CLIMATE CHANGE EXPENDITURE AND INVESTMENT REVIEW (CPEIR) - PERIOD 2016-2020 - QUANG NINH PROVINCE

1. Climate change in Quang Ninh

General introduction

Located in the northeast of Vietnam, Quang Ninh covers anarea of 6,102 km2, of which 80% is mountainous. Quang Ninh has 250 km of coastline and is home to Ha Long Bay, a popular tourist destination that has twice been recognized by UNESCO as a World Heritage site. Quang Ninh's economy is divided principally into three main industries which contribute to two-thirds of GRDP: processing and manufacturing; mineral mining; and trade and services. The provincial economic growth rate is robust, averaging 10.7% / year in the 2016-2020 period. The average GRDP per capita in 2020 is estimated at over USD 6,700, more than 2 times higher than the national average.

Quang Ninh is focusing on shifting from a “brown” economy dependent on coal mining to a “green” economy focusing on the tertiary sector. To achieve green growth based on restructuring the economy into a service sector-oriented province, Quang Ninh is pursuing three strategies:

- Develop economic infrastructure by prioritizing the expansion of strategic transport, information technology, telecommunications, seaports and seaport services, and industrial zone infrastructure.
- Develop social infrastructure by prioritizing the improved quality of human resources need for economic restructuring.
- Conduct institutional and administrative reform, in turn improving the business investment environment;

The impact of climate change on Quang Ninh

As a coastal province, Quang Ninh is experiences the consequences of climate change with unusual weather events, high temperatures, heavy rain severe floods, prolonged inundation, saltwater intrusion, sea level rise, storms, tropical depressions, tornadoes, and landslides inadvertently causing exacerbated economic damage. Along with the above phenomena, climate change is causing species decline and loss in ecological diversity, best exemplified by a decline in the area of coral and seagrass in Ha Long Bay.

The sectors most strongly affected by climate change are water resources, agriculture and food security, health; fisheries and tourist regions and islands

Activities to respond to climate change in Quang Ninh

The documents below highlight provincial commitments to respond to climate change, specifically:

- Plan No. 6285 / KH-UBND, dated November 19, 2013, of the provincial People's Committee on the implementation of Resolution No. 24-NQ / TW on “Proactively responding to climate change, strengthening financial management, raw materials, and environmental protection”;
- Decision No. 713 / QD-UBND, dated April 3, 2012, approving the Action Plan to respond to climate change of Quang Ninh province for the period 2010 - 2015, vision to 2020;
- Plan No. 6970 / KH-UBND, dated November 16, 2015, on the implementation of the national strategy on green growth in Quang Ninh province for the period 2016-2020;
- Plan No. 75 / KH-UBND, dated May 2, 2018, on the implementation of the Paris Agreement on climate change in the province.
- Resolution No. 236/2015 / NQ-HDND dated December 12, 2015, of the Provincial People's Council on guidelines and solutions to strengthen environmental protection management in Quang Ninh province in the period 2016-2020.

The objectives of these commitments seek:

- Actively prevent natural disasters, search and rescue, repair and upgrade coastal dykes, protect the area of mangrove forests.
- Strictly manage, rationally and efficiently use natural resources, especially land, water, minerals, forests, marine resources, and sea surface land according to market principles to achieve sustainable development in a timely manner.
- To encourage the development of a circular economic model, an economy with low emissions and saving resources; to renew technology and equipment for coal and mineral mining and processing.
- To build and develop urban areas that adapt to climate change, and green growth; to overcome inundation in urban residential areas in cities and towns.
- To upgrade and complete agricultural and rural infrastructure to adapt to climate change, especially in irrigation, transport and rural trade.
- Strengthen international cooperation in natural resource management, environmental protection and response to climate change.
- Promote environmental propaganda and education, raise awareness and responsibility for environmental protection; improve the quality of the specialized hydro-meteorological monitoring system; improve the capacity for early warning and forecasting to proactively respond to climate change.

The province has identified 60 programs and projects in the Plan No. 75 / KH-UBND, 20 programs and projects in Decision No. 713 / QD-UBND.

In the 2016-2020 period, Quang Ninh has invested, renovated, and upgraded the hydro-meteorological forecasting and warning works in the area; invested hundreds of billions of VND to purchase equipment and train human resources on early warning of natural disasters, built early warning models for areas prone to flash floods and landslides and deployed economic works and people to adapt to climate change.

2. Summary of Data on Climate Change Investment in Quang Ninh

2.1 Budget sources for climate change investment

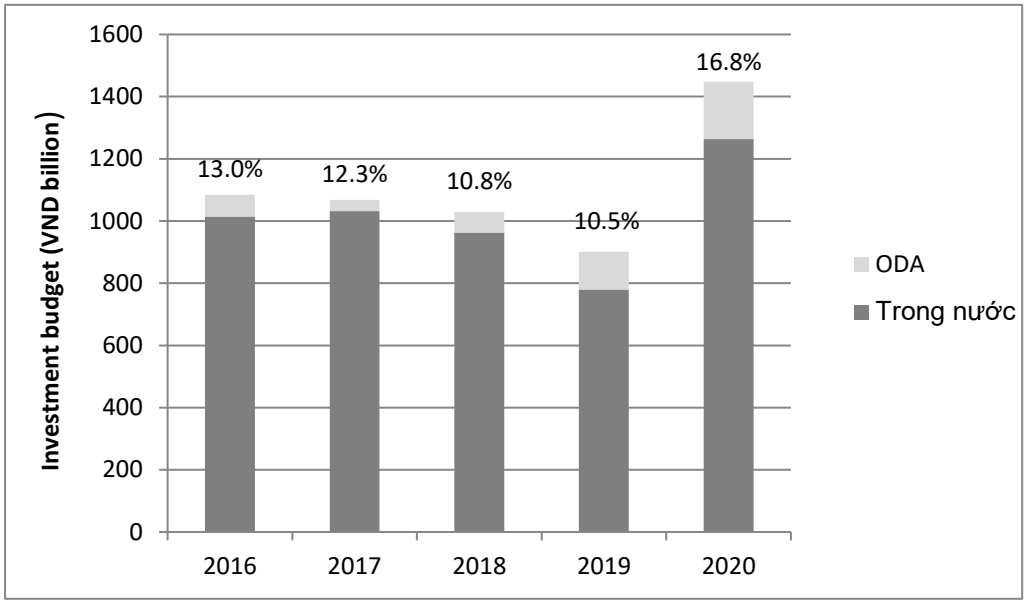


Figure 1: The total investment budget for climate change at Quang Ninh *– the percentage that the climate change budget represents of the total Provincial development investment budget is shown as a % on the top of each bar.*

The mean annual climate change investment budget over the 2016–2020 was 1106 VND billion. The highest climate investment budget was in 2020 (1,447 VND billion), whereas the lowest was in 2019 (901 VND billion).

Domestic investment contributed to 91.5% of the total climate budget 2016 – 2020 (1010 VND billion), with ODA contributing the remaining 8.5% (96 VND billion). The proportion of ODA has increased. In 2016 and 2018, ODA accounted for 6.5% of the budget, declined to 3.4% in 2018 but resurged to 13.5% in 2019 and in 12.7% in 2020.

During the study period, the climate investment budget represented between 10.5-16.8% of the total investment budget. The highest rate is 16.8% in 2020, the lowest rate is 10.5% in 2019.

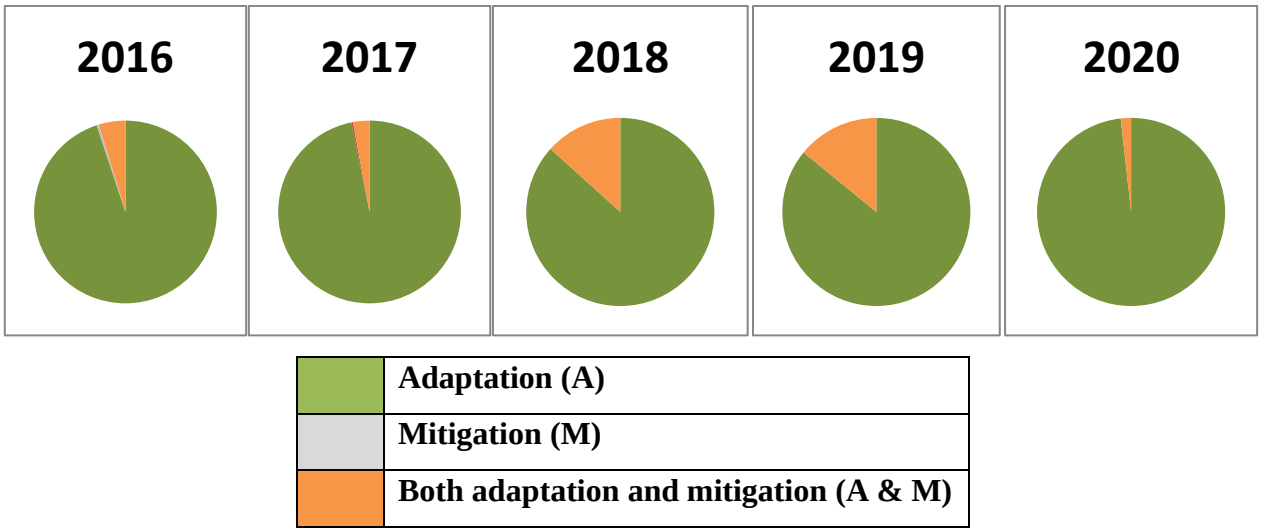
Table 1: Investment for climate change in Quang Ninh by year from 2016 to 2020 and by capital source

Year	Domestic	ODA	domestic + ODA	% domestic	% ODA	Total Province Data	(ODA+domestic / total province domestic) x 100
2016	1013,899	70,803	1084,702	93.5	6.5	8352,301	13.0
2017	1031,567	35,967	1067,534	96.6	3.4	8684,048	12.3
2018	962,547	66,486	1029,033	93.5	6.5	9555,896	10.8

2019	779,680	121,770	901,450	86.5	13.5	8571,501	10.5
2020	1263,409	184,072	1447,481	87.3	12.7	8619,509	16.8
Mean	1010,220	95,8196	1106,040	91.48	8.52	8756,651	12.68

2.2 Purpose of the investment budget for climate change

a) The "adaptation" or/and "mitigation" project type distribution:



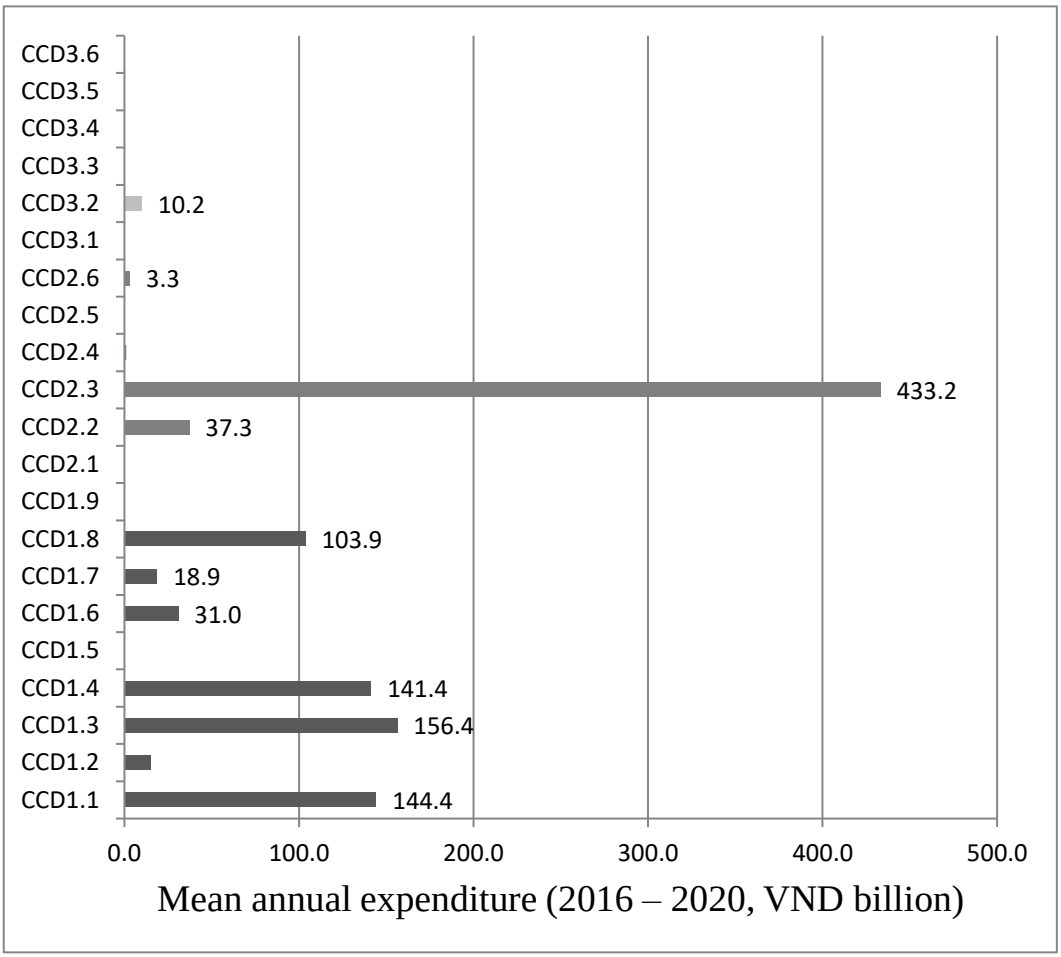
Total investment in climate change is mostly tied to adaptation, accounting for between 86 to 98% of investment between 2016 to 2020. The proportion was lowest in 2019, accounting for 86% while it was the highest in 2020, accounting for 98.2% of total investment spending on climate change.

The rest has been spent on projects that are both adaptation and mitigation such as forest protection and development and capacity building for forest fire prevention and fighting in Quang Ninh province period 2016-2020.

Detailed investment data for climate change adaptation and mitigation

Unit: VNDb	2016		2017		2018		2019		2020	
A	1028,686	94.8	1033,079	96.8	892,331	86.7	774,718	85.9	1192,820	98.2
M	4,750	0.4	3,480	0.3	0	0.0	0	0.0	0	0.0
A/M	51,265	4.7	30,975	2.9	136,701	13.3	126,731	14.1	21,470	1.8

b) Allocate investments in response to climate change (CCD) according to specific tasks (Average annual spending in the 2016-2020 period; Unit: billion dong)



The main targets of investment in climate change from 2016 - 2020 has been in transportation (CCD2.3) accounts for 39.5%, irrigation (CCD1.3) accounts for 14.3%, dyke and embankment river (CCD1.4) accounts for 12.9%, coastal protection and coastal dyke (CCD1.1) accounts for 13.2% and fisheries and aquaculture (CCD1.8) accounts for 9.5%.

Smaller amounts of investments have been made in rural and urban resilience (CCD2.2) accounts with 3.4%, forest development (CCD1.7) accounts for 1.7%, agriculture, rural development and food security (CCD1.6) accounts for 2.8%, economical and efficient use of energy (CCD3.2) accounts for 0.9%, and disaster risk reduction (CCD2.6) accounts for 0.3%.

Detailed investment in climate change by sector (for reference)

CCD1.1	144,4	13.2	CCD1.8	103,9	9.5	CCD2.6	3,3	0.3
CCD1.2	15,0	1.4	CCD1.9	0,0	0.0	CCD3.1	0,0	0.0
CCD1.3	156,4	14.3	CCD2.1	0,0	0.0	CCD3.2	10,2	0.9
CCD1.4	141,4	12.9	CCD2.2	37,3	3.4	CCD3.3	0,0	0.0
CCD1.5	0,0	0.0	CCD2.3	433,2	39.5	CCD3.4	0,1	0.0
CCD1.6	31,0	2.8	CCD2.4	1,0	0.1	CCD3.5	0,0	0.0

CCD1.7	18,9	1.7	CCD2.5	0,0	0.0	CCD3.6	0,0	0.0

2.3 Budget expenditure from ODA

The five biggest ODA projects for climate change: 1. Project on upgrading dike system Quan Lan, Quan Lan commune, Van don district (2016-2020, 21.1%) 2. Project on Protection and Development of protective and special-use coastal forests in Quang Ninh province for the period 2015-2020 (2016-2020, 15.4 %%) 3. The Second Mekong River Subregion Corridor Urban Development Project (ADB) (2016-2020, 13.5 %%) 4. Dam safety improvement and repair project (WB8) (2016, 2019-2020, 12.0%) 5. Project of creating landfills and planting mangrove trees to protect dykes Hamlet 1, Mong Cai city (2016-2020, 7.5%)

36.5% of the ODA budgeted for climate change in the 2016-2020 period came from two projects: Project on Protection and Development of protective and special-use coastal forests in Quang Ninh province for the period 2015-2020 and a project on upgrading dike system Quan Lan, Quan Lan commune, Van Don district. Both projects were funded from the Targeted Program to Respond to Climate Change and Green Growth. The third largest ODA project, accounting for 13.5% of climate change, was financed by ADB.

2.4 Policy and planning instruments

Instrument	*Yes (√) or No (X)*
Local NTP-RCC report, period to 2015	*X*
Climate Change Action Plan	√
Green Growth Action Plan	√
Plan for Implementation of Paris Agreement (PIPA)	√
Others: none	

Climate Change Action Plan (projects 2010-2015, and to 2020):

1. Communication to improve knowledge on climate change and sea level rise for officers of departments, agencies, localities, and communities in Quang Ninh province.
2. Review and strengthen river and sea dyke systems.
3. Planning on water resources protection, allocation, and prevention of harm caused by water.

4. Invest in building and upgrading hydro-meteorological station of Co To district.
5. Construction of solid waste treatment areas.
6. Assessment of impacts of climate change in coastal residential areas; propose adaptation solutions.
7. Developing automated system for monitoring and early warning of natural disasters.
8. Assessing climate change vulnerability and capacity of the agricultural sector. =
9. Enhance afforestation and regeneration of natural forests, especially in mountainous areas
10. Construction of agricultural irrigation system and water supply for daily life on Ba Che river.
11. Implementing regulations on energy efficiency in industrial production, construction and in daily life activities; mobilize the use of clean energy in households.
12. Protection and rehabilitation of mangroves
13. Construction of water reservoirs for domestic water supply (priority for islands).
14. Assist in improving housing and sanitation conditions; relocate vulnerable households from areas at risk of landslides.
15. Encourage more environmentally friendly lifestyles, saving energy, reducing CO2 emissions
16. Applying small-scale wind power in areas of Quang Ninh Province
17. Applying technology to manufacture plywood boards from straw and other agricultural waste
18. Develop and implement aquaculture models adapted to climate change and sea level rise.
19. Constructing some water drainage pumping stations
20. Building a database system on to warn of flash floods and landslides in mountainous areas

Green Growth Action Plan (projects for the 2016-2020 period):

1. Support to convert petroleum distribution equipment to suit the characteristics of biofuel at petrol stations and promote the use of biofuel (E5) to gradually replace traditional fuels, contributing to reducing Greenhouse gas emissions.
2. Support to convert petroleum distribution equipment to suit the characteristics of biofuel at petrol stations and promote the use of biofuel (B5) to gradually replace traditional fuels, contributing to reducing Greenhouse gas emissions.
3. Develop a system of public passenger transport (bus replaces 9% of private vehicles, urban tram replaces 35% of private vehicles)
4. Support for household provision of high-efficiency air-conditioning (60% of households in urban areas, 20% in rural areas).
5. Support to equip high-performance refrigerators in households
6. Building an energy management system in industrial enterprises (75% of enterprises in the province)
7. Equipping high efficiency transformers (amorphous) to the grid system (100% of the substations are newly invested and periodically upgraded).

8. Tourist information point and street lighting using solar energy (10,000 points in the whole province)
9. Support to install waste heat recovery system for power generation at 4 cement plants in the province (total capacity of 16 MW)
10. Support for high-efficiency air-conditioning systems in hotels, high-rise buildings (75% of office / commercial buildings and hotels in the province)
11. Eliminate and replace 100% of manual brick kilns with advanced technology brick kilns
12. Optimal use and substitution of nitrogen fertilizers in the entire rice cultivation area of the province
13. Saving and controlling irrigation water in rice cultivation according to 3G3R model in the whole cultivated area of the province
14. Complete the conversion of unused land to special-use forest land in accordance with the land use plan until 2020
15. Convert unused land to protection forest land
16. Complete the conversion of unused land to production forest land in accordance with the land use plan until 2020
17. Support installation of biogas tanks for household and farm-scale livestock (for 50% of main cattle: pigs, cows).
18. Tourism infrastructure development investment projects for sustainable growth
19. Forest protection and development project for the 2016-2020 period
20. Project on building Van Don economic zone wastewater and waste treatment systems
21. Aquatic seed development project up to 2020

PIPA (reduction of GHG emissions to 2020):

1. Implement GHG emissions inventories
2. Build, expand support policy on renewable energy, implement renewable energy policy
3. Implement GHG emissions reduction in the industrial sector in accordance with the NDC
4. Implement GHG emissions reduction in the transport sector in accordance with the NDC
5. Implement GHG emissions reduction in the construction sector in accordance with the NDC
6. Implement GHG emissions reduction in the agriculture and rural development sector in accordance with the NDC

PIPA (Adaptation to climate change to 2020):

1. Update climate change adaptation contributions in the NDC
2. Formulate the national adaptation plan (NAP)
3. Implement the Target Program on responding to climate change and green growth
4. Implement the Target Program on sustainable fisheries development

5. Implement the Target Program on agricultural transformation and responding to and mitigating natural disasters
6. Modernize the system of hydrometeorological observation, weather prediction, and Early Warning; build the system for monitoring climate change and sea level rise
7. Develop curriculum units, chapters on climate change in accordance with the Paris Agreement for education and training in the country