



REPUBLIC OF GHANA



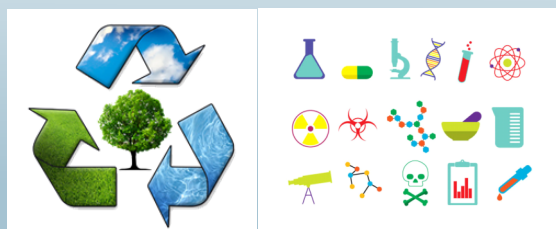
MEDIUM TERM EXPENDITURE FRAMEWORK (MTEF)

FOR 2018 - 2021

PROGRAMME BASED BUDGET ESTIMATES

FOR 2018

MINISTRY OF ENVIRONMENT, SCIENCE,
TECHNOLOGY AND INNOVATION (MESTI)



For copies of the MESTI MTEF PBB Estimates, please contact the Public Relations Office of the Ministry:

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2.6.1 Budget by Chart of Account

6.1 - Programme, Sub-Programme and Natural Account Summary

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
Programmes - Ministry of Environment Science, Technology	361,978,374	362,175,624	362,402,462
01701 - Management And Administration	46,456,101	46,456,101	46,456,101
01701001 - General Administration	32,526,315	32,526,315	32,526,315
21 - Compensation of employees [GFS]	1,769,900	1,769,900	1,769,900
22 - Use of goods and services	7,580,519	7,580,519	7,580,519
31 - Non financial assets	23,175,896	23,175,896	23,175,896
01701002- Finance	185,308	185,308	185,308
22 - Use of goods and services	185,308	185,308	185,308
01701003- Human Resource	154,422	154,422	154,422
22 - Use of goods and services	154,422	154,422	154,422
01701004 - Policy, Planning, Budgeting, Monitoring and Evaluation	13,466,518	13,466,518	13,466,518
22 - Use of goods and services	2,673,746	2,673,746	2,673,746
31 - Non financial assets	10,792,772	10,792,772	10,792,772
01701005- Statistics; Research; Information and Public Relations	123,538	123,538	123,538
22 - Use of goods and services	123,538	123,538	123,538
01702 - Research And Development	227,969,159	227,969,159	227,969,159
01702001- Scientific And Industrial Research	165,545,397	165,545,397	165,545,397
21 - Compensation of employees [GFS]	134,420,331	134,420,331	134,420,331
22 - Use of goods and services	13,133,382	13,133,382	13,133,382
31 - Non financial assets	17,991,683	17,991,683	17,991,683
01702002- Nuclear Science And Space Science Technology	62,423,763	62,423,763	62,423,763
21 - Compensation of employees [GFS]	55,444,476	55,444,476	55,444,476



2.6.1 Budget by Chart of Account

6.1 - Programme, Sub-Programme and Natural Account Summary

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
22 - Use of goods and services	3,941,866	3,941,866	3,941,866
27 - Social benefits [GFS]	265,000	265,000	265,000
28 - Other expense	125,000	125,000	125,000
31 - Non financial assets	2,647,421	2,647,421	2,647,421
01703 - Environmental Protection And Management	70,876,370	71,073,620	71,300,458
01703001- Environmental Compliance And Enforcement	60,736,135	60,736,135	60,736,135
21 - Compensation of employees [GFS]	20,453,184	20,453,184	20,453,184
22 - Use of goods and services	24,155,000	24,155,000	24,155,000
31 - Non financial assets	16,127,951	16,127,951	16,127,951
01703002 - Environmental Education Information And Communication	8,101,003	8,298,253	8,525,090
22 - Use of goods and services	6,786,003	6,786,003	6,786,003
27 - Social benefits [GFS]	1,100,000	1,265,000	1,454,750
28 - Other expense	215,000	247,250	284,337
01703003 - Enforcement and Compliance of ionizing and non-ionizing radiation	2,039,232	2,039,232	2,039,232
21 - Compensation of employees [GFS]	1,839,232	1,839,232	1,839,232
31 - Non financial assets	200,000	200,000	200,000
01704 - Spatial Planning And Human Settlement	14,949,035	14,949,035	14,949,035
01704001- Human Settlement and Land Use Research and Policy	14,949,035	14,949,035	14,949,035
21 - Compensation of employees [GFS]	13,887,225	13,887,225	13,887,225
22 - Use of goods and services	661,810	661,810	661,810
31 - Non financial assets	400,000	400,000	400,000
01705 - Biosafety Development	1,727,709	1,727,709	1,727,709



2.6.1 Budget by Chart of Account

6.1 - Programme, Sub-Programme and Natural Account Summary

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01705001 - Biotechnology Regulation	1,727,709	1,727,709	1,727,709
21 - Compensation of employees [GFS]	86,502	86,502	86,502
22 - Use of goods and services	1,441,207	1,441,207	1,441,207
31 - Non financial assets	200,000	200,000	200,000

PART A: STRATEGIC OVERVIEW OF THE MINISTRY OF ENVIRONMENT, SCIENCE, TECHNOLOGY AND INNOVATION (MESTI)

1. NMTDF POLICY OBJECTIVES

The NMTDF contains a number of policy objectives, out of which twelve (12) have been adopted by the Ministry of Environment, Science, Technology and Innovation.

These are as follows:

- Enhance the Application of science, technology and innovation
- Protect existing forest reserves
- Reduce environmental pollution
- Combat deforestation, desertification and Soil erosion
- Enhance climate change resilience
- Reduce greenhouse gases
- Mainstream science, technology and innovation in all socio-economic activities
- Promote a sustainable, spatially integrated, balanced and orderly development of Human settlements
- Enhance capacity for policy formulation and coordination

2. GOAL

The Ministry of Environment, Science, Technology and Innovation (MESTI) seeks to ensure accelerated socio-economic development of the nation through the formulation of sound policies and a regulatory framework to promote the use of appropriate environmentally friendly, scientific and technological practices.

3. CORE FUNCTIONS

The core functions of the Environment, Science, Technology and Innovation Sector are:

- Provide leadership and guidance for Environment, Science, Technology and Innovation within the broad sector of the economy through sound policy formulation and implementation;
- Ensure the establishment of the regulatory framework and setting of standards to govern the activities of science and technology and the management of the environment for sustainable development;
- Promote activities needed to underpin the standards and policies required for planning and implementation of sound scientific and technological development activities;

- Ensure the coordination, supervision, monitoring and evaluation of activities of Environment, Science, Technology and Innovation while fulfilling national benefits-sharing commitments;
- Set out the parameters required for programmes on environment, science, technology and human settlement in consultation with the National Development Planning Commission (NDPC) in guiding the Districts Assemblies as the planning authorities at the local level;
- Analyse and coordinate all planned programmes as well as budgets in the environment, science, technology and innovation sector of the economy for purposes of achieving a single integrated management system;
- Initiate, simulate and coordinate research including the continuous development and review of policies, laws, rules and regulations in the environment, science, technology and innovation sector of the economy; and
- Ensure effective environmental management and governance, in line with the functions of the Act 490, with the EPA as the main implementing agency and the MESTI playing an oversight, coordination and facilitating role.

4. POLICY OUTCOME INDICATORS AND TARGETS

Indicator Description	Unit of Measurement	Baseline		Latest Status		Target	
		Year	Value	Year	Value	Year	Value
Reduction in climate change vulnerability: Number of sectors with climate change mitigation and adaptable strategy priorities integrated	No of industries using REDD concepts, based on research to assess carbon stocks	2015	13	2016	14	2018	16
	No. of sectors with climate change mitigation and adaptation strategy priorities integrated	2015	6	2016	6	2018	7
Amount of Green House Gases in the atmosphere	Metric Tonnes (MT)	2015	44.9 MT	2016	50.5 MT	2018	56.1 MT
Number of companies compliant with EA and EMP permit conditions	The number of companies issued with EA and EMP permit as a portion of all companies	2015	2,777	2016	3,844	2018	4,200
Research adaptation by industries	Number of research findings adopted by industry	2015	105	2016	70	2018	115
	Number of businesses /industries assisted to adopt R&D in production	2015	12	2016	12	2018	17
	Rate of adoption of improved locally-packaged technologies my MSMEs (%)	2015	28%	2016	35%	2018	35%

5. SUMMARY OF KEY ACHIEVEMENTS IN 2017

Management and Administration Programme

- Integrated watershed planning was undertaken in 174 communities in 12 districts.
- Provided 14,109 farmers with inputs to implement Sustainable Land and Water Management (SLWM) technologies. Subprojects from communities were also approved by the Project Steering Committee for implementation.
- Improved extension support through performance incentives and study tour. Lead farmers are providing extension support to colleague farmers for the implementation of subprojects
- Developed Community Resource Management Area (CREMA) management plans for sites 2 & 4 within the biological corridors
- Improved biodiversity conservation within the Gbele Resource Reserve (GRR). Wildlife staff were also trained on the use of monitoring system to help improve patrols within the reserve. In addition, awareness was created among fringe communities to help protect the reserve.
- Established green fire breaks around the Kulpawn and Ambalara Forest Reserves to help improve management of the Forest Reserves. Four (4) Forest Reserves Management Plans were also printed.
- Organized one (1) stakeholder consultation with the National Focal Points of the Convention on Biological Diversity, academia and CSOs on the zero draft National Biodiversity Policy
- Project document between MESTI and FAO signed on ‘Promoting and enhancing Sustainable Management of Wetland Resources for Better Ecosystem Services and Resilient Livelihoods of Keta and Ada Coastal Communities’. National Project Coordinator nominated
- Undertook mapping exercise in all 50 communities of the Adaptation Fund Project, to identify the intended interventions to be undertaken.
- Drilled 40 boreholes, with 3 yielding ones mechanised
- Rehabilitated 12 dams
- Submitted 1st draft report on the Black and Oti river basins for validation by the study validation committee of the Project
- Inaugurated National Climate Change Steering Committee
- Inaugurated Project Steering Committee (PSC) of the Adaptation Fund Project
- Signed Financial and Separate Agreements between MESTI and KFW/GIZ for a Grant project on Recycling and Disposal of Waste of Electrical and Electronic Equipment in an Environmentally Sound Way.
- Completed final study on private sector support for climate-related investments to provide baseline for GCF pipeline proposals. Reports were also submitted to pipeline proposal consultants
- Completed Climate Datahub upgrade in first quarter and handed over to Environmental Protection Agency (EPA). This will support project pipelines and increase access to climate change information.

- Completed and submitted the Climate Finance Monitoring, Reporting and Verification (MRV) guidance document to the Ministry of Finance to aid the development of climate finance system.
- Prepared Draft STI Bill.
- Reviewed the National STI Policy. Stakeholder Consultative workshop was also organized for MDAs, to seek inputs into the draft National STI Policy and the framework of the STI Bill
- The President H.E. Nana Addo Dankwa Akufo -Addo accepted the invitation to launch the Radio Astronomy Observatory facility on August 24, 2017. This will improve space science research and development
- The Ministry celebrated all the five (5) Environmental and Scientific days to create awareness;
 - International Biodiversity Day (IBD)
 - World Environment Day (WED)
 - World Day to Combat Drought and Desertification (WDCDD)
 - African Scientific Renaissance Day (ASRD)
 - World Oceans Day

Research and Development Programme

- The CSIR developed postharvest handling Model for three (3) horticultural crops in Ghana (tomato, Pepper & Orange)
- Four (4) varieties of Yam released namely: **CRI-Afase Biri, CRI- Afase Soayinto, CRI-Afase Adepa, CRI-Afase Hoodenfoo.**
- Seven (7) Maize hybrids released in April 2017, namely: **Kpariyura, Salin-kawana, SARI MAZ 1, Denbea, Similenu, Kum-naaya, Wang-Basig**
- The CSIR raised 120,000 seedlings of bamboo for EPA to restore degraded lands around water bodies in the North
- The CSIR provided technical services and training to selected stakeholders on the use of forest genetic resources/ adaptation to climate change.
- As part of efforts to control and eliminate water and soil borne diseases
 - The average in microfilaria prevalence infection was reduced from 13.2% to 12.5%. The highest prevalence of Onchocerciasis infection observed was also reduced from 26% to 24.6 %, while the community with the lowest infection reduced from 1.50% to 1.36%.
 - Additionally, soil transmitted helminth infection studied in 10 communities also showed reduction in the prevalence of hookworm infection from 15% to 13.5 %
 - Schistosomiasis studied in some 28 communities had an average prevalence reduction from 15% to 13.8%
- The CSIR trained ten (10) artisans in construction supervision using local building materials for construction of affordable housing units. Sixty (60) engineers and architects were also trained in controlling of building deterioration and termite infestation both in Accra and Kumasi

- Electro-fitting of street lights to pave way for installation of solar street lights at CSIR-FRI to cut down cost on light bills and also promote renewable Energy systems for both domestic and commercial buildings.
- Conducted Baseline surveys and adoption studies on released crop varieties. The survey showed adoption rates of the following varieties as follows:
 - Sweet potato: 59%
 - Cassava: 41 %
 - Cocoyam: 21%-Yam: 6 %
- Irradiated 25 tonnes of crops using the Gamma Irradiation Facility for Improved postharvest management
- Protein bait production plant 90% complete
- Draft Ghana Space Policy 50% complete
- Monitored 900 sites to ensure public safety from EM radiation from RF and FM cell sites.
- Assessed safety on 308 stations for EM radiation.
- Monitored three (3) sites for Naturally Occurring Radioactive Materials (NORMS)
- 70 research findings adopted by industry/private sector
- 12 businesses /industries assisted to adopt R&D in production.
- 35% adoption rate of improved locally- packaged technologies my MSMEs (%)

Environmental Protection and Management Programme

- An EPA assessment in 2016 showed that 6 sectors had integrated climate change mitigation and adaptation strategy priorities integrated into their plans and programmes.
- Fourteen (14) industries used REDD concepts, based on research to assess carbon stocks
- Monitored 1,096 undertakings of which 344 were compliant and 785 were non-compliant
- Developed draft Onshore Oil and Gas Regulation.
- 22 mining companies participated in the AKOBEN Rating programme
- Developed the draft Ghana standards for use of Oxo-biodegradable additives in production of flexible plastics
- Developed draft awareness creation programme for Hazardous & Electronic Waste Control & Management Act, 2016 (Act 917)
- Finalized and submitted Draft fiscal reform policy document to the Ministry of Finance
- Completed a draft guideline on the storage of chemicals.
- Issued 1,016 permits for projects as well as 6,891 chemical licenses.
- Monitored Air quality at 13 sites. The results indicated that PM10 levels were above the EPA 24hour level of 70µg/m³.

- Monitored 45 industries in the Accra/Tema region for effluent quality and the results were higher than the EPA recommended guideline levels 50mg/l, 75NTU and 1500 µS/Cm
- Prepared draft state of the environment report
- Trained 112 Officers on environmental Assessment Administration
- Trained 569 stakeholders in chemical management
- The NRA drafted five (5) Regulations for the control and use radiation of in Ghana.
- The NRA carried out Forty (40) inspections on radiation facilities throughout Ghana
- The NRA inspected two (2) nuclear facilities as part of oversight for core conversion of Ghana Research Reactor-1 from HEU to LEU

Spatial Planning and Human Settlement Programme

- Completed Greater Accra Regional Spatial Development Framework
- Completed Ashanti Regional Spatial Development Framework
- Trained 40 officers in GIS applications for land use and spatial planning

Biotechnology Development Programme

- Established appeals tribunal to address public concerns on biosafety issues.
- Conducted three (3) public awareness programmes on Biosafety
- Finalized and submitted biosafety implementing regulations to the sector Minister
- Completed training on Biosafety Emergency measures
- GMO detection laboratory 80% complete.

6. EXPENDITURE TRENDS FOR THE MEDIUM-TERM

The Ministry over the 2017 fiscal year was allocated an amount of **GH¢349,152,142.00**. As at October, 2017, a total amount of Two hundred and forty-eight million, six hundred and twelve thousand, one hundred and eighty-nine Ghana Cedis, ninety-nine pesewas (GH¢248,612,189.99), representing seventy-one percent (71%) of the total budget. G.O.G releases stood at 77%, Internally Generated Funds (IGF) releases stood at 104% while releases from Development Partners stood at 39%

With the limited budgets in 2018 however, the Sector hopes to mainstream STI into National Development Agenda, promote STI Culture in Ghana, build STI Infrastructure Capacity, develop Human Capital for STI development, establish an effective National Innovative System, develop indigenous knowledge and Technologies, promote International Cooperation and Linkages, develop National capacity for Space Science and Technologies, strengthen STI Advisory System for Policy Makers and finance the STI Implementation Programme which seek to create jobs, reduce poverty and make science, technology and innovation accessible to all economic sector players. MESTI will also ensure the enhancement of the management of Hazardous, Electronic and Plastic waste.



1.5. Appropriation Bill

Summary of Expenditure by Sub-Programme, Economic Item and Funding

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Year: 2018 | Currency: Value

Version 1

	GoG			IGF			Funds / Others				Donors			Grand Total
	Compensation of employees	Goods and Services	Capex	Total	Compensation of employees	Goods and Services	Capex	Total	Statutory	ABFA	Others	Goods and Services	Capex	
01701 - Management And Administration	1,769,900	1,985,433	2,000,000	5,755,332								8,732,101	31,968,668	40,700,769
01701001 - General Administration	1,769,900	1,321,415	2,000,000	5,091,315								6,259,104	21,175,896	27,435,000
01701002 - Finance		185,308		185,308										185,308
01701003 - Human Resource		154,422		154,422										154,422
01701004 - Policy, Planning, Budgeting, Monitoring and Evaluation		200,749		200,749								2,472,997	10,792,772	13,265,769
01701005 - Statistics; Research; Information and Public Relations		123,538		123,538										123,538
01702 - Research And Development	189,864,807	1,323,620	1,200,000	192,388,427		11,470,629	4,647,612	16,118,241				4,670,999	14,791,492	19,462,491
01702001 - Scientific And Industrial Research	134,420,331	661,810	600,000	135,682,142		7,800,573	2,600,191	10,400,764				4,670,999	14,791,492	165,545,397
01702002 - Nuclear Science And Space Science Technology	55,444,476	661,810	600,000	56,706,286		3,670,056	2,047,421	5,717,477						62,423,763
01703 - Environmental Protection And Management	6,164,465		200,000	6,364,465	16,127,951	32,256,003	16,127,951	64,511,905						70,876,370
01703001 - Environmental Compliance And Enforcement	4,325,233			4,325,233	16,127,951	24,155,000	16,127,951	56,410,902						60,736,135
01703002 - Environmental Education Information And Communication						8,101,003		8,101,003						8,101,003
01703003 - Enforcement and Compliance of ionizing and non-ionizing radiation	1,839,232		200,000	2,039,232										2,039,232
01704 - Spatial Planning And Human Settlement	13,887,225	661,810	400,000	14,949,035								1,000,000		14,949,035
01704001 - Human Settlement and Land Use Research and Policy	13,887,225	661,810	400,000	14,949,035										14,949,035
01705 - Biosafety Development	86,502	441,207	200,000	727,709										1,727,709
01705001 - Biotechnology Regulation	86,502	441,207	200,000	727,709								1,000,000		1,727,709
Grand Total	211,772,898	4,412,070	4,000,000	220,184,968	16,127,951	43,726,632	20,775,563	80,630,147				14,403,100	46,760,160	61,163,260
														361,978,374

PART B: BUDGET PROGRAMME SUMMARY

PROGRAMME 1: MANAGEMENT AND ADMINISTRATION

1. Budget Programme Objectives

- To formulate policies and legislations that would facilitate the sustainable development of the country through the application of science, technology and innovation and the adoption of international standards/protocols and conventions that relate to the environment, science, technology and innovation sector of the country.
- To strengthen the coordination of activities of the Ministry, its Agencies/Department and other stakeholders (MDAs, MMDAs, CSOs, DPs, Private Sector) on the issues that relate to the environment, science technology and innovation sector.
- To strengthen policy planning, monitoring and evaluation within the Ministry and to ensure the effective implementation of sector polices programmes and projects.

2. Budget Programme Description

The Management and Administration programme provides the cross-cutting services required in order that the other programmes undertaken by the sector can succeed in achieving their objectives. This programme is responsible for:

- Formulating, coordinating, monitoring and evaluation of environmental policies and legislations that will ensure and promote sustainable environmental development;
- Formulating, coordinating, monitoring and evaluation of science, technology and innovation policies to promote the development and application of research to enhance sustainable development of the country;
- Strengthening human capacities to adequately deal with environmental management, science, technology and innovation issues; and
- Preparing the sector budget and pursuing the interest of the Ministry in all financial transactions.



2.6.1 Budget by Chart of Account

6.1 - Programme, Sub-Programme and Natural Account Summary

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01701 - Management And Administration	46,456,101	46,456,101	46,456,101
01701001 - General Administration	32,526,315	32,526,315	32,526,315
21 - Compensation of employees [GFS]	1,769,900	1,769,900	1,769,900
22 - Use of goods and services	7,580,519	7,580,519	7,580,519
31 - Non financial assets	23,175,896	23,175,896	23,175,896
01701002- Finance	185,308	185,308	185,308
22 - Use of goods and services	185,308	185,308	185,308
01701003- Human Resource	154,422	154,422	154,422
22 - Use of goods and services	154,422	154,422	154,422
01701004 - Policy, Planning, Budgeting, Monitoring and Evaluation	13,466,518	13,466,518	13,466,518
22 - Use of goods and services	2,673,746	2,673,746	2,673,746
31 - Non financial assets	10,792,772	10,792,772	10,792,772
01701005- Statistics; Research; Information and Public Relations	123,538	123,538	123,538
22 - Use of goods and services	123,538	123,538	123,538

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 1: MANAGEMENT AND ADMINISTRATION

SUB-PROGRAMME 1.1: General Administration

1. Budget Sub-Programme Objectives

- To effectively coordinate the activities of the various Directorates of the Ministry and its Agencies;
- To ensure the provision of adequate resources/logistics for the smooth operations of the Ministry;
- To promote the application of Science, Technology and Innovation in all sectors of the economy; and
- To promote the integration of environmental issues in all sectors of the economy.

2. Budget Sub-Programme Description

This sub-programme looks at coordinating the activities of the Ministry and its Agencies through the office of the Chief Director. It issues directives that are consistent with the policy direction of the Ministry; provides required resources and logistics (e.g. human, transport, stationery, office equipment) for effective running of the Ministry.

This sub-programme is also responsible for ensuring that the sector projects and programmes are in line with national development agenda by developing appropriate policies, programmes and projects that relate to the environment and Science, Technology and Innovation; as well as ensures the successful implementation of all activities that relate to the environment, Science, Technology and Innovation.

This sub-programme is also responsible for implementing national priority projects such as mainstream STI into National Development Agenda, promote STI Culture in Ghana, build STI Infrastructure Capacity, develop Human Capital for STI development, establish an effective National Innovative System, develop indigenous knowledge and Technologies, promote International Cooperation and Linkages, develop National capacity for Space Science and Technologies, strengthen STI Advisory System for Policy Makers and finance the STI Implementation Programme which seek to create jobs, reduce poverty and make science, technology and innovation accessible to all economic sector players. MESTI will also ensure the enhancement of the management of Hazardous, Electronic and Plastic waste.

Operations undertaken include, to:

- Mainstream STI Into National Development Agenda
- Promote STI Culture in Ghana
- Build STI Infrastructure Capacity
- Develop Human Capital for STI Development
- Establish an Effective National Innovative System
- Develop Indigenous Knowledge and Technologies
- Promote International Cooperation and Linkages
- Develop National Capacity for Space Science and Technologies
- Strengthen STI Advisory System for Policy Makers
- Finance the STI Implementation Programme
- Enhance the management of Hazardous, Electronic and Plastic waste
- Develop and implement Oil and Gas Environment Policy
- Implement Climate Change and Green Economy related activities
- Prepare and implement Biodiversity Policy to enhance Biological Diversity conservation and use of our natural resources
- Ensure cohesion and successful implementation of the environment and STI related programmes and projects in the Sector Medium Term Development Plan
- Manage the properties of the Ministry through procurement and maintenance works
- Ensure the timely provision of resources/logistics for the efficient operations of the Ministry

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Land area where Sustainable Land and Water Management Practices have been adopted as a result of the SLWMP	Size of land (in Hectares)	5,579.8 ha	7,256.2	10,000	14,000	15,000	-
Land users adopting Sustainable Land and Water Management Practices as a result of the SLWMP	No. of farmers adopting the practices	14,109	18,246	20,000	28,000	30,000	-
Direct SLWMP beneficiaries	No. of farmers % of which are women	27,596 40%	34,213 55%	45,000 40%	52,000 40%	60,000 40%	-
Oil and Gas environment policy developed	Level (%) of completion of policy	Zero draft prepared	Finalization to cabinet	Approval by Cabinet	Develop Policy Strategy	Develop draft implementation plan	Finalise implementation plan
Develop legislation for Chemical Weapon Convention	Draft legislative Instrument	n/a	Stakeholder consultations	Review of zero draft	Cabinet approval		
National Biodiversity policy developed	Level (%) of completion of policy	n/a	Final Draft Policy developed	Cabinet approved NBP Roll out of NBP Development of Master Plan	Development of M&E Plan	Implementation of NBP	Review of NBSAP

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Development of Master Plan for GH(I)NDC	Master Plan for GH(I)NDC	n/a	Stakeholder consultations	Draft Master Plan	Validation of Plan	...	Implementation of Plan
Programmes and project outlined to implement the National STI Policy outlined	Number of programmes outlined in the Policy	17 programmes and 84 projects	17 programmes and 84 projects	At least 10 programmes and 50 projects outline in Development Plan	N/A	N/A	N/A
STI Mainstreaming Monitoring report prepared	Number of STI Programmes and activities monitored	20 programmes monitored	20 programmes monitored	30 programmes monitored	At least 40 programmes monitored	At least 50 programmes monitored	At least 50 programmes monitored.
National STI Infrastructure Survey report	Number of STI institutions surveyed	42 institutions	N/A	At least 50 institutions	Report of the STI infrastructure report prepared	N/A	N/A
Science and Technology Parks (STP) established	10 STPs established in Ghana	N/A	N/A	Feasibility studies and business plans prepared for 2 sites.	1 st STP Initiated	2 nd STP Initiated	2 STP established

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Incubation Centres established	10 incubation centres established	N/A	N/A	Feasibility studies and business Plans prepared for 10 sites	5 incubation centres imitated	5 incubation centres initiated	10 incubation established
Number of STEM Centres established.	10 STEM Centres established	N/A	N/A	2 centres established	3 centres established	4 centres established	1 centre established
Number of Foundries established	5 foundries established	N/A	N/A	1 foundry established	1 foundry established	2 foundries established	1 foundry established
Number of HPC Centres Established	3 HPC Centres Established	n/a		2 centres established	N/A	1 Centre established	N/A
A national database on the profile of scientists, engineers, and technologists created.	Number of scientist, Engineers and Technologist captured in the database	N/A	N/A	100 scientist, Engineers and Technologist captured in the database	150 scientist, Engineers and Technologist captured in the database	300 scientist, Engineers and Technologist captured in the database	400 scientist, Engineers and Technologist captured in the database
No. of Ghanaian and African Diaspora STI experts established working relationship with Ghanaian institutions	200 Ghanaian and Africans in Diaspora STI experts established working relationship with Ghanaian institutions	N/A	N/A	50 STI experts	50 STI experts	50 STI experts	50 STI experts

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Database of Ghanaian STI experts across the world established	4 countries of Ghanaian STI experts captured in the database	N/A	N/A	2 countries	2 countries	1 country	2 countries
GRATIS Centres revamped	Number of GRATIS Centres revamped	10 Regional Centres revamped 21 Districts revamped		3 Regional GRATIS centres And 5 District centres revamped	3 Regional GRATIS centres and 5 District centres revamped	2 Regional GRATIS centers and 5 districts centres revamped	2 Regional GRATIS centers and 6 district centres revamped
Technology Commercialization Unit (TCU) /National Innovation Agency (NIA) established.	1 TCU/NIA established	N/A	N/A	1 TCU/NIA established.	N/A	N/A	N/A
Databank on indigenous knowledge and skills established	Number of indigenous knowledge and skills captured in the databank	N/A	N/A	50 indigenous knowledge and skills captured in the database.	100 indigenous knowledge and skills captured in the database.	150 indigenous knowledge and skills captured in the database.	200 indigenous knowledge and skills captured in the database.
No. of Regional, Continental and global cooperation for STI meetings attended.	55 Regional, Continental and global cooperation for STI meetings attended.	10 meetings attended	15 meetings attended	15 meetings attended	10 meetings attended	15 meetings attended	10 meetings attended

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Number of researchers trained in Research Management under SGCI	100 researchers trained in Research Management	N/A	20 researchers trained	20 researchers trained	20 researchers trained	30 researchers trained	30 researchers trained
Researchers Trained in measuring STI Indicators under SGCI	100 researchers trained in STI Indicators and data collection	N/A	20 researchers	20 researchers	20 researchers	30 researchers	30 researchers
Number Technologies Transferred to Private Sector under SGCI	10 Technologies transferred to the private sector	N/A	N/A	2 technologies transferred	2 technologies transferred	2 technologies transferred	4 technologies transferred
Number of projects jointly implemented by Ghana-South Africa.	20 projects jointly implemented	10 projects jointly implemented	N/A	10 projects jointly implemented	N/A	10 projects jointly implemented	N/A
National Space Policy prepared.	Number of stakeholder consultation meeting organized National Space Policy approved by Cabinet	N/A	N/A	5 stakeholder consultation meetings held	Policy Submitted to Cabinet and launched	N/A	N/A
Number of National Planetarium established at Kuntunse.	1 National Planetarium established at Kuntunse.	N/A	N/A	Work initiated on the establishment of the Planetarium	Work completed on the establishment of the planetarium	N/A	N/A

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Number of Astronomers and Engineers trained.	30 Number of Astronomers and Engineers trained.	N/A	N/A	10 Astronomers and Engineers trained.	10 Astronomers and Engineers trained.	5 Astronomers and Engineers trained.	5 Astronomers and Engineers trained.
Number SKA/AVN partner countries meetings attended	8 SKA/AVN partner countries meetings attended	2 meetings attended	2 meetings attended	2 meetings attended	2 meetings attended	2 meetings attended	2 meetings attended
Number of Satellite Ground receiving station constructed	1 ground receiving station constructed	N/A	N/A	Feasibility studies conducted	Construction of ground receiving station initiated.	Work completed on the station.	N/A
Space data available to institutions.	Number of institution permitted to access data.	N/A	N/A	10 institutions	20 institutions	30 institutions	40 institutions
PACSTI council and Secretariat fully established and operational.	PACSTI council and Secretariat fully established and operational	N/A	Draft Legislative Instrument prepared	Established and operationalized	N/A	N/A	N/A
Inter-ministerial coordinating committee inaugurated.	Numbers of meetings	N/A		2 meetings	2 meetings	2 meetings	2 meetings

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
STI Fund established and operationalized	Number of grants awarded to researchers	N/A	Draft Legislative Instrument prepared	50 grants	100 grants awarded	100 grants awarded	200 awarded
Encouraging R&D by the Private Sector	Total R&D Budgets of the Private Sector	N/A	N/A	Gh¢ 5,000,000	Gh¢10,000,000	Gh¢15,000,000	Gh¢20,000,000
Venture Capital for Business Development in Technology Parks and Business Incubators	Total number of technologies supported	N/A	N/A	10 technology Parks supported	20 technology Parks supported	30 technology Parks supported	40 technology Parks supported

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme.

Operations	Projects
Internal management of the organisation	Acquisition of Movable and Immovable Assets
Environmental policy integration and management	Maintenance, rehabilitation, refurbishment and upgrading of existing facilities
Climate change policy and programmes	
Green Economy activities	
Natural Resource and Environmental Governance Activities	
Development and promotion of the application of science and technology	
Local & international affiliations	
Procurement of office supplies and consumables	
Management of assets register	
Cleaning and general services	
Disposal of government assets	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01701001 - General Administration	32,526,315	32,526,315	32,526,315
01701001 - General Administration	32,526,315	32,526,315	32,526,315
21 - Compensation of employees [GFS]	1,769,900	1,769,900	1,769,900
211 - Wages and salaries [GFS]	1,769,900	1,769,900	1,769,900
Goods and Services	7,580,519	7,580,519	7,580,519
22 - Use of goods and services	7,580,519	7,580,519	7,580,519
31 - Non financial assets	23,175,896	23,175,896	23,175,896
311 - Fixed assets	23,175,896	23,175,896	23,175,896

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 1: MANAGEMENT AND ADMINISTRATION

SUB-PROGRAMME 1.2: Finance

1. Budget Sub-Programme Objective

To improve resource mobilization, financial management and reporting (financial reports/statements) and the judicious use of financial resources as per the budgetary provisions.

2. Budget Sub-Programme Description

This sub-programme focuses on ensuring that the financial management practices of the Ministry are consistent with laid down procedures and consistent with the appropriate laws. This sub-programme is delivered by the Finance and Internal Audit Units of the Ministry.

This sub-programme seeks to safeguard the interest of the Ministry in all financial transactions relating to revenue and expenditure management and ensure proper allocation and use of the Ministry's budget. It also ensures effective financial transactions relating to revenue and expenditure management and reporting of the Ministry and its project accounts. It also ensures the provision of an effective and efficient system of internal controls (checks and balances) and the practice of proper and accountable administration.

Activities undertaken include, to:

- Identify other revenue streams apart from GoG;
- Strengthen revenue generation machinery;
- Ensure compliance with accounting/auditing procedures and timely reporting; and
- Ensure budgetary control and management of assets, liabilities, revenue and expenditures.
- Ensures that internal control systems are in place;
- Ensures accountable records are accurate including purchases and payments;
- Identifies any accounting errors, cases of fraud and initiate investigations;
- Reviews and recommending strengthening of internal systems.
- Financial, managerial and operating information reported internally and externally is accurate, reliable and timely;

Ensuring that the financial activities of the Ministry are in compliance with applicable laws, regulations, policies, Laws, standards and procedures;

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Internal Audit reports	Number of audit reports submitted per year	4	4	4	4	4	4
	Number of ARIC meetings held	3	4	4	4	4	4
Financial reports/statement	Number of financial reports submitted	12	12	12	12	12	4
	Number of financial statements prepared	1	1	1	1	1	1

4. Budget Sub-Programme Operations and Projects

The table lists the main operations and projects to be undertaken by the sub-programme

Operations	Projects
Internal Audit operations	No Projects
External audit operations	
Special Audit assignments	
Treasury and Accounting activities	
Preparation of Financial Reports	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01701002- Finance	185,308	185,308	185,308
01701002- Finance	185,308	185,308	185,308
<i>Goods and Services</i>	185,308	185,308	185,308
22 - Use of goods and services	185,308	185,308	185,308

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 1: MANAGEMENT AND ADMINISTRATION

SUB-PROGRAMME 1.3: Human Resource

1. Budget Sub-Programme Objective

To facilitate the recruitment, replacement, placement, retention and improvement in the capacity and welfare of employees.

2. Budget Sub-Programme Description

The Human Resource sub-programme identifies human resource needs of the Ministry and provides the requisite personnel by recruiting, training and building the capacity of staff as well as other sector related MDAs and relevant stakeholders (such as private sector) to enhance productivity. This sub-programme is delivered by the HRM Directorate of the Ministry.

This sub-programme develops sector-wide policy on HR Planning, Succession Planning, Training and Development and Performance Management. It also ensures that there is in place an effective and stable management framework consistent with the overall manpower needs of the Sector.

It also facilitates the process of recruitment and placement, employee orientation and induction, retraining, motivation and staff development on a continuing basis for the efficient discharge of their duties. Moreover, it ensures that there is in place an effective and stable HR policy and management framework consistent with the overall manpower needs of the Sector.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Organize workshop on Civil Service Rules and Regulations	Number of Workshops	-		2	2	2	2
Organize HR Forum/workshop with sector Agencies/Departments to discuss HR issues	Programme undertaken and report generated	-	1	2	2	2	2
Undertake Scheme of Service Training programmes for all categories of staff	Number of staff trained and reports produced	6	10	15	15	15	15
Organize workshop on Cabinet Memo for the Leadership of the Ministry	Workshop undertaken and report available	-	-	2	2	2	2
Organize promotion and recruitment interviews	Recruitments and promotions interview reports available	6	15	15	15	15	15
Preparation of Sector Annual Performance Report	Report submitted to OHCS by	31 st January	31 st January	31 st January	31 st January	31 st January	31 st January
Human Resource policy	Number of Human Resource Policy developed	-	1	-	-		
	Number of programmes and projects developed and implemented from the Human Resource policy	-	2	3	3		

Main Outputs	Output Indicator	Past years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Participation in local and International training/ conference	No. of officers who attended various training/ conferences	30	25	30	30	30	30

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme.

Operations	Projects
Staff audit	No Project
Human Resource database	
Scheme of service training	
Recruitment, placement and promotions	
Personnel and staff management	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01701003- Human Resource	154,422	154,422	154,422
01701003- Human Resource	154,422	154,422	154,422
<i>Goods and Services</i>	154,422	154,422	154,422
22 - Use of goods and services	154,422	154,422	154,422

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 1: MANAGEMENT AND ADMINISTRATION

SUB-PROGRAMME 1.4: Policy, Planning, Budgeting, Monitoring and Evaluation

1. Budget Sub-Programme Objective

To strengthen the capacity for planning, policy analysis, budgeting, monitoring and evaluation, data collection and analysis for the sector.

2. Budget Sub-Programme Description

This sub-programme is responsible for ensuring that the sector projects and programmes are in line with national development agenda by developing appropriate policies, programmes and projects. PPBME ensures internal information dissemination, the compilation of the sector budget as well as monitoring and evaluating the effective implementation of policies, programmes and projects of the sector.

It is responsible for the development of comprehensive and sustainable policies, legislations, plans, programmes and resource flow to the sector in collaboration with relevant stakeholders.

It caters for the design and application of monitoring and evaluation systems for purposes of assessing the operational effectiveness of the Ministry, its implementing departments and agencies as well as the activities of other key stakeholders in meeting the sector's short, medium and long-term objectives and targets.

The sub-programme activities include:

- Strengthen capacity for effective policy planning, budgeting, monitoring and evaluation of the sector activities;
- Ensure effective implementation of the sector programmes and projects in the Sector Medium Term Development Plan (SMTDP);
- Prepare, coordinate and manage the approved sector budget;
- Prepare the sector strategic, medium term and action plans; and
- Ensure cohesion and successful implementation of all projects and programmes.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Annual monitoring and evaluation report	Annual M&E report produced and disseminated by	31 st March	31 st March	31 st March	31 st March	31 st March	31 st March
MDA Annual Action Plan preparation	Annual MESTI Sector plan prepared by	January	January	January	January	January	January
Review of Performance	Performance indicators updated and reported on to NDPC by	June 2017	June 2018	June 2019	June 2020	June 2021	June 2022
	Prepare Annual Performance Report to OHCS by	15 th January	15 th January	15 th January	15 th January	15 th January	15 th January
	Number of quarterly progress reports produced	4	4	4	4	4	4
Prepare sector budget	Sector budget prepared, presented and approved by	December 2015	March 2017	December 2017	December 2018	December 2019	December 2020
Construct Over handing Centre (HOC) for E-waste project	HOC constructed by	N/A	N/A	N/A	Dec. 2019	N/A	N/A
Implement National Anti-Corruption Action Plan (NACAP)	NACAP report submitted to CHRAJ by	N/A	N/A	N/A	15 th Jan.	15 th Jan.	15 th Jan.

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme

Operations	Projects
Planning and Policy Formulation	E-waste Project
Policies and Programme Review Activities	
Management and Monitoring Policies, Programmes and Projects	
Evaluation and Impact Assessment Activities	
Budget Preparation	
Budget Performance Reporting	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01701004 - Policy, Planning, Budgeting, Monitoring and	13,466,518	13,466,518	13,466,518
01701004 - Policy, Planning, Budgeting, Monitoring and Evaluation	13,466,518	13,466,518	13,466,518
<i>Goods and Services</i>	2,673,746	2,673,746	2,673,746
22 - Use of goods and services	2,673,746	2,673,746	2,673,746
<i>31 - Non financial assets</i>	10,792,772	10,792,772	10,792,772
311 - Fixed assets	10,792,772	10,792,772	10,792,772

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 1: MANAGEMENT AND ADMINISTRATION

SUB-PROGRAMME 1.5: Statistics, Research, Information and Public Relations

1. Budget Sub-Programme Objective

To improve and strengthen access to and apply ICT in data management and disseminate sector relevant information to stakeholders and the general public.

2. Budget Sub-Programme Description

This sub-programme conducts research relevant to the sector to inform policy formulation and disseminates research finding on environment, science and technology research and to act as liaison between the Ministry and its partners/collaborators.

It is responsible for the design, use, maintenance and development of research and statistics as input into a central database for service-wide use. It coordinates all activities relating to information gathering, processing and dissemination for all the Ministry's organizations and stakeholders. Its main functions include the following;

- To protect the good image of the sector, within and outside the country, by disseminating sectoral information on its policies, activities and procedures;
- To create favourable atmosphere for the effective functioning of the sector by promoting and maintaining cordial working relationships with the other directorates in the sector and with its clients and stakeholders;
- To provide a system of feedback to stake-holders, and clients of the sector;
- To create and maintain a data bank of information on the sector for decision-making; and
- To conduct research into sectoral activities with a view to remove bottle-necks and enhancing its service delivery standards.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Dissemination of sector information to the general public	Number of public fora on environment and STI held	4	5	5	5	5	5
Annual Monitoring and evaluation report dissemination	Reports disseminated by	31 st July	31 st July	31 st July	31 st July	31 st July	31 st July
Response to petitions from the general public	Response provided within	15 days	20 days	20 days	20 days	20 days	20 days
Development and update of database	Number of periodic updates on MESTI's website	-	14	24	24	24	24

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme

Operations	Projects
Development and management of database	No Projects
Software acquisition and development	
Software licensing and support	
Media Relations	
Information, Education and Communication	
Publication, campaigns and programmes	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01701005- Statistics; Research; Information and Public	123,538	123,538	123,538
01701005- Statistics; Research; Information and Public Relations	123,538	123,538	123,538
<i>Goods and Services</i>	123,538	123,538	123,538
22 - Use of goods and services	123,538	123,538	123,538

BUDGET PROGRAMME SUMMARY

PROGRAMME 2: RESEARCH AND DEVELOPMENT

1. Budget Programme Objective

To promote and develop Science, Technology and Innovation in all sectors of the economy for socio-economic development.

2. Budget Programme Description

This programme involves the promotion of nuclear technology, scientific and industrial research. The Council for Scientific and Industrial Research (CSIR) and the Ghana Atomic Energy Commission (GAEC) harness science and technology expertise for sustainable agricultural production, meat and fish preservation, irrigation, good water supply, environmental management, housing, road construction, information packaging and dissemination. The programme also involves the application of space science technology.

In addition, Science and technology is utilized to promote the peaceful use of nuclear science and technology research including health and medical research, training and development, regulation of radioactive materials and installations.



2.6.1 Budget by Chart of Account

6.1 - Programme, Sub-Programme and Natural Account Summary

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01702 - Research And Development	227,969,159	227,969,159	227,969,159
01702001- Scientific And Industrial Research	165,545,397	165,545,397	165,545,397
21 - Compensation of employees [GFS]	134,420,331	134,420,331	134,420,331
22 - Use of goods and services	13,133,382	13,133,382	13,133,382
31 - Non financial assets	17,991,683	17,991,683	17,991,683
01702002- Nuclear Science And Space Science Technology	62,423,763	62,423,763	62,423,763
21 - Compensation of employees [GFS]	55,444,476	55,444,476	55,444,476
22 - Use of goods and services	3,941,866	3,941,866	3,941,866
27 - Social benefits [GFS]	265,000	265,000	265,000
28 - Other expense	125,000	125,000	125,000
31 - Non financial assets	2,647,421	2,647,421	2,647,421

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 2: RESEARCH AND DEVELOPMENT

SUB-PROGRAMME 2.1: Scientific and Industrial Research

1. Budget Sub-Programme Objective

Promote the application of Science, Technology and Innovation in all Sectors of the economy.

2. Budget Sub-Programme Description

CSIR utilises Science and technology expertise for the development of Sustainable agricultural production. Research is conducted to improve the cultivation of high yielding crops and for food preservation (i.e. rice, maize, oil palm, cowpea, plantain, roots and tubers and vegetables). CRI, SARI, PGRRI, OPRI, FRI and SRI undertake such research.

Poultry, Livestock, Fisheries and Aquaculture: The Animal, Food, Industrial and Water Research Institutes under the CSIR develop technologies for increasing meat, egg and fish production to sustain food and nutrition for the population. These Institutes also develop technologies and expertise for meat and fish preservation and management of post-harvest losses.

Water and sanitation: The Water, Industrial and Soil Research Institutes under the CSIR develop technologies for the siting of dams for irrigation and good water supply and management as well as reduction of water pollution and improved sanitation to enhance the health status of communities. These institutes utilize their capabilities for groundwater exploration, watershed management and protection of water bodies.

Rural Electrification and Bio Fuels: The CSIR through the Forest Research Institute of Ghana (FORIG) and Institute of Industrial Research (IIR) develop appropriate processing techniques for efficient utilization of Ghanaian lesser-known wood species. These institutes also promote the use of lesser known species for poles for rural electrification and production of bio fuels for generators.

Housing and Roads: The CSIR through FORIG and Building and Road Research Institute (BRRI) develops technologies for affordable housing delivery. They also provide expertise in road design and construction, and identification and analysis of all accident-prone locations (black spots), on road in the five main cities, namely Accra, Kumasi, Sekondi-Takoradi and Tamale.

Information Packaging and Dissemination, and ICT and STI policy: The CSIR facilitates policy research, packaging and dissemination of scientific information for

national development through the Institute of Scientific and Technological Information (INSTI), Science and Technology Policy Research Institute (STEPRI), Commercial Unit at the Head Office (CCID-H/O) and other CSIR Institutes.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Biotechnology: - Germplasm collection, characterization, conservation and distribution nationwide.	No. of Plant Accessions collected, conserved and distributed nationwide	3450 & 6210	4382 & 7117	5,200 & 8500	6500 & 9600	7500 & 10050	8500 & 12000
Development and transfer of improved varieties of crops, livestock, fisheries and Poultry.	No. of improved varieties of crops and animal developed and disseminated	3	4	8	10	12	15
Landscape management systems or technologies resilient to climate change vulnerabilities in time and space	No. of technologies for Sustainable management, conservation and utilization of forest resources developed	2	2	4	6	8	10
Control and elimination of water, air and soil borne diseases	Percentage reduction in rate of Morbidity, Mortality and Poverty associated with NTDs.	1-2%	2-4%	4-6%	6-8%	8-10%	10-12%
Development of essential materials and industrial products using local raw materials.	Number of artisans/stakeholders trained on products developed from local raw materials	45	70	90	100	110	120

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Promotion of renewable Energy systems for both domestic and commercial buildings.	No. of Solar or Renewable energy systems promoted and installed	Nil	3	5	7	9	12
Establishment of ICT Centre for the provision of electronics and computer engineering services.	No. of training sessions organized.	2	3	4	6	8	10
Number of baseline surveys and adoption studies of released crop varieties conducted.	Number of baseline surveys and adoption studies carried out on a crop variety	2	2	3	4	5	6
Production and sale of improved planting materials.	Number and type of planting materials produced	100,000 & 75,000	120,000 & 100,000	135,000 & 125,000	150,000 & 135,000	165,000 & 140,000	170,000 & 150,000

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme

Operations	Projects
Development and promotion of the application of science and technology	Acquisition of Movable and Unmovable Assets
Food Security and Poverty Reduction	
Climate Change, Environmental Management & Green Technology	
Biomedical and Public Health	
Material Science and Manufacturing	
Energy and Petroleum	
Electronics and ICT	
Science and People	
Commercialization activities	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01702001- Scientific And Industrial Research	165,545,397	165,545,397	165,545,397
01702001- Scientific And Industrial Research	165,545,397	165,545,397	165,545,397
21 - Compensation of employees [GFS]	134,420,331	134,420,331	134,420,331
211 - Wages and salaries [GFS]	134,420,331	134,420,331	134,420,331
Goods and Services	13,133,382	13,133,382	13,133,382
22 - Use of goods and services	13,133,382	13,133,382	13,133,382
31 - Non financial assets	17,991,683	17,991,683	17,991,683
311 - Fixed assets	17,991,683	17,991,683	17,991,683

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 2: RESEARCH AND DEVELOPMENT

SUB-PROGRAMME 2.2: Nuclear and Space Science Technology

1. Budget Sub-Program Objective

To develop and promote the utilization of nuclear, biotechnology, space science and other related technologies for socio-economic development through research, training and commercialization.

2. Budget Sub-Program Description

This sub-program involves the promotion of science, technology and innovation through research and development in nuclear science and space science technologies in various sectors of the economy. The activities of this sub-program are carried out by the Ghana Atomic Energy Commission through its six (6) institutes and the Graduate school of Nuclear and Allied Sciences (SNAS). The activities of the institutes and the Graduate School are co-ordinated at the Head office with four hundred and eighty (480) staffs.

National Nuclear Research Institute (NNRI), the Radiation Protection Institute (RPI) and the Biotechnological and Nuclear Agriculture Research Institute (BNARI) were created earlier. Since then, three other institutes; Radiological and Medical Science Research Institute (RAMSRI), Space Science Technology Institute (GSSTI), the Nuclear Power Institute (NPI) in addition to the Graduate School of Nuclear and Allied Sciences (SNAS) have been created by the Commission. These are the Radiological and Medical Sciences Research Institute.

National Nuclear Research Institute (NNRI)

NNRI was established to promote and strengthen Nuclear Science and technology research, and training for the socio-economic development of Ghana. The programmes of the institute are carried out by one hundred and forty-four (144) staffs. Some of the researches and commercial activities carried out in Centres under the Institute include:

- Collaborate with Water Resources Commission to use isotopic techniques in assessing Recharge areas, sources of water and pollution in the 3 Northern Regions and the Central Region. This may be intensified to cover other parts of the country.
- The National Data Centre (NDC) receives and uses data for the verification to provide technical advice and support on matters pertaining to the verification of the Comprehensive Nuclear Test Ban Treaty (CTBT).
- Provides training in the use of a pelletron accelerator and a nuclear reactor to conduct studies and researches to address socio-economic problems.

- The Non-destructive Testing Centre- checks the integrity of mineral processing tanks, distillation columns at the Oil Refinery, and performs thickness gauging for corrosion assessment of LPG Storage Vessels.

Radiation Protection Institute (RPI)

RPI was established to provide an effective national regulatory framework for the protection of people, property, and environment, safety and security of radioactive materials and nuclear installations. The programmes of the institute are carried out by forty-eight (48) staff. Some of their activities include:

- Personnel monitoring by ensuring safe working conditions in the nuclear and related industries. E.g. medical x-ray diagnosis and mining Industries.
- Conducting Safety assessment of Base Stations before and after installation as well as monitoring of Radio frequencies for FM Stations and Mobile Phone companies.
- Transports nuclear waste for registration, processing and storage and also provides technical services to organisations on management of disused radioactive sources across the country.

Biotechnology and Nuclear Agriculture Research Institute (BNARI)

BNARI was established to research, develop and implement activities on safe applications of biotechnology and nuclear agriculture and transfer these technologies to end-users in order to enhance agricultural productivity, health delivery and industrialization. The programmes of the institute are carried out by one hundred and forty-one (141) staff. Some of their activities include:

- Irradiation of food products to reduce postharvest losses and increase shelf-life of agricultural produce.
- Development of integrated pest management (IPM) strategies for pests and vectors of Agricultural, medical and veterinary importance by using the sterile insect technique (SIT) for the control of insect pests.
- Rapid production of improved planting materials of food crops and ornamentals as well as training farmers in the production and use of organic compost.

Radiological and Medical Science Research Institute (RAMSRI)

The RAMSRI was established to carry out medical research, applying nuclear techniques to promote human health and nutrition. The programmes of the institute are carried out by thirty-three (33) staff. Some of their activities are:

- Provide Research-based technical advice for Cancer Management and Treatment Studies for improving complication-free survival rates after radio-therapy.
- Researches into early detection, treatment and management of cancer and other degenerative conditions.

- Conducts research by using radiation and nuclear medicine Technologies to diagnose and manage diseases as well as monitor and evaluate health conditions like tuberculosis and other communicable diseases in Ghana.

School of Nuclear and Allied Science (SNAS)

The SNAS was established as a collaborative venture with the International Atomic Energy Agency (IAEA) and the University of Ghana to train Nuclear Scientists to sustain skills in science in Nuclear Technology for the sub-Region Apart from training Scientist at the Graduate and the PhD levels,

The programmes of SNAS are carried out by thirty-six (36) staff. SNAS collaboratively with the IAEA organises a Post-Graduate Education Course (PGEC) in Radiation Protection for radiological professionals in the sub-region.

Space Science Technology Institute (GSSTI)

The GSSTI is converting a 32-m dish from a communication antenna to a radio telescope at Kuntunse and assessing critical indicators of radio astronomy capabilities. It is planning to acquire a ground receiving station to enable the country capture relevant satellite images for that could be used by the aviation, meteorological, security and environmental protection agencies. The programmes of the institute are carried out by twenty-four (24) staff.

Nuclear Power Institute (NPI)

The Nuclear Power Institute was created to research and facilitate the introduction of nuclear power into the country's energy mix. The programmes of the institute are carried out by twenty-one (21) staff.

The institute continues to organise stakeholder and public sensitisation on adoption of nuclear energy while conducting research to locate candidate sites and to conduct comparative studies on the economic benefits of introducing nuclear power.

3. Budget Sub-Programme Results Statement

The table below indicates the main outputs, its indicators and projections by which the performance of this sub-programme is measured. The past data indicates Budget performance whilst the projections are the Agency's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Establishment of a Welding and NDT Training facility	Number of welders/NDT personnel certified.	N/A	20	30	45	60	90
Scientific assessment of the environmental and human health impact of e-waste management in Ghana	Number of researches /reports on the health impact of e-waste management in Ghana	1	3	5	7	8	8
Siting and feasibility studies towards introduction of nuclear energy in Ghana	Level of siting studies completed	N/A	10%	25%	40%	60%	75%
Assessment of consumable water by Gross alpha-beta and Gamma activity contamination measurement	Number of samples analysed	-	-	500	700	1000	1500
Safety assessment of base stations before installation	Number of Base Stations Assessed.	500	700	1000	1000	1200	1200
Post graduate Education Course (PGEC) in Radiation Protection organised.	Number of radiation workers trained.	20	20	25	25	30	30
Training of MPhil. Students	Number of students trained	33	33	34	34	35	35
Training of PhD students	Number of PhD students trained	3	5	6	6	7	7
Satellite converted into radio telescope for astrological studies.	Level of conversion	80%	90%	95%	100%	VLBI research commence	2 nd phase of SKA begins

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Establishment of earth observation data centre	Ground/direct receiving station procured and installed for earth observation.	Sourcing for fund	Sourcing for fund	Sourcing for fund	Sourcing for fund	Funds secured.	Centre established
Developing Ghana Space Policy	Level of developing the Ghana Space Policy	20% completed	30% completed	40% completed	100% completed	Policy being implemented	Policy being implemented
Acquire and operate an Unman Area Vehicle project (UAV / Cropcam).	Unman Area Vehicle (UAV / Cropcam) acquired and in use.	UAV acquired	Staff undergoing skills development	UAV training programmes in place	UAV in use	UAV in use	UAV in use
Astronomy Clubs established in Senior High Schools in Ghana	Number of established clubs in senior high schools.	5	10	15	30	45	60
Use of radiation and nuclear medicine Technologies to diagnose and manage diseases as well as monitor and evaluate health conditions like tuberculosis and other communicable and non-communicable diseases.	Number of researches conducted towards diagnosing, managing and evaluating communicable diseases using radiation and nuclear technologies.	5	8	12	15	18	20
Research conducted to improve radiotherapy and cancer treatment.	Number of researches conducted towards improving cancer treatment.	3	5	5	6	10	12

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme

Operations	Projects
Development, promotion and commercialisation of nuclear research and technology	Acquisition of vehicles and refurbish laboratories for institutes
Infrastructure: <ul style="list-style-type: none"> • Nuclear Imaging Centre • Construction fence wall around GAEC • P3 facility 	
Health: <ul style="list-style-type: none"> • Complete feasibility studies for the establishment of a radiotherapy facility in Tamale for the management of cancer in the Northern part of the country. 	
Energy: <ul style="list-style-type: none"> • Complete site investigation for the construction of the Ghana's first nuclear power plant to add 1000MW of power to the national grid. 	
Agriculture: <ul style="list-style-type: none"> • Construction of one GIF at Kintampo • Cotton scale production plant at Manya Krobo • Expand facility for mutation breeding 	
Industrial Applications: <ul style="list-style-type: none"> • Complete studies and construct the country's and the world's first radioactive waste disposal facility in Ghana to ensure public and environmental safety; • Establish a National Professional Training Institute for welding and Non-destructive testing to train and certify welders and Non-destructive Testing (NDT) professionals. 	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01702002- Nuclear Science And Space Science Technology	62,423,763	62,423,763	62,423,763
01702002- Nuclear Science And Space Science Technology	62,423,763	62,423,763	62,423,763
21 - Compensation of employees [GFS]	55,444,476	55,444,476	55,444,476
211 - Wages and salaries [GFS]	55,444,476	55,444,476	55,444,476
Goods and Services	4,331,866	4,331,866	4,331,866
22 - Use of goods and services	3,941,866	3,941,866	3,941,866
27 - Social benefits [GFS]	265,000	265,000	265,000
28 - Other expense	125,000	125,000	125,000
31 - Non financial assets	2,647,421	2,647,421	2,647,421
311 - Fixed assets	2,647,421	2,647,421	2,647,421

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 2: RESEARCH AND DEVELOPMENT

SUB-PROGRAMME 2.3: Commercialisation of Research

1. Budget Sub-Programme Objectives

- To commercialize and transfer research results and technologies to end-users in order to enhance agricultural productivity, health delivery and industrialization.
- To generate revenue, to supplement government of Ghana funds for research.

2. Budget Sub-Programme Description

The CSIR is mandated by ACT 521 to pursue the implementation of scientific research and development and commercialisation of appropriate technologies in partnership with the Private Sector and other stakeholders for national development. Act 588 (2000) mandates the Ghana Atomic Energy Commission to pursue the commercial application of nuclear research in the areas of health, agriculture, industry and commerce.

This sub-programme promotes the commercialisation and application of scientific research in partnership with the Private Sector and other stakeholders for national development.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Nuclear Technologies commercialized	Number of technologies developed	19	19	21	22	22	23
Other Scientific Technologies commercialized	Number of technologies adopted	167	174	-	-	-	-
S & T products and services including consultancy commercialized	Number of S & T products/ services offered	73	97	-	-	-	-

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Nuclear products and services including consultancy and training commercialized	Number of products, services offered	20	25	28	30	35	-

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme

Operations	Projects
Create public awareness for Scientific and Technological products and services	Establishment of sale centres
Undertake Science and Technology outreach programmes	Purchase of distribution vans
Develop contacts with potential users of S&T products and services	Establishment of product processing centres
Create awareness about the benefit of nuclear energy and potential hazards of radioactive materials and installations	Establishment of sale centres
Create public awareness for Scientific and Technological products and services	

BUDGET PROGRAMME SUMMARY

PROGRAMME 3: ENVIRONMENTAL PROTECTION AND MANAGEMENT

1. Budget Programme Objectives

- To ensure better use of ecosystem services and natural resources, for purposes of poverty reduction and sustainable development; and
- To enhance the application of Act 490 and its regulations, to reduce environmental impacts, control environmental degradation and enhance restoration of degraded resources.
- To enhance the implementation of ACT 895, to provide for the regulation and management of activities and practices for the peaceful use of nuclear material or energy, radioactive material or radiation; to provide for the protection of persons and the environment against the harmful effects of radiation hazards; to ensure the effective implementation of the country's international obligations and for related matters.

2. Budget Programme Description

This programme aims at protecting and improving the environment in Ghana by ensuring that air, land and water are protected by everyone in today's society, so that tomorrow's generation inherit a cleaner and healthier world. In achieving the overall aim of managing and governing the environment this programme outlines activities and programmes that seek to:

- Create awareness to mainstream environment into the development process at the national, regional, district and community levels;
- Ensure that the implementation of environmental policy and planning are integrated and consistent with the country's desire for effective, long-term maintenance of environmental quality;
- Ensure environmentally sound and efficient use of both renewable and non-renewable resources in the process of national development;
- Guide development to prevent, reduce, and as far as possible, eliminate pollution and actions that lower the quality of life;
- Apply the legal processes in a fair and equitable manner to ensure responsible environmental behaviour in the country; and
- Continuously improve EPA's performance to meet changing environmental trends and community aspirations.

The programme is delivered by the Environmental Protection Agency (EPA) and Nuclear Regulatory Authority (NRA) through their Departments and Units in collaboration with various government funded organizations, Development Partners and the Ministry of Environment, Science, Technology and Innovation.

The programme is funded from the Government of Ghana, Internally Generated Funds and Development Partners.



2.6.1 Budget by Chart of Account

6.1 - Programme, Sub-Programme and Natural Account Summary

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01703 - Environmental Protection And Management	70,876,370	71,073,620	71,300,458
01703001- Environmental Compliance And Enforcement	60,736,135	60,736,135	60,736,135
21 - Compensation of employees [GFS]	20,453,184	20,453,184	20,453,184
22 - Use of goods and services	24,155,000	24,155,000	24,155,000
31 - Non financial assets	16,127,951	16,127,951	16,127,951
01703002 - Environmental Education Information And Communication	8,101,003	8,298,253	8,525,090
22 - Use of goods and services	6,786,003	6,786,003	6,786,003
27 - Social benefits [GFS]	1,100,000	1,265,000	1,454,750
28 - Other expense	215,000	247,250	284,337
01703003 - Enforcement and Compliance of ionizing and non-ionizing radiation	2,039,232	2,039,232	2,039,232
21 - Compensation of employees [GFS]	1,839,232	1,839,232	1,839,232
31 - Non financial assets	200,000	200,000	200,000

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 3: ENVIRONMENTAL PROTECTION AND MANAGEMENT

SUB-PROGRAMME 3.1: Environmental Compliance and Enforcement

1. Budget Sub-Programme Objective

To undertake environmental assessment and ensure compliance with Act 490 and its regulations in order to avoid pollution and environmental degradation as well as stimulate sustainable development.

2. Budget Sub-Programme Description

This sub-programme is coordinated and implemented by the Environmental Protection Agency through the Environmental Quality, Manufacturing Industries, Mining, Natural Resources, Environmental Assessment and Audit, Petroleum, Built Environment and legal Departments as well as Chemicals Control and Management Centre.

This sub-programme is undertaken in collaboration with other stakeholders such as MDAs, MMDAs, Civil Society Organizations and the private sector. The Core areas of this sub-programme are:

- Providing technical advice on assessments;
- Compliance monitoring;
- Support identification and dissemination of best practices;
- Coordinating -activities associated with Environmental Assessment, compliance and enforcement;
- Environmental research and monitoring of air and water quality; and
- Management of chemicals, hazardous wastes (chemical and e-waste), pesticides and ozone depletion.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Improved compliance with sector specific EA guidelines and standards.	Percentage of sectors covered by EA:						
	<ul style="list-style-type: none"> oil and gas exploration, agriculture 	100%	100%	100%	100%	100%	100%
Undertake annual compliance monitoring	Number of Annual compliance monitoring events: <ul style="list-style-type: none"> Accra Other Regions 	3	3	4	5	6	6
		10	10	11	12	13	13
Monitoring of environmental indicators - air quality	Number of monitoring locations (Accra + regions)	14 sites	14 sites	16 sites	18 sites	20 sites	22 sites
Develop register on pesticides and industrial and consumer chemicals for proper handling and labelling	Copy of a completed Register	1	1	1	1	1	1
Monitor and prevent imports of unregistered and banned chemicals	Number of monitoring reports	1	1	1	1	1	1

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme

Operations
Environmental compliance and enforcement
Environmental quality monitoring
Development of adequate legal framework for environmental management
Natural Resource and Environmental Governance Activities

Projects
Office and residential Buildings
Vehicles
Office equipment & Office supplies



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01703001- Environmental Compliance And Enforcement	60,736,135	60,736,135	60,736,135
01703001- Environmental Compliance And Enforcement	60,736,135	60,736,135	60,736,135
21 - Compensation of employees [GFS]	20,453,184	20,453,184	20,453,184
211 - Wages and salaries [GFS]	18,062,994	18,062,994	18,062,994
212 - Social contributions [GFS]	2,390,190	2,390,190	2,390,190
Goods and Services	24,155,000	24,155,000	24,155,000
22 - Use of goods and services	24,155,000	24,155,000	24,155,000
31 - Non financial assets	16,127,951	16,127,951	16,127,951
311 - Fixed assets	16,127,951	16,127,951	16,127,951

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 3. ENVIRONMENTAL PROTECTION AND MANAGEMENT

SUB-PROGRAMME 3.2 Environmental Education, Information and Communication

1. Budget Sub-Programme Objective

To enhance understanding on environmental issues through awareness creation in the media, and also through environmental education and community-based initiatives.

2. Budget Sub-Programme Description

The EPA as part of its core mandates as stated in Act 490 is enjoined to create awareness on environmental challenges facing the nation thereby ensuring that the environment is mainstreamed into every development process either at the national, regional, and district or community level. This sub-program is aimed at sensitizing citizens to take charge of their environment in order to promote sustainable use of every natural resource. The core areas of this sub-programme are:

- Stimulate environmental education in formal & non-formal education systems;
- Develop supportive materials for educational institutions;
- Stimulate community environmental initiatives and programmes; and
- Ensure effective use of available environmental information and data.

These activities are coordinated under the auspices of the Environmental Protection Agency with the following departments as the key implementers:

- Education Department;
- Environmental Information and Data Management Department;
- Public Affairs Department;
- Chemicals Control and Management Centre; and
- EPA Training School.

The Media, Academic and Research Institutions collaborate with these departments in executing the above activities.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Staff of Regional or District levels trained to deal with environmental assessment	Number of staff at Regional and District level trained	263	270	275	280	285	290
Environmental issues covered in national or local media	Number of environmental issues covered	5,111	5,500	6,000	6,500	7,000	7,500

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme

Operations	Projects
Environmental protection and Education	Computer and accessories
Environmental Education and awareness raising	Vehicles
Natural resource and environmental governance activities	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01703002 - Environmental Education Information And	8,101,003	8,298,253	8,525,090
01703002 - Environmental Education Information And Communication	8,101,003	8,298,253	8,525,090
<i>Goods and Services</i>	8,101,003	8,298,253	8,525,090
22 - Use of goods and services	6,786,003	6,786,003	6,786,003
27 - Social benefits [GFS]	1,100,000	1,265,000	1,454,750
28 - Other expense	215,000	247,250	284,337

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 3. ENVIRONMENTAL PROTECTION AND MANAGEMENT

SUB-PROGRAMME 3.3 Enforcement and Compliance of Ionizing and Non-Ionizing Radiation

1. Budget Sub-Programme Objective

To ensure the protection of humans and the environment from the harmful effects of radiation.

2. Budget Sub-Programme Description

The NRA Act 895, established the Nuclear Regulatory Authority in 2016 to provide for the regulation and management of activities and practices for the peaceful use of nuclear material or energy, radioactive material or radiation;

This sub-programme seeks to provide for the protection of persons and the environment against the harmful effects of radiation hazards; to ensure the effective implementation of the country's international obligations and for related matters. Core functions include;

- Regulate the introduction of radiation sources, nuclear materials, equipment or practices that expose workers, patients, the public and the environment to radiation.
- Issue, modify, suspend or revoke authorization and determine conditions for authorization.
- Regulate research on radiation and nuclear safety and security, and of radioactive waste matters.
- Regulate the use of radioactive materials in the exploration, exploitation and extraction of oil and gas, and the mining and milling of radioactive ores and other ores associated with radioactive and nuclear materials.
- Define the detailed obligations to be placed on persons who possess radiation sources and nuclear materials, including financial conditions.
- Establish and maintain a national register of radiation sources and of persons authorized to carry out any activity or practice related to a source of radiation.
- Collect information, documents and views from private and public organizations or persons as may be necessary and appropriate for the discharge of its functions.
- Collaborate with agencies responsible for emergency to establish plans and procedures for coping with any radiological emergency and abnormal occurrence involving a nuclear material, radiation source or any other radioactive source.

- Ensure that the operators provide training, information and guidance on nuclear safety, security and safeguards and radiation protection of the public.
- Educate the public on nuclear and radiation matters.
- Establish regional and other offices as it may consider necessary for the proper performance of its functions.
- Facilitate the conduct of inspections by designated inspectors of the International Atomic Energy Agency to verify design information, inspections and complementary access as provided for in the safeguards agreement and the additional protocols.
- Collect, collate and provide information to the International Atomic Energy Agency in accordance with the safeguards agreement and any additional protocols to the agreement.
- Exchange information and co-operate with regulatory authorities of other countries and relevant international organizations on matters of nuclear safety, nuclear security and safeguards.
- Collaborate with the Environmental Protection Agency to identify activities and practices that may require Environmental Impact Assessment and develop environmental guidelines for those activities and practices.
- Ensure that the polluter pays principle is applied in the management of nuclear and radioactive waste in the country.
- Review nuclear safety assessment and safety analysis reports from authorized persons;

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Development of draft regulations on nuclear materials and facilities, radiation emitting devices, and radioactive materials in Ghana	Number of regulations on nuclear materials and facilities, radiation emitting devices, and radioactive materials developed	2	3	6	6	6	6
Inspection of ionizing radiation facilities to ensure compliance with regulatory requirements	Number of ionizing radiation facilities inspected	100	200	250	300	350	400
Hold stakeholder workshops on draft regulations on nuclear materials and facilities, radiation emitting devices, and radioactive materials in Ghana	Number of stakeholder workshops held	0	0	6	6	6	6
Hold stakeholder workshops on draft guidance documents on radioactive and nuclear waste management	Number of stakeholder workshops held	0	0	6	6	6	6
Authorisation of ionizing radiation facilities to ensure compliance with regulatory requirements	Number of ionizing radiation facilities and practices authorised	300	350	360	370	380	390
Monitoring and inspection of base stations compliance with regulatory requirements	Number of base stations monitored	-	500	500	700	700	700

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Sensitization of licensees on regulations on nuclear materials and facilities, radiation emitting devices, and radioactive materials in Ghana	Number of stakeholder workshops held	-	0	6	6	6	6
Sensitization of licensees on guidance documents on radioactive and nuclear waste management	Number of stakeholder workshops held	0	0	6	6	6	6
Organize meetings/workshops for internal and external organizations to ensure implementation of Ghana's international obligations	Number of Meetings/workshops with internal and external organizations held	4	8	2	2	2	2

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub-programme

Operations	Projects
Recruit 57 technical and support staff for the Nuclear Regulatory Authority (NRA)	Acquire equipment and vehicles for regulatory activities
Set the organizational chart and the scheme of service in line with international and IAEA standards	Commence construction of NRA office complex
Train staff of NRA	
Draft, review and promulgate regulations	
Educate public on radiation matters	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01703003 - Enforcement and Compliance of ionizing and	2,039,232	2,039,232	2,039,232
01703003 - Enforcement and Compliance of ionizing and non-ionizing radiation	2,039,232	2,039,232	2,039,232
<i>21 - Compensation of employees [GFS]</i>	1,839,232	1,839,232	1,839,232
211 - Wages and salaries [GFS]	1,839,232	1,839,232	1,839,232
<i>31 - Non financial assets</i>	200,000	200,000	200,000
311 - Fixed assets	200,000	200,000	200,000

BUDGET PROGRAMME SUMMARY

PROGRAMME 4: SPATIAL PLANNING AND HUMAN SETTLEMENT

1. Budget Programme Objective

To promote efficient and effective planning and management of human settlements and ensure compliance with guidelines, standards and regulations to support socio-economic development.

2. Budget Programme Description

This programme relates to promoting orderly development of human settlements through preparation and management of the requisite spatial plans and backed by adequate research and capacity building. Key interventions under this programme relate to:

- Planning and management of physical development and growth of human settlements in the country. This is to ensure that all organised human activities within our cities, towns and villages are undertaken in a planned manner and managed properly;
- Preparation of spatial and land use plans. This involves preparation of Spatial Development Frameworks, Structure and Local Plans to help distribute people and activities in space and human settlements of various scales;
- Monitoring settlement growth and controlling development to ensure that human settlements function as healthy places for residence, work and recreation. This is facilitated through efficient and effective development permitting regimes;
- Undertaking continuous research with the aim of improving national planning, zoning guidelines and standards, as well as planning policy and legislation;
- Building capacity for effective planning and management of human settlements; and
- Ensuring compliance with planning regulations on human settlements and land use plans through public education and awareness creation.



2.6.1 Budget by Chart of Account

6.1 - Programme, Sub-Programme and Natural Account Summary

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01704 - Spatial Planning And Human Settlement	14,949,035	14,949,035	14,949,035
01704001- Human Settlement and Land Use Research and Policy	14,949,035	14,949,035	14,949,035
21 - Compensation of employees [GFS]	13,887,225	13,887,225	13,887,225
22 - Use of goods and services	661,810	661,810	661,810
31 - Non financial assets	400,000	400,000	400,000

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 4: SPATIAL PLANNING AND HUMAN SETTLEMENT

SUB-PROGRAMME 4.1: Human Settlements and Land Use Research and Policy

1. Budget Sub-Programme Objectives

- To undertake research and formulate appropriate policies aimed at enhancing the planning and management of land use and human settlements in Ghana.
- To collect baseline information on land use and human settlement development trends to facilitate project impact monitoring.

2. Budget Sub-Programme Description

This sub-programme focuses on data gathering and appropriate research and policy required to enhance land use planning, urbanization management and general human settlement development. Key interventions under this sub-programme relate to:

- Data gathering and research on human settlements and urban development;
- Development and revision of zoning guidelines and planning standards;
- Preparation of manuals for the preparation of spatial plans;
- Review of permitting processes with the view to enhance turn-around times and client services;
- Formulation of human settlement policy;
- Review and passage of requisite legislation on spatial planning; and
- Institutional reforms for town and country planning in Ghana.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Requisite data sets on all spatial and human settlement development themes gathered	Percentage of data collected on all ten regions of Ghana	37%	43%	45%	48%	50%	60%
National zoning regulations and planning standards reviewed and published	Number of published guidelines on zoning regulations and planning standards distributed	70	200	-	100	200	150
Manuals for spatial plan prepared	Number of spatial planning manuals distributed	50	100	-	200	200	200
Development permitting procedures reviewed and reports published	Number of manuals distributed	-	100	150	300	100	100
Human settlement policy formulated and published	Number of human settlement policy guidelines distributed	-	-	-	300	-	-
	Number of stakeholders sensitized on the use of the policy	-	-	-	300	-	-
The land use and spatial planning bill passed into law	Date of Presidential Assent to the law	31 st December	-	-	-	-	-

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Land Use and Spatial Planning Authority established	Availability of scheme of service and Business Plan for the Authority	-	-	30 th September	-	-	-
	Date of appointment of staff	-	-	31 st December	-	-	-

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken under the programme

Operations	Projects
Land use and Spatial Planning	Acquisition of Movable and Unmovable Assets
Formulate a business plan for the Land Use and Spatial Planning Authority	Construction of the office building for the Land Use and Spatial Planning Bill
Operationalization of the Land Use and Spatial Planning Authority	



2.9. Budget by Chart of Account

9 - Sub-Programme and Natural Account

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01704001- Human Settlement and Land Use Research and	14,949,035	14,949,035	14,949,035
01704001- Human Settlement and Land Use Research and Policy	14,949,035	14,949,035	14,949,035
<i>21 - Compensation of employees [GFS]</i>	13,887,225	13,887,225	13,887,225
211 - Wages and salaries [GFS]	13,887,225	13,887,225	13,887,225
<i>Goods and Services</i>	661,810	661,810	661,810
22 - Use of goods and services	661,810	661,810	661,810
<i>31 - Non financial assets</i>	400,000	400,000	400,000
311 - Fixed assets	400,000	400,000	400,000

BUDGET SUB-PROGRAMME SUMMARY

BUDGET PROGRAMME 4: SPATIAL PLANNING AND HUMAN SETTLEMENT

SUB-PROGRAMME 4.2: Geographic Information Systems Development

1. Budget Sub-Programme Objective

To enhance efficiency in land use planning and human settlement management.

2. Budget Sub-Programme Description

This sub-programme is about upgrading and expanding the application of the Land Use Planning and Management Information System (LUPMIS) and integrating it into the National Spatial Data Infrastructure (NSDI) of Ghana. The sub-programme also looks at intensive and coordinated capacity building to ensure that human settlement planning and management becomes efficient and clients are well served. The main elements of this sub-programme are:

- Upgrading of LUPMIS;
- Integration of the LUPMIS with the NSDI;
- Development of additional GIS applications for enhanced spatial planning and management;
- Training in the application of LUPMIS for stakeholders at various learning levels e.g. advanced, intermediate and basic training.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Land Use Planning and Management Information System (LUPMIS) upgraded and integrated into the NSDI	Full upgraded version of LUPMIS	-	31 st Dec	-	-	-	-
	Fully upgraded & integrated version of LUPMIS	-	-	31 st Dec	-	-	-
Key stakeholders in spatial planning and human settlement management trained in the use of LUPMIS	Number of stakeholders trained	150	150	200	300	300	200

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken under the programme

Operations	Projects
Train district spatial planning committee members on the revised permitting procedures	Acquisition of Movable and Unmovable Assets
Train 100No. stakeholders in GIS applications related to property tax administration, street addressing and development permitting	

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 4: SPATIAL PLANNING AND HUMAN SETTLEMENT

SUB-PROGRAMME 4.3: Spatial Plan Preparation

1. Budget Sub-Programme Objectives

- To implement the new spatial planning model involving preparation of spatial development frameworks, structure and local plans;
- To integrate spatial planning into the national and local development planning process facilitated by NDPC;
- To promote orderliness in the development of human settlements as places of residence, work and recreation.

2. Budget Sub-Programme Description

This sub-programme looks at the logical model for spatial planning and development of urban and rural settlements. The main levels of spatial plans required ensuring an orderly and coordinated delivery of infrastructure and services are:

- Preparation of Spatial development frameworks for the national as well as the ten regions and some sub-regional enclaves;
- Preparation of structure plans for all major settlements in the country;
- Preparation of local plans for all developing sections of towns and villages;
- Building capacity for preparation of spatial plans

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Ministry's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Regional Spatial Development Frameworks	Number of RSDF's prepared	1	2	0	2	2	-

Sub-regional Spatial Development Frameworks for the SADA region, Eastern Corridor, Western Corridor etc. prepared	Number of sub-regional SDFs prepared	-	-	3	3	-	-
Structure Plans for major settlements prepared	Number of Structure Plans prepared	0	0	2	10	20	20
Local Plans prepared for communities' country-wide.	Number of local plans prepared	10	20	30	40	50	100
Stakeholders in the preparation and management of various levels of spatial plans trained	Number of stakeholders in the spatial plan preparation and management process trained	50	10	50	100	100	100

4. Budget Sub-Programme Operations and Projects

The table lists the main operations and projects to be undertaken under the programme

Operations	Projects
Land use and spatial planning	Acquisition of Immovable and Movable Assets
Set up the Land Use Planning and Development Fund	
Print and disseminate 50 no GARSDFs and 50. No ARSDFS	
Prepare conditions and scheme of service for the Authority	
Undertake 16No. public awareness and education programmes on radio and television	

BUDGET PROGRAMME SUMMARY

PROGRAMME 5: BIOTECHNOLOGY DEVELOPMENT

1. Budget Programme Objectives

- To promote public awareness, participation and education concerning the activities of the Authority
- To liaise with any other agency or international organisations concerned with biotechnology and biosafety
- To receive, process, respond to and to make decisions on biosafety applications.

2. Budget Programme Description

The Biotechnology Development programme ensures an adequate level of protection in the field of safe development transfer, handling and use of genetically modified organisms resulting from biotechnology that may have an adverse effect on health and the environment. This programme is responsible for:

- Receiving, processing, responding to and to make decisions on biosafety applications;
- Establishing administrative mechanisms to ensure the appropriate handling and storing of documents and data in connection with the processing of applications and any other matters;
- Acting as the national focal point responsible for liaising with any other agency or international organisations concerned with biotechnology and biosafety; and
- Promoting public awareness, participation and education concerning the activities of the Authority.

BUDGET SUB-PROGRAMME SUMMARY

PROGRAMME 5: BIOTECHNOLOGY DEVELOPMENT

SUB-PROGRAMME 5.1: Biosafety Regulation

1. Budget Sub-Programme Objectives

- To effectively regulate the production and transfer of genetically modified organisms;
- To educate the general public on biosafety issues.

2. Budget Sub-Programme Description

This sub-programme looks at regulating agencies and organisations that apply the principles of biosafety. This sub-programme is also responsible for implementing the Biosafety Act.

Major Operations to be undertaken include, to:

- Regulate the production and transfer of genetically modified organisms; and
- Educate the general public on biosafety issues.

3. Budget Sub-Programme Results Statement

The table indicates the main outputs, its indicators and projections by which the Ministry measures the performance of this sub-programme. The past data indicates Budget performance whilst the projections are the Authority's estimate of future performance.

Main Outputs	Output Indicator	Past Years		Projections			
		2016	2017	Budget Year 2018	Indicative Year 2019	Indicative Year 2020	Indicative Year 2021
Research institutions conducting trials according to laid down guidelines	No. of visits undertaken by M&E team	2	-	2	2	2	2
Provision of guidance and support for research institutions	Reports of decisions taken to guide research institutions in conducting research	2	2	2	2	2	2

4. Budget Sub-Programme Operations and Projects

The table lists the main Operations and projects to be undertaken by the sub- programme.

Operations	Projects
Development and Promotion of The Application of Science and Technology	Acquisition of Immovable and Movable Assets
Biosafety capacity building	
Public education and awareness on biosafety issues	



2.6.1 Budget by Chart of Account

6.1 - Programme, Sub-Programme and Natural Account Summary

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Funding: All Source of Funding

Year: 2018 | **Currency:** GH Cedi

Version 1

	2018	2019	2020
01705 - Biosafety Development	1,727,709	1,727,709	1,727,709
01705001 - Biotechnology Regulation	1,727,709	1,727,709	1,727,709
21 - Compensation of employees [GFS]	86,502	86,502	86,502
22 - Use of goods and services	1,441,207	1,441,207	1,441,207
31 - Non financial assets	200,000	200,000	200,000



1.6. Appropriation Bill

Summary of Expenditure by Cost Center, Economic Item and Funding

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Year: 2018 | Currency: Value

Version 1

	GoG			IGF			Funds / Others			Donors			Grand Total	
	Compensation of employees	Goods and Services	Capex	Total	Compensation of employees	Goods and Services	Capex	Statutory	ABFA	Others	Goods and Services	Capex		Total
017 - Ministry of Environment Science, Technology and Innovation (MESTI)	211,772,898	4,412,070	4,000,000	220,184,968	16,127,951	43,726,632	20,775,563	80,630,147			14,403,100	46,760,160	61,163,260	361,978,374
01701 - Headquarters	1,769,900	1,544,226	2,000,000	5,314,125							8,732,101	31,968,668	40,700,769	46,014,894
0170101 - Finance and Administration	1,769,900	756,671	2,000,000	4,526,571										4,526,571
0170101001 - Finance and Administration	1,769,900	756,671	2,000,000	4,526,571										4,526,571
0170102 - Science and Technology Directorate		185,307		185,307										185,307
0170102001 - Science and Technology Directorate		185,307		185,307										185,307
0170103 - Policy, Planning, Monitoring and Evaluation		200,749		200,749							2,472,997	10,792,772	13,265,769	13,466,518
0170103001 - Policy, Planning, Monitoring and Evaluation		200,749		200,749							2,472,997	10,792,772	13,265,769	13,466,518
0170104 - RSIM Directorate		123,538		123,538										123,538
0170104001 - RSIM Directorate		123,538		123,538										123,538
0170105 - Human Resource Directorate		154,422		154,422										154,422
0170105001 - Human Resource Directorate		154,422		154,422										154,422
0170106 - Environment Directorate		123,538		123,538							6,259,104	21,175,896	27,435,000	27,558,538
0170106001 - Headquarters/Environment Directorate		123,538		123,538							6,259,104	21,175,896	27,435,000	27,558,538
01702 - Environmental Protection Agency					16,127,951	32,256,003	16,127,951	64,511,905						64,511,905
0170201 - Head Office					16,127,951	32,256,003	16,127,951	64,511,905						64,511,905
0170201001 - Head Office					16,127,951	32,256,003	16,127,951	64,511,905						64,511,905
01703 - Town and Country Planning Department (T.C.P.D)	13,887,225	661,810	400,000	14,949,035										14,949,035
0170301 - Greater Accra Regional Office	1,994,063			1,994,063										1,994,063
0170301001 - Greater Accra Regional Office	1,994,063			1,994,063										1,994,063
0170302 - Volta Regional Office	903,940			903,940										903,940
0170302001 - Volta Regional Office	903,940			903,940										903,940
0170303 - Eastern Regional Office	2,146,744			2,146,744										2,146,744
0170303001 - Eastern Regional Office	2,146,744			2,146,744										2,146,744
0170304 - Central Regional Office	1,324,810			1,324,810										1,324,810
0170304001 - Central Regional Office	1,324,810			1,324,810										1,324,810



1.6. Appropriation Bill

Summary of Expenditure by Cost Center, Economic Item and Funding

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Year: 2018 | Currency: Value

Version 1

	GoG			IGF			Funds / Others			Donors			Grand Total	
	Compensation of employees	Goods and Services	Capex	Total	Compensation of employees	Goods and Services	Capex	Total	Statutory	ABFA	Others	Goods and Services		Capex
0170305 - Western Regional Office	1,092,308			1,092,308										1,092,308
0170305001 - Western Regional Office	1,092,308			1,092,308										1,092,308
0170306 - Ashanti Regional Office	2,216,151			2,216,151										2,216,151
0170306001 - Ashanti Regional Office	2,216,151			2,216,151										2,216,151
0170307 - Brong Ahafo Regional Office	1,383,321			1,383,321										1,383,321
0170307001 - Brong Ahafo Regional Office	1,383,321			1,383,321										1,383,321
0170308 - Northern Regional Office	731,811			731,811										731,811
0170308001 - Northern Regional Office	731,811			731,811										731,811
0170309 - Upper East Regional Office	494,419			494,419										494,419
0170309001 - Upper East Regional Office	494,419			494,419										494,419
0170310 - Upper West Regional Office	503,751			503,751										503,751
0170310001 - Upper West Regional Office	503,751			503,751										503,751
0170311 - Head Office	1,095,907	661,810	400,000	2,157,717										2,157,717
0170311001 - Head Office	1,095,907	661,810	400,000	2,157,717										2,157,717
01704 - Ghana Atomic Energy Commission (G.A.E.C)	55,444,476	661,810	600,000	56,706,286		3,670,056	2,047,421	5,717,477						62,423,763
0170401 - Head Office	42,584,863	221,810	400,000	43,206,673		1,651,525	1,297,421	2,948,946						46,155,619
0170401001 - Head Office	42,584,863	221,810	400,000	43,206,673		1,651,525	1,297,421	2,948,946						46,155,619
0170402 - National Nuclear Research Institute (N.N.R.I.)	4,361,131	70,000		4,431,131		330,305	200,000	530,305						4,961,436
0170402001 - National Nuclear Research Institute (N.N.R.I.)	4,361,131	70,000		4,431,131		330,305	200,000	530,305						4,961,436
0170403 - Biotechnology and Nuclear Research Institute (B.N.R.I.)	3,496,915	70,000		3,566,915		183,503	50,000	233,503						3,800,418
0170403001 - Biotechnology and Nuclear Research Institute (B.N.R.I.)	3,496,915	70,000		3,566,915		183,503	50,000	233,503						3,800,418
0170404 - Radiation Protection Institute (R.P.I.)	1,419,265	50,000		1,469,265		1,504,723	500,000	2,004,723						3,473,988
0170404001 - Radiation Protection Institute (R.P.I.)	1,419,265	50,000		1,469,265		1,504,723	500,000	2,004,723						3,473,988
0170405 - School of Nuclear and Allied Sciences	994,531	50,000		1,044,531										1,044,531
0170405001 - School of Nuclear and Allied Sciences	994,531	50,000		1,044,531										1,044,531
0170406 - Radiological and Medical Sciences Research Institute	1,087,679	50,000	200,000	1,337,679										1,337,679



1.6. Appropriation Bill

Summary of Expenditure by Cost Center, Economic Item and Funding

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Year: 2018 | Currency: Value

Version 1

	GoG			IGF			Funds / Others			Donors			Grand Total	
	Compensation of employees	Goods and Services	Capex	Total	Compensation of employees	Goods and Services	Capex	Total	Statutory	ABFA	Others	Goods and Services		Capex
0170406001 - Radiological and Medical Sciences Research Institute	1,087,679	50,000	200,000	1,337,679										1,337,679
0170407 - Nuclear Power Institute	731,661	100,000		831,661										831,661
0170407001 - Nuclear Power Institute	731,661	100,000		831,661										831,661
0170408 - Ghana Space and Tech. Inst.	768,431	50,000		818,431										818,431
0170408001 - Ghana Space and Tech. Inst	768,431	50,000		818,431										818,431
01750 - Council for Scientific and Industrial Research (CSIR)	134,420,331	661,810	600,000	135,682,142	7,800,573	2,600,191	10,400,764	19,462,491				4,670,999	14,791,492	165,545,397
0175001 - Head Office	11,438,709	72,601	600,000	12,111,311									2,000,000	14,111,311
0175001001 - General Administration	11,438,709	72,601	600,000	12,111,311									2,000,000	14,111,311
0175002 - Crops Research Institute	11,799,547	44,154		11,843,701			332,293					4,670,999	12,791,492	29,638,485
0175002001 - General Administration	11,799,547	44,154		11,843,701			332,293					4,670,999	12,791,492	29,638,485
0175003 - Animal Research Institute	9,832,067	39,093		9,871,160			198,242							10,069,402
0175003001 - General Administration	9,832,067	39,093		9,871,160			198,242							10,069,402
0175004 - Soil Research Centre	1,325,520	14,601		1,340,121										1,340,121
0175004001 - General Administration	1,325,520	14,601		1,340,121										1,340,121
0175005 - Building, Road and Research Institute	11,055,019	43,587		11,098,606			2,285,407							13,384,013
0175005001 - General Administration	11,055,019	43,587		11,098,606			2,285,407							13,384,013
0175006 - Council for Scientific and Industrial Research (CSIR)	8,152,166	43,168		8,195,334			680,334							8,875,669
0175006001 - General Administration	8,152,166	43,168		8,195,334			680,334							8,875,669
0175007 - Institute of Industrial Research	6,321,065	38,230		6,359,295			384,895							6,744,190
0175007001 - General Administration	6,321,065	38,230		6,359,295			384,895							6,744,190
0175008 - Water Research Institute	11,091,363	46,226		11,137,589			3,280,790							14,418,378
0175008001 - General Administration	11,091,363	46,226		11,137,589			3,280,790							14,418,378
0175009 - Oil Palm Research Institute	9,196,069	44,148		9,240,216			1,105,005							10,345,221
0175009001 - General Administration	9,196,069	44,148		9,240,216			1,105,005							10,345,221
0175010 - Savana Agricultural Research Institute	11,221,688	44,063		11,265,751			1,121,399							12,387,150
0175010001 - General Administration	11,221,688	44,063		11,265,751			1,121,399							12,387,150



1.6. Appropriation Bill

Summary of Expenditure by Cost Center, Economic Item and Funding

Entity: 017 - Ministry of Environment Science, Technology and Innovation (MESTI)

Year: 2018 | Currency: Value

Version 1

	GoG			IGF			Funds / Others			Donors			Grand Total	
	Compensation of employees	Goods and Services	Capex	Total	Compensation of employees	Goods and Services	Capex	Total	Statutory	ABFA	Others	Goods and Services		Capex
0175011 - Science & Tech Policy Research Institute	3,551,768	28,688		3,580,456		132,437	44,146	176,583						3,757,039
0175011001 - General Admin	3,551,768	28,688		3,580,456		132,437	44,146	176,583						3,757,039
0175012 - Forestry Research Institute of Ghana	11,494,640	40,289		11,534,929										11,534,929
0175012001 - General Admin	11,494,640	40,289		11,534,929										11,534,929
0175013 - Plant Genetic Resource Research Institute	4,948,399	33,416		4,981,816		234,031	78,010	312,042						5,293,858
0175013001 - General Administration	4,948,399	33,416		4,981,816		234,031	78,010	312,042						5,293,858
0175014 - Institute of Science and Technology Information	3,965,715	36,211		4,001,926		226,672	75,557	302,229						4,304,156
0175014001 - Institute of Science and Technology Information	3,965,715	36,211		4,001,926		226,672	75,557	302,229						4,304,156
0175015 - Soil Research Institute	7,487,353	50,749		7,538,102		166,159	55,386	221,546						7,759,647
0175015001 - General Administration	7,487,353	50,749		7,538,102		166,159	55,386	221,546						7,759,647
0175016 - Ghana Grains and Development Project	9,248,406	42,586		9,290,992										9,290,992
0175016001 - General Administration	9,248,406	42,586		9,290,992										9,290,992
0175017 - Roots and Tuber Project	2,290,837			2,290,837										2,290,837
0175017001 - General Administration	2,290,837			2,290,837										2,290,837
01751 - National Biosafety Authority (NBA)	86,502	441,207	200,000	727,709								1,000,000		1,727,709
0175101 - General Admin	86,502	441,207	200,000	727,709								1,000,000		1,727,709
0175101001 - General Admin	86,502	441,207	200,000	727,709								1,000,000		1,727,709
01752 - Nuclear Regulatory Authority	6,164,465	441,207	200,000	6,805,672										6,805,672
0175201 - Gen. Admin	6,164,465	441,207	200,000	6,805,672										6,805,672
0175201001 - Gen. Admin	6,164,465	441,207	200,000	6,805,672										6,805,672