aruba to form a network with the goal of bringing science, technology, engineering and math (STEM) disciplines to research, education and application, at the Sustainable Island Solutions through Science, Technology, Engineering and Mathematic (SISSTEM) Faculty of the University of Aruba ('Green Faculty').

Through this triple helix platform, the government seeks to link local and international parties to enable resources sharing in higher education, scientific research and contextualized application locally, regionally and internationally. The SISSTEM would function as a hub enabling businesses, institutes, governments and NGOs to share experiences, knowledge and resources in innovative ways. This would help the country establish itself with an example of

renewable initiatives, which can be replicated in other small island development states. This is how the SISSTEM fits in the overall picture and how the triple helix platform will function in Aruba.

Hence, the University of Aruba prepared a new strategic plan 2015-2020, that provides for the establishment of SISSTEM. The SISSTEM takes its name from the modern concept of sustainability seeking the unity of environment and development under which humans and nature can exist in productive harmony, and that permits fulfilling the social, economic and other requirements of present and future generations.

The SISSTEM will be a faculty within the University of Aruba, comprising the subject of sustainability as a general discipline and is key to establishing the disciplines necessary to generate and maintain a sustainable society in Aruba. At the core of these disciplines are the STEM fields – Science, Technology, Engineering and Mathematics – connected to multiple social awareness programmes in an interdisciplinary and applied approach. The SISSTEM will embody the policies on an academic level, supporting Aruba's ambitious goals in, amongst other, the transitioning from fossil fuels to sustainable resources while also educating a workforce that has the skill and capacity to make this a reality.

The SISSTEM will provide the (research) skills and disciplines, supported by its research centres and laboratories, within the scope of achieving sustainable development with a focus on sustainable energies, bio-environmental awareness, sustainable technology and engineering, as well as informatics and data sciences for the support of sustainable development.

Initiatives to incorporate and integrate STEM fields with social engineering as core factors will be developed and deployed to achieve technological and social advances geared at generating sustainable innovation and wellbeing. Research will be conducted and public and private sector pilots launched to purposefully study sustainable solutions and ways to duplicate and distribute these solutions. As such, the SISSTEM will provide the technical basis with STEM educated professionals, and link academic education and research with the private sector's needs and the Government's policy objectives.

1.2. Policy Framework

In accordance with Article 198 of the Treaty on the Functioning of the European Union, the purpose of the association between the European Union and the Overseas Countries and Territories shall be '*to promote the economic and social development of the countries and territories and to establish close economic relations between them and the Union as a whole*'. These objectives have been confirmed and further developed in successive Council Decisions on the association of the overseas countries and territories with the European Union. The Decision currently in force is the Council Decision of 25 November 2013[6] ('Overseas Association Decision' - OAD), which came into force on the 1 January 2014.

Under this framework, Aruba proposed to base the European Union financial cooperation under the 11th EDF (for a maximum indicative territorial allocation of EUR 13.05 million) on the mutual interest for green growth. In this context, sustainable development shall be seen as

[6] Council Decision 2013/755/EU, Official Journal of the European Union, L 344 of 19.12.2013

a common denominator, and *education and training* – with a specific focus on higher education as the primary sector of concentration, complemented by *research and innovation* as the secondary sector supporting the establishment of the Sustainable Island Solutions through Science, Technology, Engineering and Mathematics (SISSTEM) at the University of Aruba.

The objectives of the requested cooperation are fully consistent with Part IV of the Treaty on the Functioning of the European Union as well as with Article 33 of the Overseas Association Decision (OAD). In addition, Article 31 of the OAD, dealing with cooperation in research and innovation, is also relevant for Aruba's proposal.

1.3. Public Policy Analysis of Aruba

The 2007-2017 National Education Programme and the later 'Education Vision and Policy 2013-2017' focused mainly on primary and secondary education, but also highlighted the importance of higher education. These programmes specifically highlighted the major role that the University of Aruba has played in the development of higher education in Aruba since its establishment in 1986. In collaboration with UNESCO, the Government of Aruba is preparing a National Education Plan 2018-2030, which will reflect the integration of STEM fields especially at the secondary and technical vocational education levels.

Additionally, the Government has produced a number of policy documents specifically on sustainable development, e.g. "Green Gateway", "Creation of Sustainable Prosperity in Aruba", and "2020 Vision Green Deck Aruba' of January 2017.

1.4. Stakeholder analysis

The key Aruban stakeholders and recipients outside of the Government that would benefit from the EU intervention in establishing the SISSTEM include:

(a) educational institutions such as the University of Aruba, Instituto Pedagogico Arubano (IPA) and Educacion Profesional Intermedio (EPI) as partners in the educational chain;

(b) non-profit organizations such as the Caribbean Branch Office TNO, Aruban Trade and Industry Association and the Aruba Hotel and Tourism Association, the Chamber of Commerce of Aruba;

(c) businesses such as the Aruba Ports Authority, ELMAR, Free Zone Aruba, Landslaboratorium, SETAR (Aruban Telecommunications provider), Water en Elektriciteitsbedrijf Bedrijf (WEB), hotels, and small- and medium enterprises and others;

(d) the students in Aruba and other small-island developing states in the Caribbean, as well as the public in general.

Among the expected benefits that are recognized by the stakeholders are: (i) better educated and skilled labour force, (ii) expanded business, increased/improved employment and less

dependence on migrant expert workers, (iii) reduced dependency on non-sustainable resources, (iv) the availability of made-to-measure certificate programmes to meet the dynamics of technological development, (v) the establishment of a reliable knowledge centre as a partner in sustainable development projects, and (vi) a good image for Aruba as a frontrunner in sustainable development.

The Aruban stakeholders have met several times to discuss the establishment of the programmes, and have expressed full support. The expected benefits for the Aruban stakeholders can be extrapolated to the stakeholders in small island states worldwide.

1.5. Problem analysis and priority areas for support

The overall objective of the Government of Aruba's sustainable development policy is the development of a sustainable 'green' economy through reducing Aruba's dependence on the tourism industry and the use of fossil fuels. The cost savings and foreign exchange savings to the economy could be considerable. The successful development of renewable resource technology and know-how with the support of SISSTEM could result in this becoming an industry in its own right through attracting external interest in the same way that Aruba attracts tourists. In effect, the renewables research industry would become another pillar of the economy.

Establishing the SISSTEM at the University of Aruba would also help meet the need for increasing higher education capacity. The on-going strengthening of primary and secondary education (supported by the 10th EDF) entails increasing demand for higher education as students complete their schooling. If the demand for higher education cannot be satisfied in Aruba, graduates turn to institutions abroad, resulting in brain drain and eventually economic loss for Aruba, especially if they do not return, as has often been the case.

The financial sustainability of the University of Aruba following the establishment of the SISSTEM Faculty will be dependent on the student numbers and on revenues from third party funded research, quality control services, professional training programmes and consultations, and government funding. The agreement signed between the Government of Aruba, the University of Aruba and the Katholieke Universiteit Leuven reflects the Government's support for the programme and the dedication to its success. The University of Aruba based the projections on: (i) revenues from external institutional and private sources (part of the Government's so-called 'triple helix' concept), (ii) annual operating subsidies from the Ministry of Education and (iii) revenues from tuition enrolment fees.

In terms of political endorsement and project championship, the previous Government led by the Prime Minister's Cabinet of General Affairs, Science, Innovation and Sustainable Development initiated and advocated the strengthening of sustainable development to meet the goals and objectives set in the current policy documents and strategies. The current Government has confirmed its commitment to the programme and its intended outcomes. The Government is a strong advocate of Sustainable Development and the UN Agenda 2030. A multisector National Commission for the implementation of the Sustainable Development Goals (SDGs) has been established and is working in close collaboration with the United Nations Development Programme, Economic Commission for Latin America and the

Caribbean (ECLAC) and the University of Aruba. The SISSTEM has been identified as an important element in achieving the SDGs. In this respect, the Government is a strong promoter of the SISSTEM and green economy practices both at national and international levels to create a centre of excellence to support best practices for small islands.

The institutional responsibility for sustainable development is divided between different institutions, which are large, autonomous government-owned entities, government institutions and private sector institutions. Examples are: TNO/CBOT (Netherlands Government-owned NGO), WEB (Water and Electricity), ELMAR (Electricity distribution) and Utilities Aruba with overall responsibility for promoting the use of renewable energy technology. The Technical and Vocational Education Institute (EPI), which is part of the secondary education sub-sector, plays an important role in providing training in the use and maintenance of renewable resource technology. Government institutions in charge of economic, social and environmental policies and private institutions such as trade and labour unions, and small- and medium enterprises have an important responsibility for sustainable development. All these institutions are working in close collaboration with the National SDG Commission to implement the SDGs.

Existing institutional capacity: The University of Aruba was established in 1988 as an autonomous institution and thus has a well-established institutional infrastructure. The University complies with international education standards according to the Dutch-Flemish *Nederlands-Vlaams Accreditatie Organisatie* Accreditation Standards. The University has four faculties: law; economics and finance; hospitality and tourism management; arts and science. However, at the moment there is no capacity to respond to the demand for a science- and engineering-related educational offer and prospective science students have to go abroad for higher education. An urgent need for STEM specialists in small island states for both government and private sectors has been stressed during the last five years. This indicates the need for science education at a bachelor level for students that are interested in science studies, both local and regional. Relevant stakeholders have confirmed this necessity as a pre-requisite to further stimulate sustainable development.

According to the 2003 and 2007 reports of the Aruban Bureau of Statistics on the composition of the labour market, more than 11 % of the male and female labour force consisted of technicians and associate professionals. The most pronounced growth of the labour market occurs in sectors that demand relatively high skilled labour. The increased employment of managers, professionals and technicians since 1991, accounted for 4 786 persons (36 %) according to the Centraal Bureau voor de Statistiek (CBS 2003/2013 and CBS 2007). The current absence of tertiary education in STEM in Aruba makes the island dependent on external education and expertise, leading to brain drain and lack of a sustainable knowledge base on the island. The establishment of the SISSTEM programmes at the University of Aruba will address that issue. The uniqueness of the SISSTEM programme in the region is that it adds a fundamental sustainability component with a focus on small island states, which is not present in the existing traditional STEM programmes in the region.

The establishment of the SISSTEM would help to fill this gap, particularly through the STEM programmes that would be set up. The Small Island Developing States Accelerated

Modalities of Action (SAMOA) Pathway underscores the need for urgent actions and support for SIDS' efforts to achieve their sustainable development. The establishment of the SISSTEM programmes enables students from small island states to contribute to achieving a multitude of the formulated goals. The SAMOA pathway goals and SDGs constitute guiding principles for all SISSTEM programmes.

The current University of Aruba structure includes international exchange programmes through Erasmus+ and through bilateral collaboration programmes with partner universities that will be beneficial for the implementation of the SISSTEM programmes. The current University of Aruba international network branches out into Europe, North America and the Caribbean. Currently efforts are underway to also expand that network to South American universities.

Sector co-ordination mechanisms: The University of Aruba is autonomous and at the moment and is primarily financed by a yearly grant (*landsbijdrage*) from the Government of Aruba through the budget of the Ministry of Education, Science and Sustainable Development. This Ministry's main role in relation to the University of Aruba is incorporating higher education into its Education Policy (National Education Plan and 'Vision') for 2018-2030 and determining its annual contribution to the University budgets by channelling the budgeted annual grant. The Ministry is responsible for the appointment of members to the Board of Trustees of the University of Aruba.

Environment protection related issues. Aruba's policy of promoting sustainable development includes the need for energy conservation, a cultural change in attitude increasingly being embraced in Aruba. The 'Vision' Policy (2013-2017) as well as the new Education Policy 2018-2030 in preparation by the Ministry of Education, Science and Sustainable Development stresses the need to realize energy savings at schools. A process of innovation at the technical vocational education included in the new policy framework will place emphasis on the STEM areas and sustainability.

The establishment of the SISSTEM and the development of research and teaching in sustainability at the University of Aruba should also result in increased ability to persuade government officials to find practical solutions for increasing energy efficiency. This includes solutions for individuals, schools, industries and government buildings and for developing an energy conservation culture; such a culture needs to be further embraced in government buildings.

2 RISKS AND ASSUMPTIONS

Risk	Type	Solution
Finances		
Unforeseen or rising cost during project implementation	Medium	Accurate cost and process monitoring/control measures need to be implemented by the pillar assessed implementing partner. The further specification of costs in the phase of drafting of the Financing Agreement will enable a more accurate cost assessment.
Insufficient financial management capacity for EDF funding	High	A pillar assessed implementing partner will be contracted to ensure sufficient and adequate financial management of the project. The UNDP has been chosen for its extensive experience in Aruba and EU programmes in the region.
Yearly funding for the education programmes after project term	Low	Government of Aruba funding to cover operational cost has been calculated and included in the budget of the Ministry of Education as of 20227. The estimates of revenues from third parties are conservative. The marketable potential of the products of the programmes can be further developed to enhance the financial sustainability of the programmes.
Project financing in a Small Island State: additional expenses due to Aruba's geographical position	High	In the procurement procedures the geographical considerations and the consequences of the EU procurement processes need to be taken into account.
Human Resources		
Availability of appropriate academic staff with a STEM master background and with roots in Aruba, the Caribbean or other small island states	Medium	Recruitment in a three-tiered recruitment process, focusing on the ABC islands primarily, the broader Caribbean secondarily, and other small islands as the third option.
Project management staff needed	Low	UA staff is limited, and needs to be expanded to meet the needs of the project. The pillar assessed implementing partner, the UNDP, will manage the project and EDF funds.

[7] Per government decree of March 12 2018

Facilities		
On-time completion of necessary labs, classrooms and offices	Medium	After approval by the EU, the implementing partner and UA will start preparing tender documents for acquiring and installing the mobile pre-fab labs and for restoring and refurbishing the Maria Convent for classrooms and offices. The research facilities and laboratories will be completed and integrated in the existing UA campus.
Availability of terrain and/or buildings	Low	The Government has officially made available the Maria Convent Building and adjacent open land to the UA for the SISSTEM. The Maria Convent will need substantial restauration, which has to be prepared in the tender documents and coordinated with the Monuments Bureau.
Students		
Enrolment of sufficient students in the region	Low	Use the network of UA partners, academic and other, as well as the representations of the Kingdom of the Netherlands. Design and execute a local, regional and international marketing plan. Reach out to OCTs in the Caribbean to promote the SISSTEM.
Gender equality	Low	The participation rate of women in education in Aruba, including at UA, is very high. Still, a challenge for the SISSTEM will be to encourage women to enrol in the more technical (STEM) areas. The aim will be to have a 50 % rate of women enrolling in the BA, MA and PhD programmes. Awareness of the possibilities for new future jobs in this area will be used to attract more women. The possibility to study in Aruba and remain close to family is also an important factor.
Political		
September 2017 elections	Low	Agreement with the Government regarding 11th EDF funding and the creation of SISSTEM were signed and reconfirmed by the new Government in January 2018. The 2018-2030 Education Policy also reconfirms the Government's support for Sustainability and Innovation in education and support for SISSTEM.

Assumptions:
Aruba will continue to cooperate regionally and globally with other small islands in STEM-related higher education, exchange and joint funding of scholarships, research and educational fairs and events. The Government and the University of Aruba will continue the strategic and financial planning for the future SISSTEM study programme. Public and Private sectors will maintain and/or increase their interest in sustainable production and renewable resources, as well as energy, bio-conservative technologies, waste management, etc. The Government will create incentives for public and private enterprises and micro, small and medium enterprises. The University will improve its financial management capacities for future management of similar initiatives.

3 LESSONS LEARNT, COMPLEMENTARITY AND CROSS-CUTTING ISSUES

3.1 Lessons learnt

The 10th EDF allocation for Aruba was implemented through Budget Support in the sector of education. Four main lessons can be drawn from the 10th EDF support provided to Aruba:

1. The identification and formulation of proper and achievable indicators, with emphasis on the availability of the necessary data for the monitoring, is fundamental to the success of the Budget Support programme.

2. A well-established information system is indispensable to monitoring the progress of the programme.

3. The technical qualifications of the consultants hired through the programme have to be carefully evaluated in order to ensure better support to the OCT.

4. Effective and regular communication between the Delegation and the OCT is essential for the success and the timely execution of the programme.

All reviews to date identified the slow programming process and implementation of previous EDFs as the main issues to be addressed. Some of the reasons leading to such results were human resource constraints and complexity of EDF procedures. Capacity constraints of the new entities to implement the programmes may be another issue.

Although Budget Support was generally preferred as implementation modality for OCTs during the 11th EDF, in the case of Aruba this modality is not preferable due to Aruba's strict budget ceiling legislation and debt payment engagements. Moreover, for this programme, the

institutional relationship between the University of Aruba and the Ministry of Education, Science and Sustainable Development, as well as the Ministry of Education and the Ministry of Finance is complex and would entail additional complications.

Considering the above-mentioned risks, the Government of Aruba proposed to use the project support funding modality as the most suitable way for the EU to support establishment of the SISSTEM.

3.2 Complementarity, synergy and donor coordination

As an OCT, Aruba is entitled to EU funding via the EDF. Third parties – such as United States and European universities as well as private sector partners in Aruba – are part of the 'triple helix' approach to integrating the SISSTEM concept in the University of Aruba. In some cases the partner universities are already providing capacity building support through arrangements for staff and student exchange and collaboration.

Co-operation with leading Universities – particularly the Katholieke Universiteit Leuven in the case of the SISSTEM – will lead to mutually beneficial technology and knowledge transfer activities. Aruba can benefit from access to new technologies in the sustainability field that partner universities are already developing. At the same time, the partner universities will benefit from the development of new applications for technologies and knowledge that are specific to the context of small islands.

Aruba received EUR 8.8 million under the 10th EDF (2008-2013) as sector Budget Support for the implementation of the 2007-2017 Aruban National Education Plan which focused on broader support for education, high quality teaching standards and universal access to education. In this regard, higher education needs have risen, in particular in the science and technology sectors. The 11th EDF Programme would support Aruba in developing an educational offer that would fill the current gap which is at the origin of brain drain from the Caribbean islands.

Aruba is also a beneficiary under the 11th EDF Regional Caribbean OCTs Programme (ReSEMBID) – EUR 40 million, which focuses on resilience, sustainable energy and marine biodiversity. The complementarity of the two actions is evident, in the sense that both support sustainable development of the Caribbean islands. Synergies will be sought between the activities under the two interventions, in particular with the research component of this programme.

Once the SISSTEM is established in Aruba, its future cooperation with other related EU-supported initiatives is encouraged, including: (i) the Clean Energy for EU Islands initiative, from which Aruba could benefit in its clean energy transition, by adopting new technologies and implementing innovative solutions; and (ii) the regional Joint Master's Degree in Biomass Waste Management which will be created as part of the support to Central American countries and the Dominican Republic in addressing the SDGs though cooperation on research and innovation, and with which the University of Aruba could establish links.

4 DESCRIPTION OF THE ACTION

4.1 Overall objective, specific objective(s), expected outputs and indicative activities

The overall objective of the programme is to increase the number of people with expertise and technical skills for innovative sustainable development available in Aruba and able to work on STEM-related projects in the Caribbean small island states.

The specific objective is:

- The University of Aruba is able to deliver high quality taught (Bachelor and Master) and research (PhD) programmes, with a particular focus on STEM subjects.

The main outputs of the Programme are:

1) The SISSTEM Faculty set-up, in compliance with the European Qualifications Framework (including available physical facilities with blended learning, distance teaching and digital access points).

2) Science Technology, Engineering and Mathematics (STEM) bachelor programme (BA) launched, in collaboration with Katholieke Universiteit Leuven.

3) Master programme in "Sustainability" established as a multidisciplinary extension of the STEM bachelor programme.

4) The research institute is established and its pipeline is developed in collaboration with potential collaborators (Aruban public and private companies, institutions from Caribbean small island states, and scientific circles).

5) Potential collaborators and the societies of Aruba and Caribbean small island states are informed of the STEM offer in higher education and research, and their potential use and expected impact.

The main indicative activities will include:

1. For the set-up of the SISSTEM Faculty, expert plans need to be drawn for renovation/refurbishment of existing buildings and procurement of high tech lab space and multifunctional classrooms. The refurbishment and installation of the laboratories will be followed by the instalment of furniture and necessary technical equipment, including ICT platforms for the STEM programmes. Specialized equipment and furniture as well as training courses for staff are part of the initial setup.

2. The STEM bachelor's curriculum is currently being designed in collaboration with the KU Leuven, in line with the cooperation agreement. Senior lecturers will provide the backbone of teaching in the initial phases of the programmes. Further teaching capacity for the Bachelor's programme will be developed through the PhD

Programme and completed by remote and physical supervision from KU Leuven. The design of the curriculum focuses on the following components:

- General Foundation in STEM
- Perspectives on Sustainability in Developing States
- STEM Specialisation
- International Lab Work
- Thesis

The areas of specialisation for the Bachelor's programme are: Bio-environmental science; Informatics and Data Science; and Technology and Engineering.

The Master's programme in Sustainability is planned to be a multidisciplinary programme providing master's education to bachelor degree graduates, including the extension to the STEM Bachelor programme. Supporting work for the setup of the Master's will be carried out during the establishment of the SISSTEM. These activities encompass in particular:

a) The development of additional collaboration agreements with KU Leuven and other institutions
b) Assessment of additional staffing needs and training requirements
c) Assessment of student numbers
d) Assessment of additional infrastructure needs
e) Outline of the Master's curriculum
f) Obtainment of NVAO (Dutch Flemish accreditation organization) accreditation

3. For the research and innovation programme, it is foreseen to create a research institute where 12 PhD candidates will carry out research projects on the needs for sustainable development in small island states, supervised by KU Leuven professors. A 'triple helix' platform for continued co-operation between public, private and university partners will complement the institute, together with the development of an ICT platform including necessary IT infrastructure as well as human infrastructure to share research and education outputs.

4. The local and regional – Caribbean – network of the SISSTEM project will be informed and involved through a series of activities. The first step in this outreach is the marketing of the education projects and research projects. Second, at the University of Aruba, symposia will be organized, starting in May 2019, in which relevant stakeholders, including NGOs and industry, will be informed and involved. At least two symposia will be organized per year.

The PhD candidates will present (parts of) their research at the University of Aruba and at Caribbean platforms. The University of Aruba will promote knowledge sharing through online platform(s) such as the Centre of Excellence for Sustainable Development of Small Island Developing States and locally, in Aruba, through the University of Aruba Centre for Lifelong Learning (CLL) by various activities: presentations, lectures and courses by supervisors, PhD candidates and other experts involved in the SISSTEM network.

4.2 Intervention logic

Increasing Technical Skills for Innovative Sustainable Development

Aruba has identified a need for more skilled people to work in sustainability-related issues specific to small islands. Both the public and the private sector have expressed the need for more people trained in STEM-related subjects, with the necessary expertise to develop and implement projects related to innovative biotechnologies, renewable resources, adaptation and mitigation to climate change, etc. Currently, graduates from secondary education in Aruba do not have any education offer in sciences and technology at the University of Aruba. This gap entails that students who want to pursue a career in these sectors need to access higher education abroad and, most often, they choose educational offers outside the Caribbean and do not return to the region. Consequently, this limits the available expertise in sustainable and green growth on the job market in small island states.

The SISSTEM Faculty would provide the skills necessary to promote sustainable development in Aruba. The skills base in Aruba will be developed by providing teaching and research, with a particular focus on the areas of sustainable energy, bioenvironmental awareness, and sustainable technology and engineering. The development of an ICT platform will support teaching by providing online teaching support systems, including possibilities for remote learning.

The students trained in the STEM Bachelor's programme will be better qualified to contribute to developing technical solutions to sustainable development problems, particularly because the STEM programme is directed to developing skills relevant to SIDS. The focus on practical applications in a range of different fields will increase the ability to test and implement technical solutions for sustainable development problems.

Further teaching capacity for the Bachelor's programme will be developed by training a total of 12 STEM PhD students. These students will follow a PhD programme (Appendix III) in an area of STEM research at the University of Aruba, under the academic supervision of promoters from the Katholieke Universiteit Leuven. The PhD students will provide teaching that will be complemented by remote and physical supervision from the Katholieke Universiteit Leuven and will be trained to be the candidate senior lecturers and future professors of the programme after completion of their PhD.

Through the establishment of a Research Institute, *publications, certificate programmes and other research outcomes in the field of sustainability will be delivered.* Increased contact between the different actors will enable quicker and more effective uptake of research results into policy or innovation activities in Aruba and in the region.

The availability of this educational and research offer will increase attention on Aruba as a destination for related research. By consortium agreements with partners, the Erasmus Mundus program or mobility flows between EU and non-EU regions in STEM related research, as well as collaboration with international partners (such as Oregon State University, the University of the West Indies and a Latin American partner institute), the

University of Aruba will ensure that students and researchers are enabled to further develop their networks in the region, in North and South America as well as in Europe.

4.3 Mainstreaming

Aid to environment: The main reason for the 11th EDF to support establishing the SISSTEM at the University of Aruba is to help build up educational and research capacity that would enable Aruba to become a regional hub in terms of sustainable development. A renewable resources industry would become another economic base for Aruba, in addition to tourism.

The Government of Aruba has recently established several new legally protected natural areas managed by the National Parks organisation. The Government has also signed a memorandum of understanding with the University, allowing for collaboration relating to scientific research and management of the new areas. This provides an additional source of support for some of the key areas of research and teaching for the SISSTEM, including biology, environmental sciences, and geosciences. The University of Aruba has signed a memorandum of understanding with the Aruban National Park Foundation with the aim of strengthening future collaboration in research and awareness projects.

Gender and Gender equality (including Women in Development): In the existing programmes at the University of Aruba, female staff and students outnumber male staff and students. The University has thus far been successful in maintaining a gender balance at the level of both staff and students. More generally, Latin America and the Caribbean have a relatively high proportion of female scientific researchers (44 %) in comparison to global trends (28 %)[8]. However, addressing persisting gender inequalities in STEM is a clear point of attention in the development of this programme so as to reduce the gender gap in STEM fields.

The gender balance aspect will be a focal point when developing a gender balanced marketing, recruitment and enrolment strategy for the SISSTEM. This gender responsive action can further stimulate interest in STEM related subjects among girls and create more opportunities for girls and women to study and pursue careers in STEM at the SISSTEM.

By focusing on increased participation of women and girls in the STEM fields, the SISSTEM programme will contribute to the achievement of the goals of the STEM and Gender Advancement (SAGA) programme of UNESCO[9].

The Master's programme that will be developed is to be interdisciplinary and multidisciplinary in nature. It will attract graduates from diverse backgrounds such as policy, management and social sciences. The PhD research fields will include so called soft side issues including policy, behavioural studies, etc. This approach will further ensure the influx of women and girls in the programmes and in the research teams.

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[8] Huyer, S. 2015. "Is the Gender Gap Narrowing in Science and Engineering?", in *UNESCO Global Science Report 2015*, Paris: UNESCO p. 85

[9] https://en.unesco.org/saga

Participation development/good governance: The development of the SISSTEM in Aruba will contribute to the participation in development and good governance in two main ways. First, the SISSTEM will strengthen and extend the existing collaboration between the University of Aruba and other institutions, particularly the Katholieke Universiteit Leuven. This will allow for knowledge exchange and technology transfer between the organisations involved.

Second, the SISSTEM will allow for improved, community- and evidence-based decision making in relation to development and sustainability issues relevant to small islands. The graduates and PhD students from the SISSTEM will be trained to provide this expertise.

4.4 Contribution to SDGs

This intervention is relevant for the 2030 Agenda. It contributes primarily to the progressive achievement of SDG 17: Revitalize the global partnership for sustainable development, particularly the targets relating to Technology, Capacity Building, and Multi-Stakeholder Partnerships. It also promotes progress towards Goal 7: Affordable and Clean Energy; Goal 11: Sustainable Cities and Communities; and Goal 4: Quality Education. The programme will contribute to the achievement of multiple SDGs on the scale of Aruba as a small island state, and the programmes as such can be a global example for sustainable development in small island states. Aruba's dedication to sustainable development is demonstrated through the foundation of the UNDP Aruba Centre of Excellence for Sustainable Development of small island states.

The above Sustainable Development Goals and Targets overlap with the SAMOA (Small Island Developing States Accelerated Modalities of Action) Pathway, which specifies sustainable development priorities that are specific to the needs of small island states[10].

5 IMPLEMENTATION

5.1 Financing agreement

In order to implement this action, it is foreseen to conclude a financing agreement with the Government of Aruba, represented by the Territorial Authorizing Officer.

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 48 months from the date of entry into force of the financing agreement.

[10] Sustained and sustainable, inclusive and equitable economic growth with decent work for all; Sustainable energy; Water and Sanitation; Gender Equality and Women's Empowerment; Education; Partnerships; Capacity Building; Technology.

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.

5.3 Implementation modalities

The Commission will ensure that the appropriate EU rules and procedures for providing financing to third parties are respected, including review procedures, where appropriate, and compliance of the action with EU restrictive measures[11].

5.3.1 Grants (direct management)

(a) Purpose of the grant(s)

The grant will contribute to the achievement of outputs 2 and 3 as well as partially 4 and 5, through the implementation of the activities 2 and partially 3, as detailed in Section 4.

(b) Justification of a direct grant

Under the responsibility of the European Commission's responsible authorising officer, the grant may be awarded without a call for proposals to Katholieke Universiteit Leuven (KU Leuven) and channelled through the International Office.

Under the responsibility of the Commission's authorising officer, the recourse to an award of a grant without a call for proposals to KU Leuven for the implementation of the components mentioned above is justified because on the following considerations under Art 195 (f) Financial Regulation:

a) the Faculty of Sciences of KU Leuven has the specific characteristics required for developing STEM-related curricula for the three academic degrees in line with the objectives of the programme, among others, a specialized educational offer tailor-made to the sustainable development needs of small islands;

b) the University of Aruba and KU Leuven have concluded a Memorandum of Understanding, formalizing their cooperation in the academic field. This will most notably allow Aruban students to access technical material property of KU Leuven and to choose a PhD academic coordinator in the STEM field from KU Leuven for. The nature and scope of the Memorandum of Understanding between the two institutions may evolve in time to include further initiatives.

In light of the above, and notably of KU Leuven's technical competence and its high degree of academic specialisation in the STEM fields, it is considered that KU Leuven is singularly placed among academic institutions to be awarded a grant without a call for proposals.

[11] www.sanctionsmap.eu Please note that the sanctions map is an IT tool for identifying the sanctions regimes. The source of the sanctions stems from legal acts published in the Official Journal (OJ). In case of discrepancy between the published legal acts and the updates on the website it is the OJ version that prevails.

5.3.2 Indirect management with an international organisation

A part of this action may be implemented in indirect management with the United Nations Development Program (UNDP). This implementation entails the physical set-up of the SISSTEM Faculty, through the renovation/refurbishing of the Maria Covent building and procurement and instalment of laboratories and multifunctional classrooms. The activities will be carried out in line with the description in Section 4.1.

The UNDP has been selected because the University of Aruba does not currently have the capacity necessary for managing the programme.

A strategic partnership agreement exists with the UNDP, identifying the thematic and geographical scope of the collaboration with the EU. In addition, UNDP has experience in the target country of Aruba and sector experience in infrastructure and STEM projects.

The Aruba Centre of Excellence launched through a partnership arrangement with UNDP in 2015 aims to facilitate and broker knowledge exchange on sustainability practices among small islands. This has provided a perspective and experience that can be transitioned to the SISSTEM Faculty, which would serve both local and regional students and would foster international research. In addition to its Aruba- and Caribbean-specific experience, the UNDP can leverage its wide global network of expertise on sustainable development and STEM.

In addition to the above, the UNDP is uniquely placed to help implement the SDGs through its work across 170 countries and territories. UNDP has well-established project management approaches and financial management and procurement rules, accepted by all donors including the EU, which will be used for managing the programme funds. Globally, the organization has extensive experience in managing EDF funds, both those that are implemented at country level and those that have a regional and intra-regional nature (Africa-Caribbean-Pacific). The current portfolio of on-going EDF projects managed globally by the UNDP amounts to EUR 151 million. These are supported by regional and corporate teams specialized in managing EDF-funded programmes that provide technical backstopping for Country Offices including support to meeting EU administrative requirements.

Moreover, this implementation entails budget implementation tasks in indirect management for the establishment of the SISSTEM at the University of Aruba, notably:

- **Financial Management:** work in close cooperation with the Coordinator, periodically monitoring expenditure and budgets.

- **Quality and Risk Management:** be responsible for enforcement, monitoring and assessment of the action's quality. As planned, Quality and Risk Management (QRM) will report to the Operational Management (OM).

- **Administrative Management:** work in close cooperation with the Coordinator, periodically monitoring reporting tasks.

- **Operational Management:** work in close cooperation with the project coordinator, be in charge of overall operational activities of the action, including: calling meetings

(technical, review, etc.), organising agendas, coordinating operational tasks, monitoring the state of tasks and ensuring that constraints between activities are satisfied, coordinating follow-up actions, etc.

This implementation is justified because of the complexity of the programme and capacity constraints on the one side, and the ability of the pillar-assessed implementing partner to carry out tasks similar to those of the Commission under direct management.

In case the envisaged entity would need to be replaced, the Commission's services may select a replacement entity using the same criteria.

5.4 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.

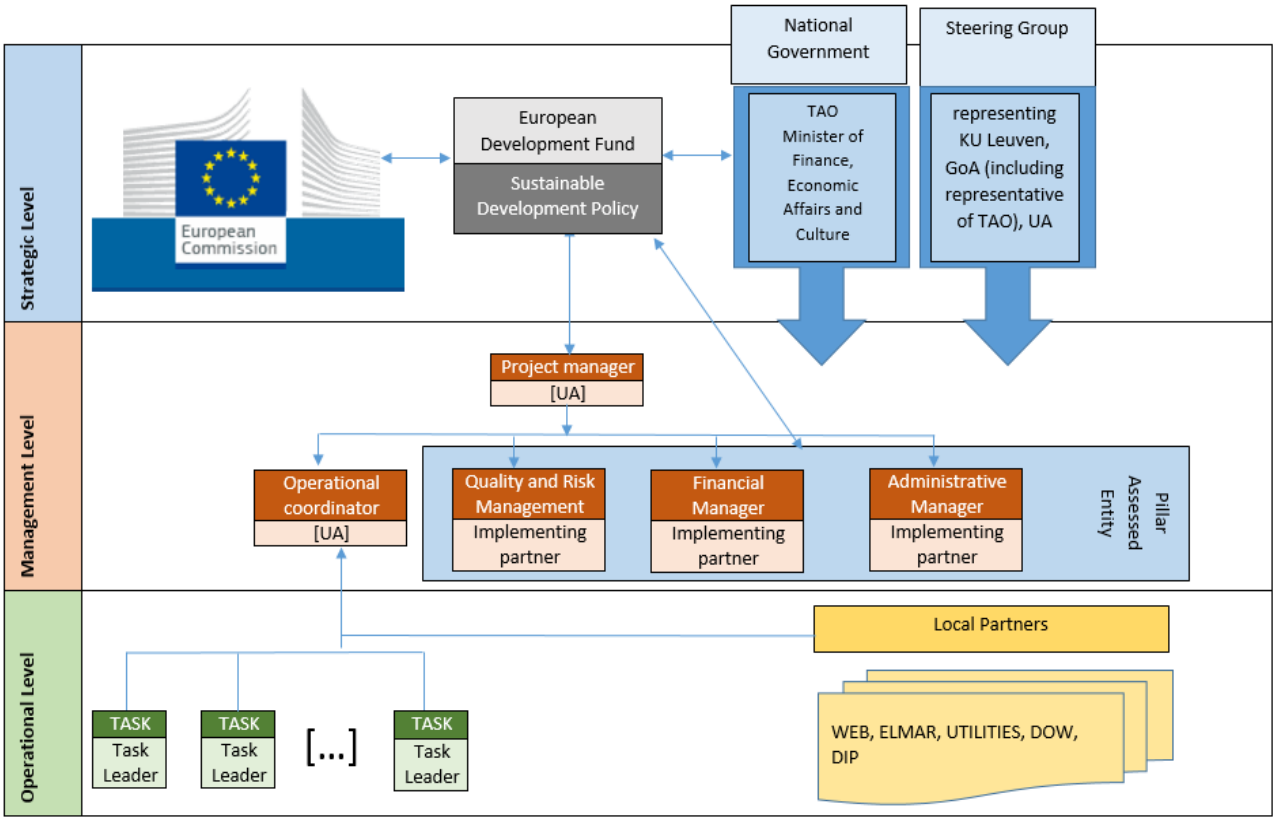
The Commission decides that natural and legal persons from the following countries having traditional economic, trade or geographical links with neighbouring partner countries shall be eligible for participating in procurement and grant award procedures: all CARICOM Countries (which are not already eligible under Article 89(2)(c) being developing countries and territories, as included in the OECD-DAC list of ODA Recipients), Colombia, Venezuela and Panama. The supplies originating in these countries shall also be eligible.

The Commission's authorising officer may extend the geographical eligibility 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 realization of this action impossible or exceedingly difficult.

5.5 Indicative budget

	EU contribution (amount in EUR)
5.3.1. Grants (direct management) to KU Leuven	5.550.000
5.3.2. Indirect management with UNDP	7.300.000
5.8 Evaluation and 5.9 Audit	100.000
5.10. Communication and visibility	100.000
Totals	**13.050.000**

5.6 Organisational set-up and responsibilities



MANAGEMENT COMMITTEE

Project manager: The project manager will be the sole interface with the European Commission/European Development Fund. The project manager's priority is to ensure that the action is completed in a way that meets the policy priorities of the EDF – particularly with reference to meeting the Sustainable Development Goals. The project manager will be in charge of:

i. Communicating with the Commission services and operating as proxy between the contributors to the action and the Commission whenever required (e.g. for administrative matters). The project manager will be responsible for informing the Commission services whenever required (e.g. in case of issues, criticalities, etc.).

ii. Overall coordination activities and supervision of all of the activities of the action.

iii. Controlling the overall execution of the action, including monitoring of costs, deadlines, etc.
iv. Prepare the official report to be forwarded to the Commission.
v. Call meetings (technical meetings, review meetings, etc.), organise the agendas, coordinate follow-up actions.
vi. Facilitate conflict resolution through mediation between partners.
vii. Facilitate capacity building among participants in the action.
viii. Coordinate the overall awareness strategy (i.e. communication about the project to outside parties).

Quality and Risk Management Implementing Partner: The Quality and Risk Management (QRM) will be responsible for enforcement, monitoring and assessment of the action's quality (as planned, the QRM will report to the Operational Management (OM)).

Administrative Management Implementing Partner: The Administrative Management (AM) will work in close cooperation with the Coordinator, periodically monitoring reporting tasks.

Financial Management Implementing Partner: The Financial Management (FM) will work in close cooperation with the Coordinator, periodically monitoring expenditure and budgets.

Operational Management [insert name]: The Operational Management (OM) will work in close cooperation with the Coordinator and will be in charge of overall operational activities of the action, including: calling meetings (technical, review meetings, etc.), organising agendas, coordinating operational tasks, monitoring the state of tasks and ensuring constraints between activities are satisfied, coordinating follow-up actions, etc.

SUPPORTING BODIES

The supporting bodies will provide formal, organised contact points with the main stakeholders and beneficiaries of the action. The bodies involved will support and advise the management representatives.

- **Steering group:** The steering group consists of representatives of the Government of Aruba, representative of the Territorial Authorising Officer, the University of Aruba, the EU Delegation in Guyana and KU Leuven. The role of the steering group is to ensure completion of project goals, report on the completion of the goals, and to co-ordinate with the project manager to ensure tasks are completed in the appropriate sequence.

- **National Liaison TAO (DEZHI):** The national liaison will be the point of contact between the co-ordinator and the Government of Aruba.

- **Local Partner Representatives:** Contact will be maintained with local partners who are responsible for contributing to tasks (e.g. sub-contractors, voluntary organisations), or who hold a major stake in the action (e.g. student bodies, representatives of local communities).

5.7 Performance and Results 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 partner's responsibilities. To this aim, the implementing partner shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress reports (not less than annual) and final reports. Every report shall provide an accurate account of implementation of the action, 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 log frame matrix (for project modality). 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 implementation period of the action.

The Commission may undertake additional project monitoring visits both through its own staff and through independent consultants recruited directly by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews).

The Territorial Authorizing Officer may undertake additional project monitoring visits and has to be copied in official reports and correspondence. The Territorial Authorizing Officer delegates these tasks to the Deputy Territorial Authorizing Officer.

5.8 Evaluation

Having regard to the nature of the action, a mid-term and a final evaluation will be carried out for this action or its components via independent consultants through a joint mission contracted by the Commission.

The mid-term evaluation will be carried out for problem solving and learning purposes, in particular with respect to launching a next phase of the action.

The final evaluation will be carried out for accountability and learning purposes at various levels (including for policy revision), taking into account in particular the innovative aspect of the action.

The Commission shall inform the implementing partner at least 60 days 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, the Territorial Authorizing Officer 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, a reorientation of the project.

Evaluation services may be contracted under a framework contract.

5.9 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.

It is foreseen that audit services may be contracted under a framework contract.

5.10 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 5.6 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.

It is foreseen that a contract for communication and visibility may be contracted under a framework contract.

6 PRE-CONDITIONS

The European Commission has indicated that Aruba is eligible for funding based on the project modality. This was confirmed in a letter to the Prime Minister of Aruba from the Directorate General for International Cooperation and Development, dated 13 February 2017, reference devco.g.1.dir (2017)507685. The letter states that the assessment of the four eligibility criteria indicates that the project modality is appropriate for supporting the SISSTEM project.

Annex 1: Aruba at a glance

Aruba is an island and a constituent country of the Kingdom of the Netherlands in the southern Caribbean Sea, located about 1 600 kilometres west of the main part of the Lesser Antilles and 29 kilometres north of the coast of Venezuela. It measures 32 kilometres long from its north-western to its south-eastern end and 10 kilometres across at its widest point.

Aruba is one of the four countries that form the Kingdom of the Netherlands, along with the Netherlands, Curaçao, and Sint Maarten; the citizens of these countries are all Dutch nationals. Its capital is Oranjestad. Aruba has 115 120 citizens (2016), an average GDP annual growth of 2.58 %, and a GDP per capita of $25,444 (2015).

In August 1947, Aruba presented its first *Staatsreglement* (Constitution), for Aruba's *status aparte* as an autonomous state within the Kingdom of the Netherlands. By 1954, the Charter of the Kingdom of the Netherlands was established, providing a framework for relations between Aruba and the rest of the Kingdom. In March 1983, Aruba reached an official agreement within the Kingdom for its independence, to be developed in a series of steps as the Crown granted increasing autonomy. In August 1985, Aruba drafted a Constitution that was unanimously approved. On 1 January 1986, after elections were held for its first parliament, Aruba seceded from the Netherlands Antilles; it officially became a country of the Kingdom of the Netherlands.

King Willem-Alexander of the Netherlands is the constitutional monarch of the Kingdom. In Aruba, he is represented by a Governor. The political system is based on the Dutch model with some English common law influence. An eight-member Council of Ministers headed by a Prime Minister holds the executive power. The Ministerial Council of the Kingdom deals with defence and external affairs. The Aruban government is responsible to a 21-member Parliament, the “Staten”, which is elected every four years in a multi-party system. Aruba has a stable parliamentary system and a history of peaceful political elections and transition of power. Jurisdiction, including appeal, lies with the Common Court of Justice of Aruba and the Supreme Court of Justice in the Netherlands.

General elections were held in Aruba on 22 September 2017. Both the Aruban People's Party (AVP) of the former PM Mike Eman and the People's Electoral Movement (MEP) of Evelyn Wever-Croes won nine seats. Wever-Croes subsequently formed a coalition government under her leadership with the Pueblo Orguyoso y Respeta (POR) and Network of Electoral Democracy (RED), the first Aruban coalition government in 16 years, and the first Aruban government headed by a woman. Wever-Croes's cabinet was sworn in by Governor Alfonso Boekhoudt on 17 November 2017. The Government has a slim majority but is stable.

APPENDIX - Indicative Logframe matrix

On the basis of this indicative logframe matrix, a more detailed logframe might be developed at contracting stage linked to this AD. The indicative logframe matrix will evolve during the lifetime of the Intervention. The activities, the expected outputs and related indicators are indicative and may be updated during the implementation of the Intervention as agreed by the parties (the European Commission and the implementing partner/s). The logframe matrix must be used for monitoring and reporting purposes. At the latest in the first progress report, implementing partner/s should include the complete logframe including all baselines and targets for each indicator). Each progress report should provide the most up to date version of the logframe as agreed by the parties (the European Commission and the implementing partner/s) with current values for each indicator. The final report should enclose the logframe with baseline and final values for each indicator.

	RESULTS CHAIN: MAIN EXPECTED RESULTS	INDICATORS	BASELINES (INCL. REFERENCE YEARS)	TARGETS (INCL. REFERENCE YEARS)	SOURCES AND MEANS OF VERIFICATION	ASSUMPTIONS
IMPACT (Overall objective)	UA STEM programme graduates are able to work on sustainable development projects in both the public and private sectors in small island states.	**1**. Number of graduates from UA STEM programme working on STEM-related projects (in private and public sectors) in small island states. **2**. Number and value of sustainable development projects in Aruba and Caribbean small island states. **3.** Number of joint scientific projects in Aruba and Caribbean small island states. **4**. Volume of funding of the STEM higher education by the GoA. **5**. Volume of co-funding of STEM higher education and research by Caribbean small island states.	There are currently no UA graduates working on STEM projects.	**1**. In 2022 the first UA STEM graduates are active in study-related jobs and/or in further studies in the region.	UA alumni reports and MA programme registrations.	

OUTCOMES (Specific objectives)	SO: UA is able to deliver a high level educational (Bachelor and Master level) and research offer, with a particular focus on STEM subjects.	**1**. Number of students who graduate annually from STEM BA programmes at the UA (disaggregated by sex). **2**. Number of graduating MA students per year at the SISSTEM Faculty (disaggregated by sex) **3**. Number of graduates that incorporate the market in sustainability-related jobs.	As of 2017, there are no STEM students (BA/MA/PhD level) at the UA.	**1**. Starting in 2021, 18 STEM BA students per year graduate at the UA. **2**. Starting in 2022, 15 MA students per year graduate at the UA. **3**. PhD projects finalized in the 2023-24 academic year, resulting in max. 12 finalized PhD projects by that time.	**1**. Enrolment and output figures from the UA STEM Bachelor's programme. **2**. UA yearly reports on enrolment and graduation rates. **3**. UA and KU Leuven yearly reports on PhD activities.	Future Government of Aruba will further support the SISSTEM Programme. The private sector will continue to support and invest in developing sustainable development projects. Public and private sectors will maintain and/or increase their interest in sustainable production and renewable resources, as well as energy, bio-conservative techs, waste management etc.

OUTPUTS	**O1.1.** Available physical facilities (with blended learning, distance teaching and digital access points) **O1.2.** Teaching/Admin. and support staff for the new Faculty	**1.1.1.** Capacity of a) renovated/refurbished and equipped buildings (classrooms), b) student accommodation, c) office spaces **1.1.2.** Number and capacity of Tech labs installed and equipped **1.2.1.** Number of teaching and support staff recruited	For all indicators, the baseline (as of 2017) is zero.	**1.1.1**. a) Multifunctional classrooms for 25 students and one larger classroom for 50 students; b) housing facilities for 45 international exchange students, and c) office space for 25 staff available before end of 2021 **1.1.2**. One chemistry lab, 1 physics lab, 1 biosciences lab and 1 technology lab; each equipped for at least 10 students and 1 instructor, functional before end 2019. **1.2.1.** Three senior lecturers	Progress reports from UA on the three main areas. **1.1.1.** Works completion and acceptance certificates (notably Dutch-Flemish certification) **1.1.2.** Works completion and acceptance certificate with staff/technical utilisation manuals **1.2.1.** Admin. reports of UA and	

		and working at the SISSTEM Faculty (disaggregated by sex and category of staff).		and 12 teaching staff members + 1 administrative staff recruited by April 2019	KU Leuven/Mid-term progress report of the cooperation between UA and KU Leuven	
	O1.3. Curricula for BA and MA programmes at the SISSTEM Faculty.	**1.3.1.** Status of the curriculum for the BA and MA Programmes.		**1.3.1.** Curriculum for MA and BA established and ready for use by June 2020 (BA) and June 2021 (MA).	**1.3.1**. UA and KU Leuven academic reports/curricula available and published	
		1.3.2. Statuses of the BA and MA programme launch.		**1.3.2.** BA programme is launched in September 2019 and the MA programme in 2021.	**1.3.2.** Report on the launching event	
	O1.4. New Research Institute for STEM	**1.4.1.** Number of PhD students carrying out research projects at the SISSTEM Faculty under supervision of KU Leuven professors (disag. by sex).		**1.4.1.** Min. 6, max 12 STEM PhD students recruited in 2019.	**1.4.1.** UA/KU Leuven Reports	

		1.4.2. Number of local/regional/international research products (academic papers, conferences, etc.). **1.4.3.** Status of the ICT Platform for online teaching		**1.4.2.** Min. 24 academic papers and min. 3 regional academic events delivered by June 2022. **1.4.3.** 40 computers; server capacity is installed and the software developed.	**1.4.2.** Academic papers made available and published in dedicated journals. **1.4.3.** Procurement proofs and UA reports (including pictures).	
	O1.5. Potential collaborators and the societies of Aruba and Caribbean small island states are informed on the STEM higher education and research, and their potential use and expected impact.	**1.5.1.** Number of people/ officials/institutions attending project events (disaggregated by sex)		**1.5.1.** At least 2 information/ research –related events organized per year		