EXPLORING SUSTAINABLE LOW CARBON DEVELOPMENT PATHWAYS

OVERALL SITUATION OF LOW CARBON DEVELOPMENT STRATEGIES (LCDS) IN PERU

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Providing sustainable development for all and fighting climate change – these are two major challenges the world faces today. The project "Exploring Sustainable Low Carbon Development Pathways" aims to point out ways how to combine both: climate protection and sustainable development. As a joint initiative by Friedrich-Ebert-Stiftung (FES), Bread for the World (BftW), World Wide Fund for Nature (WWF), Climate Action Network International (CAN-I) and ACT Alliance of Churches, the project is led by the common understanding that any future development model has to be:

LOW CARBON. That means with a minimal output of greenhouse gas emissions.

ECOLOGICALLY SUSTAINABLE. That means fully respecting planetary boundaries.

HUMAN RIGHTS-BASED. That means with a strong focus on poverty reduction and participation.

SOCIALLY INCLUSIVE. That means creating wealth and employment while absorbing negative social impacts.

JUST. That means equally sharing burdens and opportunities between different stakeholders.

NATIONALLY APPROPRIATE. That means respecting countries different backgrounds and challenges towards sustainable development.

The project was started in 2013 in four pilot countries: Kazakhstan, Peru, Tanzania and Vietnam. In close co-operation and ownership with different national partners from civil society, politics and science we aim to

- Explore Sustainable Low Carbon Development Pathways in these countries which could serve as regional and international examples.
- Show that Low Carbon Development is not only possible but economically and socially beneficial.
- Create platforms for dialogue at the national level for a range of different stakeholders.
- Support and intensify networks between civil society actors in the respective countries and regions.

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1. INTRODUCTION

The global economic growth of the last hundreds of years has been associated with low-cost energy obtained from fossil fuels which have contributed to the gradual increase in global temperatures and changes in weather patterns caused by emissions of carbon dioxide and other greenhouse gases (GHG). Although this trend has been verified, it is not known for certain the magnitude and speed at which these changes will occur at a regional and global scale. However, it has been possible to clearly identify the cause-effect relationship between GHG sources, GHG emissions, global warming and its climatic consequences. On this logic it has been possible to assess the consequences of climate change from different perspectives, and to consider the different adaptation and mitigation policies of states, civil society and actors involved in development cooperation.

Thus, two of the major challenges in the world today are to tackle climate change and eradicate poverty to give access to a sustainable development for all. To address these issues, solution alternatives must take into account the specificities of each country or region, a very important question when discussing climate change.

As a possble solution, the Copenhagen Accord (2009) makes reference[3] to „a low-emission development strategy", followed by the UN's Climate Change Conference in Cancun (2010), in which the concept of Low Carbon Development Strategies (LCDS) emerged with a focus on common but differentiated responsibilities to achieve emission-reduction goals. Thus, whilst emission-reduction measures are mandatory for developed countries, developing countries are encouraged to implement LCDS.

SITUATION IN PERU

Latin America and the Caribbean generate only 5% of the planet's GHG emissions. Despite this fact, the effects of climate change can be devastating for the region, since Latin America has the largest reserves of arable land, accounts for 25% of the world's forest resources, has vast reserves of potable water and is home to over 60% of total species on Earth (SEMARNAT and UNEP, 2006).

Peru is the third-largest country in South America and is home to the second-largest expanse of Amazon forest, the tropical mountain chain with the largest surface area, and is also home to 70% of the world's tropical glaciers. The country has a rich geographical, natural, socio-economic and cultural diversity. Its 73.3 million hectares of tropical forest, equivalent to more than 60% of its territory, are being threatened by deforestation caused mainly by an increase in migration from the Andes to the Amazon region and by agricultural expansion, the proliferation of illegal mining, unsustainable exploitation of forests and illegal logging, and mega-projects related to road and energy infrastructures. Other factors leading to deforestation include urban development, the communications infrastructure, oil exploitation, and illegal coca plantations. These causes are exacerbated and facilitated by a precarious land tenure system (MINAM, 2010).
Peru's contribution to global greenhouse gas (GHG) emissions is less than 1%. However, between 2001 and 2010, the country's economy grew at an annual rate of around 6%. During the same period, GHG emissions increased by approximately 15% as a result of multiple factors including, among others, deforestation, increased agro-industrial production, change in the energy matrix, and fuel consumption of the vehicle fleet. Among the main drivers directly involved in the production of GHG emissions in Peru are the forests, which represent 40.9%, agriculture 19.5%, energy 17.4%, transport 10.7%, and waste 7.6% (MINAM 2013). Therefore, as the country grows, the emissions increase, and with it the major challenge to maintain the pace of development and reduce emissions at the same time.

Climate change presents a number of challenges for Peru, principally to reduce vulnerability[4] and to ensure the availability of key resources such as forests, water and energy for basic household

[3] Decision Document /CP15, par. 2

[4] Peru is ranked among the 10 countries that are most vulnerable to climate change and it presents 4 of the 5 characteristics of vulnerability recognised by the UNFCCC. That is, despite its minor contribution to the problem, it is one of the most affected countries.

consumption needs and for subsistence activities that provide income for the poorest and most marginalised populations. Furthermore, the lack of access to energy sources can accentuate, and in some cases even perpetuate extreme poverty, especially in rural areas (Soluciones Prácticas, 2014). It is with regard to these issues that climate change presents significant opportunities for shifting to low-carbon development as part of a key step towards achieving the objectives of poverty reduction, economic growth and improved welfare (Mulugetta and Urban, 2010).

SOME KEY DEFINITIONS:

GREEN GROWTH: This means "fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. To do this, it must catalyse investment and innovation which will underpin sustained growth and give rise to new economic opportunities." (OECD, 2011).[1]

CERTIFIED EMISSION REDUCTION (CER): A unit corresponding to one metric tonne of carbon dioxide equivalent emissions. CERs are generated in the implementation phase of the project and are extended once this reduction has been accredited. They are credits that are traded in the Carbon Market.

LOW CARBON DEVELOPMENT (LCD): An economic development that integrates climate-resilient growth strategies through the reduction of greenhouse gas (GHG) emissions. (United Nations).

CARBON DIOXIDE (CO2): A naturally-occurring gas fixed by photosynthesis into organic matter. It is produced as a by-product of the combustion of fossil fuels and biomass burning, land-use changes and other industrial processes. It is the anthropogenic greenhouse gas that most affects the Earth's radiation balance. It is used as a reference for measuring other greenhouse gases and consequently has a global warming potential of 1. (IPCC, 2007).

GREEN ECONOMY: This refers to an economy that is low in carbon and efficient in its use of natural resources, in addition to traditional inputs such as labour, fossil energy and capital. A green economy values and invests in natural capital and offers the best conditions for ensuring sustainable growth, it seeks to conserve and preserve the environment and its sustainability for future generations1.

RENEWABLE ENERGY: Renewable energy is energy that comes from virtually inexhaustible natural sources, whether due to the immense amount of energy they contain or because they are naturally replenished.

LOW-CARBON DEVELOPMENT STRATEGY (LCDS): A low-carbon development strategy is a strategic plan to help a country change its development path and transform itself into an economy low in carbon emissions and resilient to climate change, thus achieving a sustainable development. (Project Catalyst 2009).

CLEAN DEVELOPMENT MECHANISM (CDM): This is one of the three mechanisms established in Article 12 of the Kyoto Protocol and is designed to provide a cost-effective way of supporting climate change mitigation actions, through the market. This helps non-Annex 1 Parties to achieve sustainable development and contribute to the ultimate goal of the UNFCCC. In this way, governments of industrialised countries and companies (natural or legal persons, public or private entities) sign agreements to meet targets for reducing greenhouse gases (GHG) by investing in emission-reduction projects which allow them to buy certified emission reductions (CERs) at a lower cost than in their markets.

NATIONALLY APPROPRIATE MITIGATION ACTIONS (NAMAS): Measures that include activities at the national, regional, or sectoral level that promote sustainable development and reduce GHG emissions.

CARBON MARKET: This is a market-based approach used for controlling pollution, providing economic incentives for achieving reductions in the emission of pollutants (Ewbank, R. Christian Aid).

MITIGATION: Technological change and substitution that reduces resource inputs and emissions per unit of output. It also involves implementing policies to reduce greenhouse gas emissions and to increase carbon capture". (IPCC 2007, Annex II, pg.84). In order to properly define a mitigation scenario we need to identify the production sectors or branches which directly or indirectly generate GHG emissions, which then become key or strategic sectors for mitigation policy; that is, they need to be addressed in a special way[2].

PARTNERSHIP FOR MARKET READINESS (PMR): The PMR is a global facility that provides funding for capacity development. It is a platform for exploring market instruments that support the reduction of greenhouse gas emissions. (World Bank 2014).

REDD+: This is a voluntary climate mitigation mechanism targeted at the forestry sector, enabling non-Annex 1 countries to get started in the post-Kyoto climate regime. It includes policy approaches and positive incentives for reducing emissions caused by deforestation and forest degradation in developing countries. Its functions also include conservation, sustainable management of forests and increasing forest carbon stocks in developing countries.

[1] Permanent Secretariat of SELA. La visión de la economía verde en América Latina y el Caribe. Caracas-Venezuela. SELA, SP/Di N°. 1-12, January 2012.

[2] Pablo Ruiz Nápoles. Crecimiento bajo en carbono y análisis estructural de la adopción de tecnologías asociadas con la mitigación de GEI: Los casos de Argentina y Brasil. Sustainable Development and Human Settlements Division, ECLAC, Climate Change Unit. Santiago de Chile, March 2013.

2. THE SCENARIO: FRAMEWORK CONVENTIONS AND TRENDS IN DEVELOPMENT MODELS – THE LONG ROAD FROM RIO '92

In general, the paths taken by both middle-income developed countries and developing countries have focused on the pursuit of institutionalisation and economic growth. While it is true that there has been remarkable economic growth over the past 20 years and progress has been made in reducing extreme poverty, these countries have not managed to significantly reduce inequalities, eradicate poverty or to decouple economic growth from environmental damage. Nor have they been able to transform their productive structures, which are still strongly based on natural- resource-intensive sectors (UNECLAC 2012).

A FEW MILESTONES AT THE INTERNATIONAL LEVEL

UNFCCC: The United Nations Framework Convention on Climate Change (UNFCCC) incorporated a very important line in one of the most successful multilateral environmental treaties in history: the 1987 Montreal Protocol, by virtue of which member states are obliged to act in the interests of human security, even in the absence of scientific certainty. The UNFCCC entered into force on 21 March 1994 and 195 countries have ratified it to date (Parties to the Convention).

KYOTO PROTOCOL: The first addition to the Convention, the Kyoto Protocol, was approved in 1997. The protocol was amended in Nairobi in 2006 to the United Nations Framework Convention on Climate Change. It was planned to adopt a new protocol in Copenhagen in 2009, but this had to be delayed and was moved to Mexico in 2010, where the concept of Low-Carbon Development Strategies (LCDS) emerged.

DECLARATION ON GREEN GROWTH: This concept was adopted at the Ministerial Council Meeting of the Organisation for Economic Co-operation and Development (OECD) on 25 June 2009, where ministers from 34 countries signed a Declaration on Green Growth, in which they stated that they would "strengthen their efforts to pursue green growth strategies as part of their responses to the crisis and beyond, acknowledging that green and growth can go hand in hand". (OECD 2011).

GLOBAL CLIMATE PROCESS IN RETROSPECT

2013 19th Conference of Parties (COP 19) in Warsaw, Poland.

2012 On the road towards the 18th Conference of the Parties (COP 18) in Doha, Qatar.

2011 17th Conference of the Parties (COP 17) in Durban, South Africa.

2010 The Cancun Agreements are drafted and widely accepted by the COP at the COP 16 conference. In these agreements the countries formalised the commitments they made in Copenhagen.

2009 The OCDE's Ministerial Council Meeting is held in June.
Work starts on drafting the Copenhagen Accord at COP 15 held in Copenhagen. The Conference of the Parties «takes note» of it and the countries subsequently make non-binding promises to reduce emissions and to implement mitigation measures.

2007 The fourth assessment report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) is published. The public becomes aware of the science of climate change. At COP 13 the Parties agree on the Bali Road Map, marking the path to an improved situation after 2012 via two working streams: the Ad Hoc Working Group on Further Commitments under the Kyoto Protocol (AWG-KP) and another group, established under the Convention, called the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA).

2006 The Nairobi work programme is adopted.

2005 The Kyoto Protocol enters into force. The first meeting of the Parties to the Kyoto Protocol (MOP 1) is held in Montreal. In accordance with the requirements of the Kyoto Protocol, the Parties begin negotiations on the next phase the Protocol, under the Ad Hoc Working Group on Further Commitments for Annex I Parties in accordance with the Kyoto Protocol (AWG-KP).

2004 The Buenos Aires Programme of Work on Adaptation and Response Measures is agreed at COP 10.

2002 World Summit on Sustainable Development (Johannesburg, 2002). An important topic addressed was the implementation of sustainable development and its financing, and the reaffirming of the importance of integrating the three spheres of the concept: environmental, economic, and social. The importance of eradicating poverty and promoting human development was also was highlighted. The Summit also approved the Latin American and Caribbean Initiative for Sustainable Development (ILAC), subsequently endorsed by the region's Forum of Ministers of the Environment.

2001 The third IPCC assessment report is published. The Bonn agreements are adopted following the 1998 Buenos Aires Plan of Action. The Marrakesh Accords are adopted at COP 7, which detail the rules for implementing the Kyoto Protocol.

2000 Millennium Summit. The Millennium Declaration was signed, establishing a set of objectives that formed the basis of the Millennium Development Goals (MDGs).

1997 The Kyoto Protocol is officially adopted at COP 3 in December.

1996 The Secretariat of the Convention is established to support action under the Convention.

1995 The first Conference of the Parties (COP 1) is held in Berlin.

1994 The United Nations Framework Convention on Climate Change enters into force.

1992 The Intergovernmental Negotiating Committee (INC) adopts the text of the Climate Convention. At the Earth Summit in Rio, the Framework Convention on Climate Change (UNFCCC) is ready for signing along with the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD).

1991 The first INC meeting is held.

1990 The first IPCC assessment report is published. The IPCC and the Second World Climate Conference call for a global treaty on climate change. The General Assembly of the United Nations begins negotiations on a framework convention.

1988 The Intergovernmental Panel on Climate Change (IPCC) is set up.

1979 The first World Climate Conference is held.

Source: UNFCCC, UNECLAC 2012

3. ACTORS IN THE LOW-CARBON DEVELOPMENT SCENARIO WHO ARE THEY AND WHAT ARE THEY DOING?

THE ROLE OF CIVIL SOCIETY

The environmental issue is connected with the basic interests of humans, both on a social and individual level; environmental problems go beyond the boundaries of the relationship between man and nature, since they affect people's quality of life, call into question economic decisions and current development models, pose cultural challenges, and threaten the survival of man and the planet.

Since the '70s and '80s, civil society organisations have been emerging all over the world to raise awareness in society about the importance of protecting the environment and to propose actions to governments aimed at reversing ecological degradation, constructing debates with the support of the scientific community about the conflict and inequity caused by the economic growth models and their negative externalities. However, the issue failed to get high enough on the political agenda to be able to influence government policies, owing to the prevalence of economic interests, and environmental degradation therefore continued.

Environmental organisations have developed rapidly since the Earth Summit in Rio (1992), specialising in specific themes or causes (education, environmental laws and regulations, public policies, etc.) and becoming institutionalised. In democratic contexts this led to spaces for different groups in society, permitting direct involvement in decision making by generating public opinion and highlighting demands in the media, and by negotiating initiatives and disagreements with executive and legislative powers.

Today, almost all United Nations meetings have public spaces for participation, constituting a victory for civil society, which contributes to developing the technical and political competency of States, among other aspects, in order to regulate international treaties. It is in this trend that organisations such as the International Trade Union Confederation (ITUC) and the Trade Union Advisory Committee (TUAC) for the Organisation for Economic Cooperation and Development (OECD) participated from the outset in negotiations on the implementation of the Kyoto Protocol, increasing the participation of union representatives from the developing countries, faced with evidence of the consequences of climate change and the need to implement adaptation measures and strategies in their countries (Maffei and Llano, 2010), and thus play an important role in the shift toward green and sustainable economies.

However, given to the fact that the outcome of the climate negotiations on emissions reduction being carried out by the governments of participating countries in the climate summits does not wholly meet the expectations of the public in general, there are increasingly more initiatives that seek greater awareness and social mobilisation, requiring public authorities to directly influence, by means of political pressure, those who make the decisions to adopt effective, equitable climate change policies (Climate Coalition, 2012).

SITUATION IN PERU

In Peru, one of civil society's principal roles is to promote greater equity in power relations between the State and the population, both at a national and local level. Furthermore, due to their proximity to local populations, and given their technical and resource mobilisation capacity, Civil Society Organisations (CSOs) play an important part in the environmental planning processes, LCDS and coordination among various stakeholders at local and regional level, facilitating access to information, participation in forums for dialogue and in policy advocacy, favouring the most vulnerable populations. This role also requires similar action at the national level, by expanding multi-stakeholder coordination spaces, making it essential for national governments to open up to address a variety of actors (Agrawal, 2009).

4. DEVELOPMENT COOPERATION AND LOW CARBON DEVELOPMENT IN PERU

FINANCING MECHANISMS

It is difficult to estimate the scale of climate finance owing to the diversity of sources, intermediaries, and the various financial mechanisms used. For example, in Latin America alone there are no fewer than 20 multilateral climate funds. Despite the observed growth, the offer of climate finance resources is still below the additional funding needs in the developing countries (Carbon Finance, 2014).

Initiatives exist, such as the programme „Promotion of low-carbon development and social cohesion in Latin America and the Caribbean" of the Economic Commission for Latin America and the Caribbean (ECLAC), and the German Agency for International Cooperation (GIZ), which seek to identify the opportunities of the challenges of climate change in order to bring about low-carbon growth and social inclusion in Latin America and the Caribbean. Similarly, the creation of the Green Climate Fund (GCF)[5], as an effective response to the impacts of climate change through channelling financial resources from developed countries to developing countries to help them mitigate and adapt to the impacts of climate change with low-emission and climate-resilient programmes. However, almost four years after its creation, the GCF still does not have any funds to disburse (AIDA, 2012).

Developed countries, being primarily responsible for climate change, provide financial flows to developing countries such as Peru, in addition to technology transfer and capacity building that enable mitigation and adaptation activities to be undertaken in developing countries (according to the UNFCCC, approximately USD 108 to USD 151 billion a year is needed until 2030 to finance these activities). Peru is in fifth position after Brazil, Argentina, Chile and Colombia as a destination for potential investment in reducing carbon emissions (MINAM 2013). It is the responsibility of the Ministry of Economy and Finance (MEF) to present Peru's position in this matter at the climate finance negotiation table, securing as much international funding for the country as possible given that its own resources are insufficient for addressing the effects of climate change and for developing adaptation and mitigation activities (MEF 2014).

This funding should be aligned with the National Adaptation and Mitigation Plans. At the level of national public funding, there exist new mechanisms for implementing national climate change projects, including the following:

- The National Public Investment System (SNIP) is contemplating a conceptual framework for disaster risk management (DRM) and, for formulating Public Investment Projects (PIPs), at profile level, is considering new guidelines that incorporate climate change and adaptation needs.

- The Ministry of Economy and Finance (MEF) is developing economic mechanisms and instruments to improve climate change risk management, such as the Peruvian Trust Fund for the Promotion of Natural Parks and Protected Areas (PROFONANPE), and to implement a Results-Based Budgeting system, requiring sector-based budgetary programmes, with measurable results and defined tools and procedures.

[5] The Green Climate Fund (GCF) was created in 2010 during the 16th Conference of the Parties (COP 16) to the United Nations Framework Convention on Climate Change (UNFCCC).

- The target for cooperation resources aimed at mitigating climate change is USD 100 billion a year by 2020 (MINAM 2013), which requires the government to maintain open dialogue and close coordination with different development partners, prioritising co-operation and co-financing schemes among these.

- *Carbon Market in Peru:* It is estimated that funding opportunities for energy efficiency and renewable energy projects in Peru will reach over USD 6 billion. Investments of USD 216 million are estimated for the REDD and CDM project portfolios (afforestation and reforestation), with the potential to avoid 71 million tonnes of COÐ (MINAM, 2013).

BELOW WE PRESENT SOME EMBLEMATIC CASES:

EXPERIENCE	DESCRIPTION	PROGRESS
Alto Mayo Protected Forest Conservation Initiative (BPAM) (San Martín region)	Unites the efforts of four NGOs led by Conservation International, and is coordinated with the management of Alto Mayo, the National Service of Natural Areas Protected by the State (SERNANP) and the MINAM. The project's area of action covers 340 thousand hectares and is aimed at reducing the deforestation rate by 30%. As part of these efforts, conservation agreements have been established with over 700 families in local communities and the BPAM management team.	By 2012, CO2 had been reduced by 2.8 million tonnes in the project area. The initiative's credits were validated by the Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity Alliance (CCBA), and it was the first NPA in public lands to obtain these carbon credit standard certificates in Peru.
National Forest Conservation Programme for Climate Change Mitigation (PNCBMCC)	This is a voluntary government programme aimed at the conservation of 54 million hectares of tropical forests as part of the contribution to climate change mitigation. The programme is carried out with the prior consent of native communities that wish to participate. To a large extent, the programme can be considered a State payment scheme for ecosystem services, similar to that of REDD+, and which may involve REDD+ activities in the future.	It involves 48 native communities, but in the future the system is expected to cover at least 10.5 million hectares of Amazon forest in community-owned land, for which about USD 198 million will be allocated (Peña et al., 2014).
Forest Investment Project (FIP)	The FIP is a climate fund set up by multilateral development banks and managed by the World Bank. Its aim is to support the efforts of developing countries to reduce emissions caused by deforestation and forest degradation by providing initial funding for necessary reforms. Peru has been one of the FIP's pilot countries since 2010 and has been allocated between USD 30 and USD 50 million.	Peru was chosen as a pilot country by the FIP in 2010. Since 2011 it has formed the National Steering Committee (SC-FIP) which leads the FIP's inter-sectoral implementation process in Peru. In 2012 the Memorandum of the Forest Investment Programme National Workshop were signed with grassroots leaders of the Confederation of Amazonian Nationalities of Peru (CONAP) and the Interethnic Association for the Development of the Peruvian Rainforest (AIDESEP).
CDM projects	Peru has undertaken a series of actions for the implementation, promotion and development of projects that qualify as a Clean Development Mechanism (CDM).	MINAM, as the designated national authority, has issued 86 National Letters of Approval for CDM projects that meet the sustainable development criteria, which is a prerequisite for registering the projects with the United Nations CDM Executive Board (MINAM 2013). The projects are diverse in nature (see Figure 1).

CDM PROJECTS IN PERU

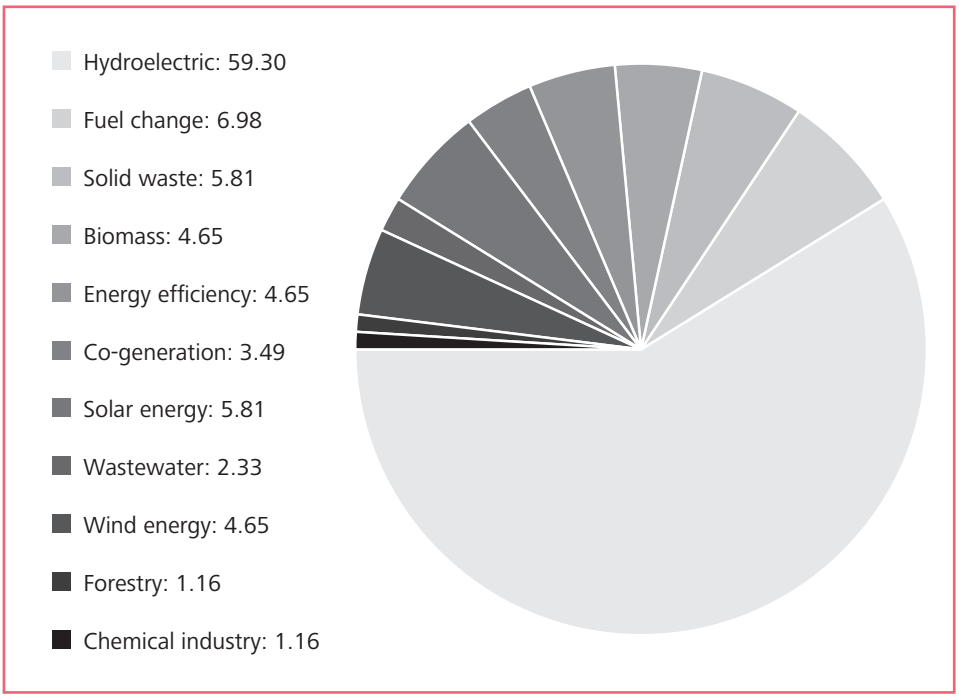

Figure 1: Fuente: Elaboración propia en base a MINAM 2013
Source: Prepared by the author based on MINAM 2013

4.1 LOW-CARBON DEVELOPMENT (LCD) POLICIES AND ACTIONS

4.1.1 LCD POLICIES IN THE GLOBAL CONTEXT

Due to the level of effort required on a global scale to reduce emissions, the effective, efficient and equitable agreement needed to mitigate climate change will necessarily require a coordinated global response that involves both industrialised countries and developing countries. One way to achieve this response is to shift to a "low-carbon" economy aimed at reducing or "mitigating" greenhouse gas emissions.

There is a global trend towards reducing emissions, reflected in a more than 100% increase in global investment in clean technologies, a growth in climate-related businesses, green jobs, and a high percentage of worldwide investment in renewable energy (40% investment in China, India and Brazil).

In this regard, numerous policies for low-emission development being implemented at the global level, some of which include:

- **POLICIES BASED ON COMMUNICATION TOOLS**, allowing consumers to make more informed decisions (energy awareness campaigns, labelling of low-emission products, etc.).
- **POLICIES BASED ON NORMATIVE INSTRUMENTS**, requiring the use of specific technologies to reduce emissions and to achieve a minimum level of productivity (e.g. promotion of biofuels).

- **REGULATORY POLICIES**, with taxes that affect the relative costs of low- and high-emission activities, based on measurable parameters such as tonnes of GHG produced. This makes high emission-activities more expensive (e.g., the carbon tax in British Columbia and South Africa).
- **SUBSIDY REFORM POLICIES**, which in summary eliminate the relative economic advantages granted to high-emission technologies and activities, and to fossil fuels (Yemen, Indonesia).
- **POLICIES BASED ON QUANTITATIVE MEASUREMENTS**, such as those that regulate the amount of renewable energy generated/distributed and the amount of savings through energy efficiency, resulting in a compliance market and a market price such as carbon permit trading schemes and green certificates (taken from the presentation by Marcos Castro. Interclima 2013).

4.1.2 LCD POLICIES IN THE REGIONAL CONTEXT (LAC)

With regard to global warming in a regional context, Latin America and the Caribbean (LAC) have a vested interest in the success of mitigation efforts and, although it is acknowledged that these challenges require a global response, LAC leadership would have a clear positive effect (World Bank, 2009). It is estimated that by 2050 it will cost LAC up to USD 100 billion a year to address climate change.

To this end, many Latin American and Caribbean countries are designing and implementing low-emission development strategies which articulate actions, policies, and plans to meet the social, economic and environmental development objectives through activities that reduce greenhouse gas emissions and build resilience to the impacts of climate change (LEDS LAC, 2013). In addition, regulatory frameworks are being expanded and strengthened.
The 26 Latin America and the Caribbean countries, each with different emphasis and policies, are attracting greater global investment in clean energy as a result of efforts made by the regions' governments to strengthen and expand the policies needed for the deployment of this market, and because of their support for local supply chains[6]. In this respect, regulatory frameworks on energy efficiency have been developed in Costa Rica, Peru, Colombia, Brazil, Mexico and Uruguay.

SOME INITIATIVES AND GOALS IN THE REGION

COSTA RICA: To achieve a carbon neutral economy by 2021.
MEXICO: To achieve a zero-emission net balance in the forestry sector by 2020.
BRAZIL: To reduce gross deforestation in the Amazon by 80% below historical levels (1996-2005) by 2020.
PERU: To develop a proposal for declining net emissions to equivalent to zero in the land use, land-use change and forestry sector (LULUCF) by 2021.

With regard to NAMAs, developing countries in LAC have made considerable progress over the past year in their development towards dealing with climate change, achieving sustainable development, and with respect to other benefits (Mitigation Action Implementation Network 2012). Lastly, in relation to the forest carbon market in Latin America, we found that over half of all global REDD offsets originated in the region.

[6] Investment in clean energy in Latin America and the Caribbean accounted for 6% of the US$ 268.7 billion invested in clean energy worldwide in 2012. The rapid fall in the cost of clean technologies such as solar and wind energy, together with a better investment climate, have made the generation of clean energy in the region an interesting and affordable market (Climascopio 2013).

4.1.3 LCD POLICIES IN PERU

Peru has the potential to progress rapidly towards a low-carbon future in the various sectors. For COP 20, it is working on a planning roadmap for low-carbon development in the country, which seeks to align the work agendas of the various actors, to define sectoral roadmaps, and to identify common links and gaps in order to establish the next steps towards LCD in Peru (UNDP 2013).

Despite efforts, relevant public policies on reducing greenhouse gas emissions are still scarce in Peru. However, with respect to climate change there are three state policies (the National Agreement on Poverty Reduction; Sustainable Development / Environmental Management; and Disaster Risk Management) which could be considered under the general framework of the climate change agenda in Peru.

Furthermore, management tools have been developed to support and lend substance to the political and institutional framework for national low-carbon development, such as the National Agreement, the Bicentennial Plan, the Multiannual Macroeconomic Framework, the National Environmental Action Plan and Agendambiente, which promote climate change management from different perspectives.

The National Energy Policy of Peru and the Master Plan Study for Rural Electrification by Renewable Energy are other examples of low-carbon development guidelines.

In this context it is important that the implementation of national development plans and strategies are focused on low-emission growth and climate resilience, which will provide a new opportunity, on a national level, for considering climate change and development in a more integrated, systematic and strategic manner, incorporating the climate issue as a key component in LCD and in development strategies in general (OECD 2013).

LCD MANAGEMENT / ADVOCACY TOOLS IN PERU

☐ HUMAN DEVELOPMENT REPORT 2013 FOR PERU (UNDP)	Its fundamental purpose is to put on the national debate agenda how climate change impacts on human development, and the need to adapt to change
☐ BICENTENNIAL NATIONAL PLAN AGREEMENT	These include low-carbon development guidelines that promote climate change management from different perspectives
☐ BICENTENNIAL PLAN	
☐ MULTIANNUAL MACRO-ECONOMIC FRAMEWORK	
☐ NATIONAL ENVIRONMENTAL ACTION PLAN	
☐ AGENDAMBIENTE	
☐ NATIONAL ENERGY POLICY OF PERU	
☐ MASTER PLAN STUDY FOR RURAL ELECTRIFICATION BY RENEWABLE ENERGY.	

REGULATORY AND INSTITUTIONAL DEVELOPMENTS

There have been some notable sectoral developments as regards climate risk management and low-carbon development, including the climate change issue as a new consideration for development, planning and investment opportunities (MINAM 2013). At least four ministries (MEF, MINEM, PRODUCE and MINAGRI) consider climate change directly in planning and management tools and by assigning specific explicit roles in the Regulation of Organisation and Functions (ROF), and at least two ministries (Ministry of Housing (Vivienda) and the Ministry of Transport and Communications (MTC)) consider climate change and climate risk management indirectly as a factor to be taken into account in management decisions. On a regional level, nine regions have an approved Regional Strategy on Climate Change, and there are 43 public investment projects in 13 regions, for a total viable sum of approximately 30 million US Dollar (Interclima 2013).

At the regulatory level, there are various sectoral developments that provide the framework for low-carbon development. Some of the more recent include the creation of new laws for diversified electricity production, including traditional and modern renewable energy, and the law on the promotion of investment in electricity generation using renewable energy.

INSTITUTIONALISATION OF LCD POLICIES IN PERU

MINISTRY OF ENVIRONMENT (MINAM)	In Peru, this is the main body responsible for REDD+ activities and projects. This is extended to all its administrative offices, decentralised bodies such as the National Service of Natural Areas Protected by the State (SERNANP), and programmes like the Forest Conservation Programme for Climate Change Mitigation (PNCBMCC). The Ministry of Agriculture and Animal Resources (MINAGRI) also participates, as the national forestry authority that carries out its activities primarily through the Regional Agricultural Directorates and the General Directorate of Forests and Wildlife (DGFFS).
MINISTRY OF ENERGY AND MINES (MINEM)	Promotes the use of renewable energies, proposing that by 2020 a third of Peru's energy matrix will include these; and that in the country's Energy Plan in the next 20 to 30 years, 15% of the energy matrix will be based primarily on energy efficiency. In addition, in the context of optimal use of the country's energy resources, the MINEM has developed the Energy Efficiency Referential Plan 2009-2018 for the four sectors included in the regulation: residential, production and services, public, and transport (Swisscontact 2012).
MINISTRY OF ECONOMY AND FINANCE (MEF)	Regulates the demand for petroleum products, through the Selective Consumption Tax (SCT) on fuel.

GAPS

To be able to develop low-carbon strategies, it is essential to create enabling conditions that will guarantee land tenure, improve governance of natural resources, inspection, forest monitoring, territorial planning, etc.

As in other LAC countries, there is no explicit regulatory framework for low-carbon development. Therefore, the binding regulations determine the rules and institutionality of public administration and private participation which must be taken into account in LCD strategies, plans, programmes, projects and initiatives.

RIGHTS TO ECOSYSTEM SERVICES: Rights related to carbon storage, in particular, are not yet entirely clear. It is hoped that the Ecosystem Services Draft and the Forestry Law No. 29763, when it comes into force (currently in regulatory process) will clarify uncertainty about the ownership of carbon rights in the different scenarios. This has consequences not only with regard to the lack of clarity about who can legally establish payment schemes for ecosystem services but also with regard to how the benefits will be distributed in the context of a REDD+ activity, or in the context of the future National Forests and Climate Change strategy (ENBCC).

REDD+: Greater clarity is needed in relation to property rights which will critically influence the ability of individuals and communities to participate in the decision-making processes that establish responsibilities and rights related to REDD+ activities, and also their ability to benefit from these (USAID, 2011). In this respect, the country must address outstanding issues such as the legal clearing of the forests by means of a land registry, and overlapping land rights as one of the main components for preparing REDD+. Indigenous groups and civil society actors have called for this and other gaps identified in REDD+ to be addressed.

REGULATION PENDING APPROVAL

The draft for a Climate Change Framework Law was recently submitted in the Congress of the Republic, providing the policy framework for climate change adaptation and mitigation. The draft also states the imperative need to implement the provisions of the United Nations and the transition pathway to a green economy, and also to promote education, research, development transfer of technology and innovation, and dissemination of information about adapting to and mitigating this phenomenon.

In the forestry sector, as the new Forestry and Wildlife Law (No. 29763) is in the process of regulation, the current law No. 27308 remains in force. The new law regulates forest ecosystem services more clearly and in more detail and it provides various forest zoning categories, explicitly recognising that in most of these one can "make economic use of the ecosystem services". The law also clarifies the ownership of ecosystem services and states that forest concessionaires of any kind "constitute right holders for the provision of ecosystem services" (Peña et al 2014).

In addition, approval is pending for the draft on "Promoting Payment Mechanisms for Ecosystem Services" (Draft law No. 786/2011-CR). This proposal seeks to clarify the legal framework for ecosystem services by defining situations related to payment for ecosystem services, including REDD+.

LCD INITIATIVES AND ACTIONS IN PERU

INITIATIVE / REGULATION / POLICY	INSTITUTION	SECTOR	COVERAGE
National Energy Policy of Peru 2010-2040 (S.D. No. 064-2010-EM)	MINEM	Energy	National
Law on promotion of investment in electricity generation using renewable energy	MINEM	Energy	National
PUBLIC AND GOVERNMENT INITIATIVES			
PROJECT PLANNING FOR CLIMATE CHANGE (PLANCC)[7] In it the country plans its low-carbon development, through establishing the technical basis and scientific capabilities for designing mitigation measures for the energy, agriculture, forestry, industrial process, waste and transport sectors that can be implemented in Peru in the long-term (2021 and 2050). Inter-ministerial cooperation projects which promote the Nationally Appropriate Mitigation Actions (NAMAs). Preparation for new Carbon Markets and Partnership for Market Readiness (PMR)[8], and developments related to the International Carbon Market (ICM)[9].	MINAM, MEF, MINRE, CEPLAN. COSUDE, CIFF, CDKN	Energy, transport, industry, waste, forestry and agriculture	National
NATIONAL CONSERVATION PROGRAMME FOR CLIMATE CHANGE MITIGATION (PNCBMCC)[10] Administered by the MINAM, it aims to conserve 54 million hectares of tropical forests by 2021, and to reduce the net deforestation rate to zero by 2021 (Che Piu & García, 2011). The PNCBMCC is generating conservation agreements with native communities (according to legal framework) to conserve the forests, prevent illegal logging and the illicit cultivation of coca leaf by paying 10 Soles (3 USD) per hectare for five years. The funds must be used for approved productive activities inside and outside the forest. The PNCBMCC also provides capacity building and technical assistance and monitors forest cover and work progress.	MINAM	Forestry	National
FOREST INVESTMENT PROGRAMME (FIP) Aims to contribute to achieving the goal of declining net emissions to equivalent to zero in the Land Use, Land-Use Change and Forestry category from 2010 to 2021, and has been financing investments in institutional capacity building, improving forest governance, forestry information and also investments in non-forestry sectors that help reduce the pressure on forests.	MINAM, MEF	Forestry and non-forestry	National

[7] Project participated in by the steering committee of the Ministry of Economy and Finance (MEF), National Centre for Strategic Planning (CEPLAN), Ministry of Environment (MINAM), Ministry of Foreign Affairs (MINRE), and the National Prospective Team formed by the various sectors and stakeholders involved.

[8] The PMR is a World Bank initiative that aims to build capabilities for evaluating, designing and ultimately implementing market-based instruments to reduce GHG emissions. Through this initiative, implementing countries receive funding and technical assistance to build these capabilities.

[9] The country is currently in the PMR and NAMA preparation phase (Climascopio, 2013). Progress has been made in NAMAS in the Construction Industry, Sustainable Low-Carbon Buildings pilot, Bioenergy, and the Emission Mitigation Programme in the Solid Waste and Transport sectors in Lima and Callao.

[10] Approved by the Council of Ministers and created officially through Supreme Decree No. 008-2010-MINAM of 14 July 2010.

PROGRAMME TO SUPPORT MITIGATION ACTIONS IN THE SOLID WASTE MANAGEMENT SECTOR IN PERU (NAMA)	MINAM	Solid Waste	National
MINISTRY OF ENERGY AND MINES OF PERU (MINEM), THROUGH THE GENERAL DIRECTORATE OF ENERGY EFFICIENCY (DGEE): Promotes energy-saving practices at the national level, through the development of the sector, with minimal environmental impact and low-carbon emissions within a framework of sustainable development, together with environmental regulations in line with the national environmental policy and international standards. Promotes strategies to decrease dependence on fossil fuels and hydropower, moving more towards efficient renewable energy. Although renewable energy installations currently represent less than 10% of total installed power capacity, it is a very important step with a clear trend.	MINEM	Energy	National
DEVELOPMENT COOPERATION INITIATIVES			
DEVELOPMENT PROGRAMME FOR SOLID WASTE MANAGEMENT SYSTEMS. Over USD 100 million will be invested in the Development Programme for Solid Waste Management Systems, which promotes the implementation of public health, environmental quality and sustainable development projects in 16 regions in Peru. These actions will benefit about 3.5 million people thanks to financing from the Inter-American Development Bank (IDB), the Japan International Cooperation Agency (JICA), and the Ministry of Environment and the municipalities (MINAM 2014). The IBD has also granted a loan for the development of a sustainable and efficient system for managing municipal solid waste in priority areas in Peru.	IBD, JICA, MINAM	Solid Waste	16 regions in Peru
PROMOTING MARKET OPPORTUNITIES FOR CLEAN ENERGY AND ENERGY EFFICIENCY IN PERU. Implemented under the Convention on Non-Reimbursable Technical Cooperation signed between the National Environment Fund (FONAM) and the Inter-American Development Bank (IDB/FOMIN). Its aim is to promote the use of renewable energy and energy efficiency by providing SMEs with economic incentives that support the use of low-carbon technologies. At least 37 projects have been presented to the MEM with regard to using wind power to generate electricity in several regions of the country, especially in the plains and deserts of the north, capable of generating 5,525 megawatts. The concessions are temporary and have been granted for companies to conduct studies.	IBD/FOMIN	Energy	National
USING AGRO-INDUSTRIAL AND AGRICULTURAL WASTE FOR ENERGY GENERATION (NAMA)	UNDP, European Commission, Germany and Australia	Construction	National

LOW-CARBON DEVELOPMENT FOR THE BUILDING MATERIALS SECTOR (NAMA)	UNDP, European Commission, Germany and Australia	Construction	National
LOW-CARBON BUILDINGS (NAMA)	Ministry of Environment Canada	Construction	National
RENEWABLE ENERGY AND ENERGY EFFICIENCY	GEF	Energy	National
SUSTAINABLE TRANSPORT FOR LIMA AND CALLAO	British Embassy	Transport	National
PRIVATE SECTOR INITIATIVES			
HUAYCOLORO LANDFILL	Petramás	Solid Waste	Lima (Huarochirí)
BIOFUELS	Industrias del Espino	Energy	National
MADRE DE DIOS AMAZON REDD PROJECT	Maderacre	Forestry	Madre de Dios

LCD PARTICIPATION MECHANISMS IN PERU

In addition to state-level participation, the involvement of other stakeholders in establishing national strategies is also important. There exists (according to studies by Project Catalyst, 2009) a positive correlation between the degree of public participation and the effectiveness of different national strategies (LEDS) and their continuity. The regular involvement and participation of different actors can increase political support for such strategies.

Peru is a member of the Regional Platform for Latin America and the Caribbean (LEDS LAC), a space for articulation and response to the common needs of the countries in the region that seeks to be a community that brings together international institutions and leaders in low-emission development in the region. LEDS LAC forms part of the Low Emission Development Strategies Global Partnership (LEDS-GP) that allies governments, international institutions and individuals to improve coordination, information exchange and cooperation to advance towards low-emission and climate-resilient development.

THE GREEN ROUNDTABLE is an important space for participation and serves as a platform for coordination and information exchange between the Government of Peru and international co-operation agencies in the environmental field. It seeks to improve the effectiveness of aid provided by international cooperations to government institutions and Peruvian society in relation to environmental matters, natural resources, and sustainable development, within the framework of the Paris Declaration.

REGIONAL ENVIRONMENTAL COMMISSIONS, led by regional governments as a forum for consultation, dialogue and engagement with the private sector and civil society, are spaces that allow for consensus and agreement on environmental initiatives and development processes at regional level to mitigate their environmental and social impacts.

REDD: There are various initiatives and opportunities for dialogue and collaboration at the national and regional level to improve the implementation of REDD+ in the country, including:

- **REDD GROUP PERU:** a public-private initiative, involving the participation of over 60 institutions, that seeks to improve implementation of mechanisms such as REDD+.
- **INDIGENOUS REDD+ ROUNDTABLE:** its main aim is to articulate and express the interests, rights, worldviews and proposals of indigenous organisations in national processes for the preparation and implementation of REDD+.
- **REGIONAL REDD+ ROUNDTABLES:** led by the regions themselves and which have made significant progress, as in the case of the San Martín region, which is working on the San Martín REDD+ strategy.

OPPORTUNITIES FOR PARTICIPATION IN THE CURRENT SITUATION

Low-carbon development offers many benefits for the country, such as generation of economic, social and environmental co-benefits, enabling the country to attract international financing and technology transfer. Furthermore, adopting LCD schemes can help prepare the country for entry into a low-carbon global economy and to avoid future trade barriers (MINAM 2013).

In December 2013 Peru hosted InterCLIMA and the Second Workshop of the Latin American and Caribbean Regional Platform (LEDS LAC), the outcome of which will enable the country to define a roadmap for low-emission development.

Peru will be hosting the next United Nations Climate Summit (COP20), being held in December 2014. COP 20 seeks to create key alliances and to define the path towards the signing of a new global climate agreement in Paris in 2015. The event could capitalise on a great opportunity to achieve binding policy agreements, as well as provide a space that would allow progress in the discussions on low-carbon development and would strengthen the country contribution process in relation to climate change mitigation.

COP 20 also provides an internal opportunity to create a national agenda, to stimulate policy-making through informed public debate and to position national issues (MINAM 2013). It also presents an interesting opportunity to articulate actors, encourage advocacy from civil society, and raise awareness and educate people on climate change and low-carbon development issues. It is in this context that Grupo Peru COP 20 was established, a civil society platform created for the Conference of the Parties (COP), recognising that civil society is as equally important as the States.

MUNICIPAL AND REGIONAL ELECTIONS 2014

The implementation of mitigation and adaptation policies will only be achieved and sustained through the participation and commitment of all levels in decision making. Subnational authorities (regions and municipalities) in particular are called to play a crucial role in actively incorporating climate change considerations and adopting policies, standards and climate-friendly investment decisions. However, a number of barriers need to be removed so that these key institutional actors can play a fundamental role in intensifying efforts to address climate change (UNDP 2009).

Regional and municipal authorities are responsible for a large number of areas that affect and/or are directly affected by climate change. In Peru, the regions have different transferred functions in relation to climate change and the definition of policies, plans and strategies aimed at sustainable development and the management of natural resources. In this regard, working groups should be established that bring together the different stakeholders to debate, construct and implement low-carbon development strategies, and that also allows the empowerment of local authorities.

Despite these good intentions, the major obstacles mentioned by the UNDP stem from a historical lack of coordination when designing sectoral public policies. This often results in a complex and overlapping regulatory framework when attempting to regulate inter-sectoring resources such as water or land7[11], for example. The State institutions are faced with these structural deficiencies on a daily basis, without clearly defining their binding mandates or actions[12].

Peru's challenge for the Municipal and Regional Elections in 2014 is to generate debate and take the decisions necessary to develop binding emissions-reduction proposals, and in this way promote a model that is closer to the green growth logic.

Various civil society initiatives exist, designed to highlight climate change issues at the local level. Institutions such as REMURPE[13], the PUCP and the PACC[14] have initiated communication campaigns for these issues to be included in public debates.

NEGOTIATIONS AND DIFFERENT AGENDAS: WHAT IS AT STAKE.

One of the biggest challenges faced worldwide by decision makers as regards climate change mitigation is to achieve consensus on a binding global agreement. In this context, we can see that Latin America acts individually or by subregional blocs. Even when there are differences of opinion on new mechanisms such as Reducing Emissions from Deforestation and Forest Degradation (REDD) which proposes, among other things, to acknowledge payment for environmental services, the truth is that most countries still do not have any national policies or regulations related to this issue.

It is necessary to establish an effective dialogue space among Latin American countries for negotiating common themes as a bloc, to give visibility to proactive positions that represent the voice of Latin America, to find points of agreement as a region and to take advantage of collaborative spaces in a balanced way.

[11] In the case of water, there are regulations that existed prior to the creation of the National Water Authority (ANA) that were created by sectors such as MEM, Ministry of Housing, of Production, and of Agriculture. With respect to land, there are existing provisions in the Energy and Mines, Environment, Agriculture, Culture, Housing, and other sectors.

[12] An illustrative example is delegating functions from central government to regional governments concerning land titling for Amazonian indigenous communities without transferring the capacity or funds to develop these; as well as binding powers associated with forest concessions. In territorial planning, regional governments have established in their act of corporation the role of "managing territorial planning actions" in their jurisdictions. However, TO legislation at the national level (following the creation of the GOREs) does not clearly define its functions

[13] The 9th Annual Conference of Rural Municipalities of Peru (CAMUR), held in Lima in October 2013 and organised by the Network of Urban and Rural Municipalities of Peru (REMURPE), worked on the roundtable "Sovereignty, food security, water and climate change on the 2014 political agenda"

[14] Through the initiative of the Pontifical Catholic University (PUCP) and the Climate Change Adaptation Programme (PACC), of the Swiss Agency for Development and Cooperation, a media campaign is being developed to highlight the importance of these issues in the proposals. The campaign seeks to persuade candidates to seriously discuss this issue in their election proposals. Entitled "Y tu candidato, ¿ya habla de cambio climático?" (Is your candidate already talking about climate change?) it is a Facebook campaign that began with the search for proposals to help adapt the people of Cusco and Apurimacto to climate change. However, thanks to this social network, the campaign reached people in several regions of the country, such as La Libertad, Arequipa, Loreto and other areas.

5. THE CONFERENCE OF PARTIES TO THE UNITED NATIONS CONVENTION ON CLIMATE CHANGE - COP 20:

Further binding agreements to reduce emissions are expected, which will include the developing countries[15], owing to changes in the global scenario since Kyoto. In this context, COP 20 will be a major responsibility for Peru. The country will be conducting the negotiations process from December 2014 to December 2015, when COP 21 begins, and has the responsibility of taking to Paris the binding global agreement that will replace the Kyoto Protocol in 2020. Similarly, funding must be established for the Green Climate Fund[16] as well as sanctions for states that violate the agreements.

With regard to civil society participation in the Convention this is a closed event. Apart from accredited representatives from the 194 countries (Parties), the press, the private sector (through non-profit organisations such as chambers of commerce), only organisations (non-governmental organisations (NGOs) with observer status can participate in the sessions[17]. The observer organisations – which must meet certain global standards and adhere to a code of conduct – can also attend sessions, propose side events on the negotiations grounds and participate in the official programme, to express themselves to the delegates (MINAM, 2013).

However, there are other opportunities for participation in the COP 20 in Lima –through advocacy actions, parallel events and voluntary contributions– which will allow all businesses, organisations and citizens to contribute to the national and global effort to address climate change, not only during the two weeks of the event, but also beforehand and afterwards (MINAM 2013). Such is the case with the proposals (submissions) that may be incorporated into the negotiation text by civil society, and it is therefore very important that COP participants collaborate with other stakeholders and allow their voices to be heard also.

In response to these restrictions on participation, the MINAM created the "Public Front of COP 20", which gathers together the State, NGOs, young people, trade unions, women and indigenous movements, its main function being to set up dialogues with various civil society groups and to create solidarity spaces for channelling proposals from civil society, as recognition of the importance of civil society in making binding agreements, and the need for their articulation regarding the processes for COP 20. The MINAM is also promoting other knowledge management initiatives targeted at different stakeholder groups, such as Citizens' Environmental Dialogues, Environmental Dialogues with the Press, and Business Environmental Dialogues.

[15] China, the main source of greenhouse gas, is still a developing country.

[16] The Green Climate Fund (GCF) was created as an effective response to the impacts of climate change by channeling financial resources from developed to developing countries. Nevertheless, almost four years after its creation, the GCF still does not have the resources to disburse.

[17] 50 representatives from Peruvian NGOs have applied for admission as observers to the event.

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