

Ghana's nationally determined contributions : tracking progress

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What are they? NDCs

- Development actions with climate imperatives
- Country pledges to reduce national emission and;
- Adapt climate change impacts toward;
- Achieving the long-term global 2 degree temperature goal;
- Contained in the Paris Agreement (PA)
- Features of NDCs:
 - *Bottom up*
 - *Medium-term in nature (10 year outlook)*
 - *Option for 5-year update and submission*
 - *Linked to the mid-century low emission plan*
 - *Wide diversity in scope, theme and starting point*
 - *Nationally determined (national priorities, circumstances, capabilities)*



Overview of Ghana's NDCs

- 31 mitigation and adaptation actions
- 7 priority areas
- Cost \$22.6 billion over 10 years
 - \$ 6.3 billion mobilise domestically (including existing public investments)
 - \$16.3 billion international funding
 - Adaptation share (\$ 13 billion) and Mitigation share (\$ 10 billion)
- Timeline - 2016-2030
 - Pre-2020: 2016 to 2020 (first update)
 - First period: 2020-2025 (second update)
 - Second period: 2025-2030 (true-up period)



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How are we tracking progress

What are we to track?

- NDC Progress (baselines, GHG, targets, reductions)
- Co-benefits (development benefits)
- Investments (financial support – private, government and international)
- Non-finance support (awareness, capacity, technology transfer, partnerships etc)??
- GHG inventory
- Adaptation

- Our approach
 - *Integration (government M&E structures) and automation*
 - *Developed Indicators*
 - *Developed country-specific tool based on Greenhouse gas Abatement Cost Model (GACMO model)*



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Tracking NDC progress

- Tool – based on modified GACMO tool (Ghana NDC GHG accounting tool)

- Elements for monitoring NDC progress
 - (A) *Baseline emission (BAU emissions – possible revision every 5 year)*
 - (B) *Mitigation Commitment (45% lower than 2030 BAU emissions of 75MtCO₂e)*
 - (C) *Annual GHG inventory over NDC period*
 - (D) *NDC actions and their effects (20 mitigation actions, 2 unconditional, 18 conditional)*
 - (F) *Corresponding Adjustments from emission transfers*

- Formulae for track NDC progress (inventory based tracking) - Ghana will be relying on this approach
 - $((A+F) - C)/(A+F) * 100$

- Option 2 - measure-based (GACMO is being used for this approach)
 - $(D/A)*100$



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Core indicators for mitigation actions

NDC Actions	Threshold Target by 2030	Sub-units	Indicators
Increase small-medium hydro installed capacity up to 150-300MW	300	MW	mini-hydro installed capacity
Attain utility-scale wind power capacity up to 50-150MW	150	MW	Grid-connected wind power installed capacity
Attain utility-scale solar electricity installed capacity up to 150-250 MW	250	MW	Grid-connected solar installed capacity
Scale-up the 200,000 solar systems for lightning in residential and non-residential buildings	200,000	500W	Number of installed solar home systems
Establish 55 mini-grids with average capacity of 40kW.	55	40kW	Number of 40kW mini-grids installed
Increase solar lanterns penetration in rural non-electrified households to 2 million	2,000	1000 lamps	#of LED lamps distributed
Scale-up adoption of LPG in at least 50% households	134	1000 LPG stoves	#of LPG stoves adopted, % of household using LPG for cooking
Scale-up access and adoption of 2 million efficient stoves	2,000	1000 efficient stoves	#of efficient stoves distributed
Fuel switch from heavy fuel oil to natural gas in existing electricity power plants	50	100 TJ fuel use/year	Quantity of natural gas per thermal electricity generated
Improve the efficiency of the thermal power plants by converting the single cycle power plants to combine cycle	3.3	100 MW increase	Amount of capacity added due to single cycle to combined cycle conversion
Recovery and utilisation of associated gas from Jubilee and Tein oil fields	120	1 MMSCF/day	Amount of gas recovered from oil field
Promote Efficient lighting with LED bulbs	20,000	1000 bulbs	#of LED bulbs distributed
Scale up adoption of Efficient Refrigeration	2,000	1000 refrigerators	# of efficient refrigerators distributed
Scaling up of installation of power factor correction devices in 1,000 commercial and industrial facilities (capacitor banks).	1,000	1 facilities	#of industrial and commercial facilities that have installed capacitors
Ghana Cocoa REDD+ Programme	270	Avoided deforestation 1000 ha	Avoided deforested area (ha)
Ghana Shea Landscape REDD+ Programme			
Wildfire management in the transition and savannah dry lands in Ghana			
National Forest Plantation Development Programme	660	Reforestation of 1000 ha	Areas reforested (ha)
Enrichment Planting			
HFC Reduction in the RAC sector (scale-up market share of climate-friendly and energy efficient aircondition)	70%	Market share of green and energy efficient airconditioners	% of market share of green and EE air conditioners
Expansion of intra city transportation modes (Bus Rapid Transit)	200	1 km BRT line	Length of BRT km
Expansion of inter and intra city transportation modes (Railway Transit System)	TBD	TBD	TBD
Improve effectiveness urban solid waste collection up to 70-90% and the construction of engineered landfill for methane recovery	14	200 t/day plant	Quantity of gas recovered from engineered landfills
Increase the current waste-to-compost capacity of 200 t/day to 500 t/day	0.5	1000 t/day plant	Waste-to-compost processing installed capacity
Scale-up 200 biogas facilities	1	1000 t/year plant	Quantity of biogas produced

Data collection table

NDC Mitigation Actions	Monitoring parameters for each year									
	Fuel type	Fuel Quantity (Tonnes)	Installed capacity (MW)	Electricity generated (MhW)	Number	Appliance Ratings	Efficiency (%)	Quantity of Gas (MMSCF)	Distance (KM)	Area (Ha)
Switch from fuel oil to natural gas										
Solar PVs, large grid										
Single cycle to combined cycle										
Wind turbines, on-shore										
Mini hydro power connected to main grid										
Efficient lighting with LEDs										
Energy efficiency in industry										
Efficient wood stoves										
LPG stoves replacing wood stoves										
Solar home PVs										
Reduced flaring at oil field										
Bus Rapid Transit (BRT)										
Rail-Based Transit (RBT)										
Reforestation										
REDD: Avoided deforestation										
Assisted forest regeneration										
Reforestation with Silvopasture										
Landfill gas flaring										
Composting of Municipal Solid Waste										
Biogas from Municipal Solid Waste										
HFC phase down										



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Mitigation target, emission reduction per unit and measuring units

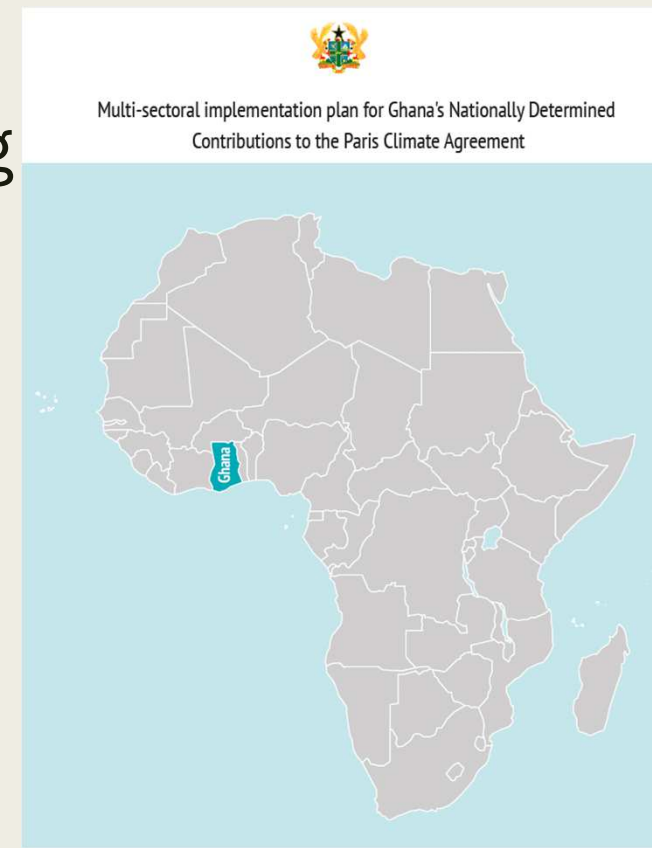


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Reduction technology	Emission reduction Potential (ERP) (tCO ₂ /unit)	Measuring units	Unit targets		
			2020	2025	2030
Switch from fuel oil to natural gas	1,454.4	1 MW	-	100	-
Solar PVs, large grid	711.8	1 MW	50.0	150.0	250.0
Single cycle to combined cycle	120,744.0	100 MW increase	3.3	3.3	3.3
Wind turbines, on-shore	975.0	1 MW	20	50	150
Mini hydro power connected to main grid	1,720.0	1 MW	50	150	300
Efficient lighting with LEDs	78.9	1000 bulbs	2,500	5,000	7,000
Energy efficiency in industry	16,397.1	10% red. of energy demand	0.5	1.0	2.0
Efficient wood stoves	7,298.3	1000 stoves	100	500	2,000
LPG stoves replacing wood stoves	8,680.7	1000 stoves	10	50	133.5
Solar home PVs	0.3	50 W	50,000	100,000	200,000
Reduced flaring at oil field	22,613.5	1 MMSCF/day	117.5	120	120
Bus Rapid Transit (BRT)	1,975.5	1 km BRT line	54.7	100	200
Rail-Based Transit (RBT)		1 km RBT line	-	-	-
Reforestation	5,238.1	Reforestation of 1000 ha	100	100	280
REDD: Avoided deforestation	5,238.1	Avoided deforestation 1000 ha	50	150	270
Assisted forest regeneration	5,238.1	Reforestation of 1000 ha	50	50	140
Reforestation with Silvopasture	3,666.7	Reforestation of 1000 ha	50	100	70
Landfill gas flaring	124,415.2	200 t/day plant	3.0	6.6	13.7
Composting of Municipal Solid Waste	3,558,522.2	1000 t/day plant	0.5	0.5	0.5
Biogas from Municipal Solid Waste	12,186.7	1000 t/year plant	0.6	0.6	0.6
HFC phase down	613.0	All flourinated gases	0.2	0.5	1

Implementation status – cross-cutting

- Incorporated NDCs into Agenda for Jobs
- Briefed inter-ministerial committee on SDGs
- Finalised draft NDC implementation plan
- Jointly developed indicators for tracking NDC with NDPC.
- Reporting progress of NDCs in Biennial Update Report to the UN
- Preparing national adaptation framework to support NDC
- Mobilising investments
- Implementing actions on the ground



Investments on the ground (government-wide - examples)

Low-carbon electricity, promoting renewable energy, adoption of clean cooking

- Invested \$13.2 billion in natural gas infrastructure (gas supply) in the 10 years.
- Increased annual installed capacity of renewable energy from 2.9 MW in 2013 to 42.7MW in 2017.
- Distributed more than 1 million improved cookstoves to households.

Lowering deforestation

- 20,000 youth to plant 10 million trees as way to increase the carbon sinks in Ghana.
- Invested More than US\$ 52 million in 192, 253ha tree plantation development.
- Promoting climate smart cocoa production under REDD+ (\$ 50m result-based payment)

Alternative waste management (expanding composting capacity)

- Installed 600 tonnes/day capacity compost facility for the production of average 8,545.4 tonnes of compost



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Investments on the ground (government-wide - examples)

Building resilience in vulnerable landscapes

- Investing US\$ 30 million of GEF and Adaptation funds grants to build resilience of smallholder farmers in the savannah drylands.

Coastal protection

- Invested nearly US\$ 670 million in 7 sea defense projects across the 560km coastline.

Tackling flooding

- Seeking \$200 million under the Greater Accra Resilient Integrated Development Project to improve flood risk and solid waste management in the Odaw River



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NDC-related investments – Gov’t flagship programmes

- Planting for Food and Jobs (PFJ) - MoFA Linked to SDG1 and SDG3
 - Supplied 577,000 farmers with subsidised fertilizers and high-quality seeds for the 2018 cropping season.
 - 2,700 extension agents being recruited to support dissemination of climate-smart technologies.

- Ministry of Special Development Initiative
 - One district one Warehouse (1D1W) –50,000t warehouse capacity added in 2018
 - 570 small dams and dugout constructed or rehabilitated in Northern (310), Upper East (150) and Upper West (110) Regions in 2018
 - 1,000 biogas across the country.

Mobilising funds from the Green Climate Fund (GCF)

- Since 2016, the GCF pipeline at the Ministry of Finance has recoded 34 projects, all of which are aligned with the nationally determined contributions.
- *Three of them have been developed into full proposal and submitted to GCF secretariat.*
- *The total investment budget for the three projects US\$ 130 million. The projects are:*
 - *resilient landscape for sustainable livelihoods led by MoFA and EPA;*
 - *Shea landscape for sustainable livelihood REDD+ led by Forestry Commission and*
 - *Sustainable Energy Access led by Energy Commission.*
- Pipeline – Accra City Electric Bus Project (being designed with AfDB) led by MOT



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Mobilising finance – market-based mechanism under Articles 6 & 5

- Internationally transferred mitigation outcomes (ITMOs)
 - *Article 6.2 of the Paris Agreement*
 - *Country-to-country cooperation*
 - *Ghana- Switzerland Clean Energy ITMOs project being developed*

- Results-based REDD+
 - *Article 5 of Paris Agreement*
 - *World-Bank FCPF (Agreement signed yesterday) to purchase REDD+ credits from Ghana*



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Next steps - NDCs

- Cabinet approval of the implementation plan
- Continue resource mobilisation
- Tracking financial and non-financial inflows. Need to link to SDG budget tracking
- Outdoor the implementation plan after cabinet approval
- Launch the annual climate progress starting November 2019
- Publish Pre-2020 NDC report in November 2019
- Initiate work to update NDC and submit to UN by December 2020
- Establish and operate emissions unit registry system



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Thank you



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