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Annex Table 6-1: Summary (global) impacts of climate change, by sector

<p>Agriculture (Valeroso, 2002a)</p> <p>Increased temperature</p> <ul style="list-style-type: none"> • Changes in growing seasons • Heat stress in plants and animals • Increased yields (at up to 2oC increase for some crops) • Increased outbreaks/incidences of pests and diseases • Changes in hydrological cycle <p>Changes in rainfall regimes</p> <ul style="list-style-type: none"> • Changes in crops and crop areas • More severe droughts and/or floods • Deterioration of land cover/land resources • Changes in water resources (irrigation) <p>Changes in frequency/intensity of extreme climate events</p> <ul style="list-style-type: none"> • Increased damage to crops and/or livestock • Decreased productivity • Increased soil erosion 	<p>Forests and Watersheds (Lasco et al. 2006; Cruz 1997)</p> <ul style="list-style-type: none"> • Changes in location of areas suitable for the growth of certain species (shift or disappearance of some productive systems) • Changes in production per unit area • Changes in types and incidence of pests and diseases • Altered ecosystem functions (biochemical cycles) • Increased or decreased nutrient retention • Changes in species' reproductive cycles • Changes in the value of a system as a tourist attraction • Increased risks of forest fires, in turn lead to changes in tree and plant species and in forest boundaries (Valeroso, 2002) • Increased runoff, soil erosion and flood occurrences, and decreased productivity of water resources • Changes in local biodiversity (extinction and inhibition of re-immigration from adjacent areas) (The Philippines' Initial National Communication, 1999) 	<p>Coastal (and Marine) Resources (Perez, 2002a)</p> <p>Biophysical changes</p> <ul style="list-style-type: none"> • Increased coastal erosion, stresses on coral reefs, and coral bleaching • Inhibition of primary production processes • Prevalence of algal blooms responsible for toxic red tides • Higher storm-surge flooding • Landward intrusion of seawater in estuaries and aquifers • Changes in surface water quality and groundwater characteristics • Changes in the distribution of pathogenic microorganisms <p>Submergence/inundation of low-lying areas</p> <ul style="list-style-type: none"> • Affect coastal population, settlements, and infrastructure • Increased soil water logging, resulting to poor drainage • Lower plant production and survival • Move freshwater seaward, resulting to low dissolved oxygen availability

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<p>Water Resources (Perez 2002b)</p> <ul style="list-style-type: none">• Change in hydrological (and crop water) regimes• Increased demand for irrigation water• Changes in groundwater quality (saltwater intrusion)• Changes in streamflow and groundwater recharge• Sedimentation of reservoirs	<p>Species and Natural Areas (Biodiversity) (Lim, 2007)</p> <p>Reported impacts</p> <ul style="list-style-type: none">• Changes in species distribution and in timing of biological events• Changes in morphology, physiology and behavior of many birds, insects and plants• Increased frequency and/or intensity of pest and disease outbreaks• Increased number of plant growing days• Coral bleaching• Changes in marine fish populations• Large fluctuations in the abundance of marine birds and mammals	<p>Human Health (Ebi et al., 2005)</p> <p>Increased incidences of diseases and illnesses</p> <ul style="list-style-type: none">• Insect- and rodent-borne diseases (dengue, leptospirosis, and malaria)• Water-borne diseases (schistosomiasis, cholera)• Food-borne diseases (diarrheal diseases and typhoid)• Respiratory diseases (asthma, bronchitis, and respiratory allergies and infections)• Heat-related illnesses (sunstroke, sunburn, heat stress or exhaustion, dehydration)
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Source: Taken from (Lasco *et al.* 2007)

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Annex Table 6-2: The Albay Declaration: *Aksyon ng Pinoy para sa Kalikasan*

As stewards and stakeholders of the Philippine ecosystem and as children of Mother Earth, we declare the following premises as basis for common ground and collective action:

- Climate change is one of the most pervasive and pernicious threats facing Mother Earth;
- The 2007 Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) concludes that the “warming of the earth’s climate system is unequivocal” which has been attributed to the rise in human-induced greenhouse gas emissions in the last 150 years, primarily from highly industrialized and industrializing countries;
- The changing climate has adverse impacts on natural, economic, and social systems which affect our national aspiration to eradicate poverty and attain sustainable development for the present and future generations;
- The Philippines being an archipelagic country is highly vulnerable to climate risks and weather disturbances such as tropical cyclones and prolonged droughts resulting to social and ecological devastation, and economic loss;
- Policy makers and scientists here and abroad emphasize the need to institutionalize climate change adaptation measures to address climate risks expeditiously;
- The government has adopted the Philippine Agenda 21 and the Millennium Development Goal for environmental sustainability; has created the Philippine Council for Sustainable Development (PCSD), the Inter-Agency Committee on Climate Change (IACCC), the Advisory Council on Climate Change (ACCC), and the Presidential Task Force on Climate Change Adaptation and Mitigation (PTFCC), and the President has made a Green Philippines as one of the “8 in 8” priorities;
- Action on climate change is a civic duty of all citizens. It offers our society vast opportunity for social inclusion and political harmony. Thus, we must recognize the intrinsic primacy of local communities in the implementation of adaptation programs to sustain efficacy and enhance their efficiencies;

Therefore, we, the participants, hereby commit ourselves to the following plan of action:

- To work for the passage of a policy prioritizing climate change adaptation in the national agenda, thereby directing all behavior of its instruments and agents through programs, projects, budgets, grants of license and franchise, to be consistent and compatible with such policy;
- To promote “climate-proofing” development through genuine multi-sectoral participation, particularly in: 1) the on-going formulation of a national strategic framework on climate change adaptation, 2) the formulation, implementation, and monitoring of national and local development plans, programs, fiscal policies, and budgets, and 3) implementation of international treaties and trade agreements;
- To advocate the creation of oversight bodies on climate change adaptation in the Senate and the House of Representatives as regular standing committees;
- To promote the mainstreaming through the DILG, the leagues of local government units, and in possible partnership with regional councils for sustainable development, in the adoption of local policy and programs for climate change adaptation by the local government units;

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- To call for the integration in the basic education curriculum by the Department of Education (DepEd), in tertiary courses by the Commission on Higher Education (CHED), Higher Education Institutions (HEIs), and in vocational and technical courses by the TESDA;
- To promote research and extension work on climate change adaptation through government agencies, research institutions and the academe;
- To support the development and wider use of the country's abundant renewable energy sources to promote resiliency and growth in our communities;
- To strongly urge the provision of increased allocations for climate change adaptation in the budgets of relevant government agencies, GOCCs and GFIs :
- To urge the creation of a climate change adaptation fund which may be sourced from existing taxes, proceeds from the privatization of government properties, official development assistance, grants and donations, and future government share in the sale of Certificates of Emission Reduction (CER and other sources);
- To encourage government to engage its bilateral and multilateral partners in additional demand ODA towards programs on climate change adaptation particularly in land and water use, land use change and forestry, in reducing emissions from deforestation and degradation (REDD), coastal zones and fisheries, industry, facilities, farming practices, and promotion and development of renewable and indigenous clean energy;
- To encourage greater participation of the media in disseminating information on climate change adaptation, within the overall framework of sustainable development, to local communities, at the grassroots level such that all modes of information, education and communication to increase awareness and appreciation of climate change are utilized;
- To promote social dialogue between workers and employers to realize potential for green and decent jobs through positive support for workers and employers in the transition towards environmentally sustainable patterns of production and consumption;
- To urge the national government to vigorously collaborate with all countries in the Conference of Parties and other international negotiations to push for more aggressive and more immediate emission reduction targets for developed countries, more expeditious implementation of adaptation funds and possibly the creation of a new global fund initiative under the UN system to pump prime the process in a manner that will ensure direct benefits to the local communities;
- We call on the President, the Senate of the Philippines and the House of Representatives to adopt this Declaration through a concurrent resolution as a basis for priority and prospective legislation to protect and enhance the environment.

Unanimously adopted in Albay, Philippines this 23rd day of October, 2007

SGD) THE PARTICIPANTS

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Annex Table 6-3: Projects Registered with the CDM Executive Board (as of July 3 2008)

Date Registered	Title of Project	Location	Estimated CERs/year (in tCO₂-e)
Sept. 10, 2006	Northwind Bangui Bay Project	Bangui, Ilocos Norte	56,788
Oct. 1, 2006	Wastewater treatment using a Thermophilic Anaerobic Digester at an Ethanol Plant	Lian, Batangas	95,896
Oct. 21, 2006	Gold Farms Livestocks Corporation Methane Recovery and Electricity Generation	Tarlac City	2,929
Oct. 23, 2006	Joliza Farms Inc. Methane Recovery	Sta. Maria, Bulacan	3,656
Oct. 28, 2006	Uni-Rich Agro-Industrial Corporation Methane Recovery and Electricity Generation	Tarlac City	2,929
Oct. 30, 2006	Gaya Lim Farm Inc. Methane Recovery	Tarlac City	3,130
Dec.10, 2006	20 MW Nasulo Geothermal Plant	Valencia, Negros Oriental	74,975
Jan. 31, 2007	Paramount Integrated Corporation Methane Recovery and Electricity	Peñaranda, Nueva Ecija	7,582
April 13, 2007	San Carlos Renewable Energy Project	San Carlos City, Negros Occ.	37,658
May 5, 2007	Philippine Sinter Corporation's Sinter Cooler Waste Heat Recovery Power Generation Project	Phividec Industrial Estate, Villanueva, Misamis Oriental	61,702
Aug. 26, 2007	D & C Concepcion Farms, Inc. Methane Recovery and Electricity Generation Project	Brgy. Patag, Municipality of Opol, Misamis Oriental	3,348
Sept. 7, 2007	Bondoc Realty Methane Recovery and Electricity Generation Project	Brgy. Taguan, Candelaria, Quezon	1,785
Sept. 7, 2007	Superior Hog Farms Methane Recovery	Brgy. San Juan de Mata, Tarlac City	3,346
Sept. 8, 2007	Goldi-Lion Agricultural Development Corporation Methane Recovery and Electricity Generation Project	Brgy. Estipona, Pura, Tarlac	3,994
Dec 17, 2007	Anaerobic Digestion Swine Wastewater Treatment With On-Site Power Bundled Project		5,806

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Feb.1, 2008	Quezon City Controlled Disposal Facility Biogas Emission Reduction Project	Quezon City, Metro-Manila	116,339
March 16, 2008	Laguna de Bay Community Waste Management Project: Methane Avoidance - Bundle 1		6,058
June 6, 2008	Hedcor Sibulan 42.5 MW Hydroelectric Power Project	Davao del Sur, Mindanao	95,174
June 24, 2008	Makati South Sewage Treatment Plant Upgrade with On-Site Power	Magallanes Village, Makati City, Metro-Manila	28,729
TOTAL			611,824

Annex Table 6-4: Other Donor-assisted Climate Change-related Projects in the Philippines

Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Asia Least-Cost Greenhouse Gas Abatement Strategy (ALGAS) project	1995-1998	ADB, GEF through UNDP			The project involved the participation of 12 Asian Countries. The objective was to limit the growth of GHG emissions from Asia, and to build a substantial pool of expertise in the region for addressing climate change.	completed	mitigation	
Enabling the Philippines to Prepare a National Communication Program in Response to its commitments to the UNFCCC	1997	GEF through UNDP			Objective: build capacity to prepare initial communication to the UNFCCC. Result was the Initial Communication produced. This project also enabled the preparation of the 1994 GHG inventory. Through the project the need to draw up a policy and institutional framework relevant to mitigation of GHG emissions was stressed.	completed	mitigation	

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Enabling Activity for the Maintenance and Enhancement of National Capacities to Prepare the National Communication on Climate Change	?	IACCC?			Bridging project between the "Enabling Activity to Prepare its initial national communication on climate change" and the second enabling activity for the Philippines to prepare its Second National Communication to the UNFCCC	completed	mitigation	

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
NEDO CDM Support Program for the Philippines	2003-2004				The New Energy and Industrial Technology Development Organization (NEDO) of Japan supported the Philippines through a Technology Transfer Research and Needs Assessment and by supporting the implementation of 5 CDM project feasibility studies in the country, one of which is the feasibility study on the Model Project for Integrated Energy Conservation System in Brewery.	completed	mitigation	

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Asia CDM Capacity Building Initiative	2002	NEDO			Seeks to conduct CDM0 related capacity building in Asian countries. The Philippines received separate Training Workshops that enhanced the capacity of officials and staff of the designated National Authority for CDM, which would be involved in review and assessment of applications of waste management and energy-related CDM eligible projects.	completed	mitigation	

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Capacity Development for Clean Development Mechanisms (CD4CDM)		UNEP			<p>Project is intended to establish GHG emissions reduction projects that are consistent with national sustainable development goals, particularly in the energy sector.</p> <p>Objective is to develop national capabilities to formulate and implement projects under the CDM. This project helped link stakeholders in the Philippines with CDM stakeholders. IACCC served as the focal point agency in implementing CD4CDM. The following tasks of Capacity Development were identified: 1. Conduct information campaign and awareness raising. 2. Strengthen capacity of policy-makers. 3. Support establishment of Institutional framework for CDM. 4. Strengthen capacity of private and public sector players. 5. Create a pipeline of CDM projects.</p>	completed	mitigation	

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Palawan Alternative Rural Energy and Livelihood Support Project		GEF through UNDP			Aimed at reducing long term growth of GHG emissions through removing barriers to commercial utilization of renewable energy power systems to substitute for use of diesel generation in Palawan.	completed	mitigation	
National Capacity Needs Self-Assessment (NCNSA)-Climate Change Component	May 1 2004- Aug 31 2005				Focus: Identify key capacities to improve the country's ability to implement its obligations to the UNFCCC, UNCBBD and UNCCD. The project was set within the larger context of eventually developing an NCSA program.	completed	capacity building	

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Establishment of the CDM National Authority, Operational framework and support system for the Philippines	?	DENR through the Environmental Management Bureau that serves as Secretariat to the IACCC			Objectives: (a) Secure official designation of entity as National Authority for CDM- Result legal document stating mandate, DENR National Authority for CDM operational framework (b) provision of clear national CDM operational framework	completed	institutional / capacity building	
Capacity Building to Remove Barriers to Renewable Energy Development in the Philippines Project						on-going		

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Solar Homes Systems Distribution Project	2002-December 2007	Philippine National Oil Company-Energy Development Corporation (PNOC-EDC)	Euros 5.6 million (Grant)	Power, Energy and Electrification	The project aims to make solar systems available and affordable to the rural people through the use of photovoltaic systems for rural based electrification. It promotes community-based credit programs through cooperative initiatives. A total of 13,041 units of solar home system (SHS) have been installed in Regions CAR, I, II, III, IV-A, IV-B, V, VI, VII, IX, XII, ARMM.		mitigation	Netherlands Government

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Sustainable Energy Development Program	February 1999 - September 2008	Department of Energy	US\$6.5 million grant	Energy and Clean Air	The project aims to support the program of the Government of the Philippines on power sector reform, increased energy efficiency, rural electrification for renewable energy fuels in the energy and transport sectors to improve air quality and avoid greenhouse gas emissions. it has so far provided assistance to the Energy Regulatory Commission and the implementation of Philippine Clean Cities Program (PCCCP) through manpower capacity building in the form of mentoring the staff through trainings and workshops.		mitigation	USAID

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Energy and Clean Air Project	October 2004 to September 2008	Department of Energy		Energy and Clean Air	<p>The project seeks to address the challenges in the energy and transport sectors by: i) improving the supply of cleaner, affordable and reliable energy in power, transport and other applications; and ii) improving air quality through the reduction of vehicle emissions. Specific activities include: i) Strengthening Power Sector Regulation; ii) Strengthening of the Distribution and Supply Sectors; iii) Management Support for Energy Reforms; iv) Development of Energy Sector Policy and Regulatory Framework; v) Promoting Public-Private Partnership for Energy Reforms; and vi) Energy Efficiency.</p> <p>The area focus are the major urban centers : Manila, Baguio City, Cebu City, Davao City.</p> <p>In the clean air component, the project supports the DENR, DOTC and DTI implement the Clean</p>		mitigation	USAID

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Alliance for Mindanao Off-Grid Renewable Energy (AMORE) 2	October 2004 - September 2009	Winrock International	US\$10.5 million grant	Infrastructure/Energy and Electrification	The project aims to establish sustainable renewable energy systems in at least 200 remote rural communities in Western and Central Mindanao. This program also aims to contribute to peace and development initiatives in Mindanao by improving the quality of life in these communities.		mitigation	USAID

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Metro Manila Air Quality Improvement Sector Development Program (MMAQISDP) – Investment Component	29 December 1998 - 31 December 2007	DENR (Lead), DOTC, DPWH, MMDA, DOH	US\$71 Million (Loan)	Environment and Natural Resources	<p>The project seeks to improve air quality in Metro Manila and its surrounding provinces within its air shed through:</p> <ul style="list-style-type: none"> a) mitigation of air pollution from mobile sources (vehicular); b) mitigation of air pollution from stationary sources (industrial plants); c) improvement fuel quality; d) reduction emissions from vehicular use; e) reduction of traffic congestion and improve traffic flow; f) strengthening ambient air quality monitoring, evaluation, and reporting; g) intensification of public awareness of issues relating to air quality; h) monitoring coordination and implementation of the Air Quality Action Plan (AQAP); and i) strengthening capacity of the institutions involved. 	Delayed	mitigation	ADB

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Philippine Environmental Governance Project 2 (EcoGov 2)	1 October 2004 - 30 September 2009	DENR	US\$19 M (grant)	Environment (Multi-sector)	<p>The project aims to address critical threats to the country's coastal resources and forests, primarily over-fishing and use of destructive fishing practices and illegal logging and conversion of natural forests. It also aims to strengthen the ability of LGUs and communities to implement solid waste management. The regions covered include: II, III, VII, IX, XI, XII, ARMM. One of the components is on Improved Forest Management.</p>		mitigation	USAID

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Enhancement of Community-Based Forest Management Implementation in the Philippines (E-CBFM)	July 2004 - July 2009	DENR	PhP175 M (grant in-kind)	Environment – Forestry	The project aims to promote the conservation, rehabilitation and sustainable utilization of forests and land resources within CBFM areas through the initiative of the capacitated People's Organizations (POs) with the support from the DENR, LGUs and other relevant institutions. Area focus is Region 3.		mitigation	JICA

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Project Name	Year	Implementing agency	Amount	Sector	Description	Project Status	Mitigation or adaptation	Source
Environment and Rural Development (EnRD) Program	July 1, 2005 – January 30, 2009	GTZ, DAR, DA, DENR	€9.25 million	Agrarian Reform, Agriculture and Environment	<p>The program aims to contribute to the Philippine development objective of improving the performance of the institutions concerned with the political and strategic steering of sustainable management of natural resources as well as improving their services delivery in terms of structure, methods and contents. The program is built on the integration and complementation among ongoing technical projects – Leyte Island Program (DENR), Advisory Support to Environment and Natural Resources (DENR), Visayan Sea Coastal and Fisheries Resource Management Program (DA) and Support to Agrarian Reform and Rural Development (DAR). Are focus is on Regions 6 & 8. It has a component on Community Based Forest Management.</p>		mitigation	GTZ

Annex Table 6-5: World Bank-assisted Climate Change-related Projects in the Philippines

PROJECT NAME	ID	Commitment Amounts	Type	Country	Status	Approval Date
20 MW Palinpinon II Geothermal Optimization Project	P089576	0	Carbon Offset	Philippines	Active	09-Dec-05
Bacon Manito Geothermal Development Project	P004555	100	IBRD/IDA	Philippines	Closed	23-Jun-88
Rural Power Project	P066397	10	IBRD/IDA	Philippines	Active	04-Dec-03
Philippines: Northwind Bangui Bay Project	P087464	1.4	Carbon Offset	Philippines	Active	09-Dec-04
Electric Cooperative System Loss Reduction Project	P066532	12	Global Environment Project	Philippines	Active	29-Apr-04
Leyte Cebu Geothermal Project - PNOC - NPC	P004584	211	IBRD/IDA	Philippines	Closed	03-Feb-94
Energy Sector Loan Project	P004534	390	IBRD/IDA	Philippines	Closed	01-Feb-90
Laguna de Bay Community Watershed Rehab	P094573	0	Carbon Offset	Philippines	Active	30-Jun-06
PH - CLIMATE CHANGE ADAPTATION	P101076	5	Global Environment Project	Philippines	Pipeline	N/A
Northern Negros Geothermal Power Project	P098572	6.76	Carbon Offset	Philippines	Active	16-Feb-07
Supplemental Project to the Rural Power Project	P072096	9	Global Environment Project	Philippines	Active	04-Dec-03
MMURTRIP - Bicycle Network Demonstration Pilot	P066509	1.3	Global Environment Project	Philippines	Closed	21-Jun-01

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PROJECT NAME	ID	Commitment Amounts	Type	Country	Status	Approval Date
Laguna de Bay Community Carbon Finance Project	P088002	0	Carbon Offset	Philippines	Active	30-Jun-06
Agriculture Climate Risk Assessment In support of Philippines Climate Change Adaptation Project (TA)	IO2056074	0.283	Provention Consortium TA	Philippine	Active	Sep-07

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