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Newsletter on the Climate Policy in Thailand

Issue 4, February 2015

Climate Policy

News

- At COP 20 in Lima, the Thai Minister of Environment, Dapong Rattanasuwan, announced the adoption of the Climate Change Master Plan (CCMP) 2014-2050 by the National Climate Change Committee, as well as the adoption of the Nationally Appropriate Mitigation Action (NAMA) Roadmap with the associated target of CO₂ reduction of 7-20% by 2020, compared to the Business-As-Usual (BAU) scenario with the reference year 2005.
- With the support of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Thailand has been working on the development of Intended Nationally Determined Contributions (INDCs). Due to the complexity of the topic and the tight time frame, the development of INDCs is considered a major challenge. In this aspect, the biggest hurdle lies in the availability of data. Data on CO₂ emissions of the different sectors are usually available only in insufficient quality. Moreover, they are not centrally collected, but are to be found in the sectoral ministries if available.
- The Government defines the area of waste as the central environmental and climate policy challenge. The Pollution Control Department (PCD) is responsible for the reduction of environmental pollution, the utilization of energy potential, as well as the reduction of emissions from the waste sector, which has been rapidly on the rise in the recent years.
- The Cabinet adopted the 2015 budget, for which 18 priority areas are defined. Four of these areas are directly related to the climate and environmental protection: Waste and environmental management, sustainable development and energy consumption, conservation of natural resources and disaster prevention.
- In its role as National Designated Authority (NDA) for the Green Climate Fund, ONEP manages the accreditation process for National Implementing Entities (NIE).
- **The background paper has been updated.**

Nationally Appropriate Mitigation Actions (NAMA)

News

- The NAMA Roadmap, which was adopted by the National Climate Change Committee and presented during COP 20 presented by the Minister of Environment, provides for the implementation of NAMAs, particularly in the areas of renewable energy, energy efficiency and transportation in order to reach the target of 7-20%.
- The RAC-NAMA project selected by the NAMA Facility will support the implementation of the first Thai NAMA. The RAC-NAMA was accepted by the NAMA Working Group of the NCCC. Currently, the partners are working together with GIZ on the development of a detailed implementation plan.
- The NAMA Focal Point (ONEP) plans to inform sectoral ministries in a roadshow of the support for the development and implementation of NAMA and thus to further bring forward the NAMA process in Thailand.
- **The background paper has been updated.**

Energy Efficiency

News

- The Ministry of Energy is in the process of setting up a "Top-Down Policy Center" firstly to support the Thailand's energy strategy and secondly to assure the implementation of the Energy Master Plan during the period of 2015-2036, which includes five further plans, namely the Power Development Plan (PDP), the Energy Efficiency Development Plan (EEDP), the Alternative Energy Development plan (AEDP), and the new Oil and Gas Consumption Plan. Additionally, the Provincial Energy Offices have been requested to act as key agencies in regard to the implementation under the policy framework of the revised strategy, as said by the Permanent Secretary Areepong Bhoocha-oom.
- The ESCO Revolving Fund established by the Department of Alternative Energy Development and Efficiency (DEDE) under the Thai Ministry of Energy has meanwhile reached its 3rd phase. With the financial support from the Energy Conservation Promotion Fund (ENCON Fund), the Fund called for private investment in the areas of renewable energy and energy efficiency at the amount of THB 525 million from April 1, 2013 to July 10, 2014. It is expected that the Fund will continue in the next phase as soon as ENCON gives its consent.
- The "monitoring and evaluation of the Energy Efficiency project" is a challenging topic in terms of its evaluation and review. To emphasize the importance and the hurdles of the topic "monitoring and evaluation of Energy Efficiency Policy", particularly when the national target of EEDP should be achieved, the TGP-EEDP project organized a workshop and a training on "Monitoring and Evaluation of Energy Efficiency Policies". At the workshop, the participants had the opportunity to share their knowledge about existing M&E tools and approaches used in Thailand and to learn new knowledge of international practices in regard to the "Monitoring and Evaluation of Energy Efficiency Policies", for example, those used in Germany or other European countries.

Renewable Energy

News

- Thailand plans to expand solar energy faster. Based on the announcements made in August 2014, the photovoltaic capacity of currently around 1,100 MW is expected to rise to approximately 3,000 MW by the end of 2015. The initial goal should therefore be achieved six years earlier than planned. The National Reform Council (NRC) has now proposed a program that should allow all citizens to install rooftop equipment and connect it to the network.
- Thailand's Power Development Plan is now available in a revised version and shall function as a comprehensive concept for an integrated energy planning. It integrates the previously parallel existing documents, such as the Alternative Energy Development Plan (AEDP, 2012-2021) and the Energy Efficiency Development Plan (EEDP, 2011-2030). The revised PDP 2015, which is laid out for up to the year 2036, will undergo a public hearing in February and will then be submitted for final approval. From April, the implementation should already have started. Based on the draft PDP 2015, the share of coal has been raised from 19% up to 25%.
- **The background paper has been updated.**

Sustainable Consumption and Production

News

- The 2nd Green Public Procurement Promotion Plan (2013-2016) was presented to the Cabinet on January 12, 2015 for approval. Should the Cabinet approve the plan, the Comptroller General Department (CGD) under the Ministry of Finance will be assigned to amend the "Regulations of the Office of the Prime Minister on Procurement B.E. 2535 (1992)" and in this way support the implementation of the GPP. At the same time, the Department of Local Administration (DLA) under the Ministry of the Interior (MoI) is designated to amend the "Regulations of the Ministry of Interior on Procurement of Provincial Administration B.E. 2535 (1992)" and align them with the "Regulations of the Office of Prime Minister on Procurement B.E. 2535 (1992) and the amended regulations".
- The Pollution Control Board has recently established the Technical Committee, which should deal with the development and integration of the criteria for GPP products and services.
- In order to strengthen the Thai Green Public Procurement, the PCD has developed a new GPP database, a GPP life cycle tool kit, as well as an online M&E and registration system for manufacturers of green products.

Adaptation to the Climate Change

News

- The Climate Change Master Plan, which was adopted by the National Climate Change Committee in 2014, provides the framework for the Thai commitment to climate protection, including in the area of adaptation. As focal sectors in terms of adaptation, the Master Plan refers to the water sector, agriculture and food security, tourism, public health, management of natural resources and adaptation to the climate change in cities and municipalities.
- The Office of Natural Resources and Environmental Policy and Planning (ONEP) under the Thai Ministry of Environment has started up the preparation of the National Adaptation Plan (NAP) in order to strengthen the mainstreaming of adaptation into the strategies and plans of sectoral ministries, as well as at subnational level. The NAP should be based on a detailed Climate Change Risk Analysis (CCRA), which is part of the IKI project proposal developed by GIZ. With the commissioning of this project, the preparation of the analysis of the climate changes to be expected in Thailand, the resilience and the associated risks will commence.
- As one of the countries which have been most severely affected by the climate change worldwide, Thailand places a focus in the field of climate protection on adaptation to the climate change. Although Thailand is also involved in the area of mitigation, it has always emphasized that the area of adaptation is at least just as important for Thailand. From this perspective, Thailand represents the view that adaptation should also be part of the INDCs and calls for an even distribution of GCF funds for adaptation and mitigation.
- **The background paper has been newly prepared.**

Flood and Drought Management

News

- The current Government has been preparing a 10-year master plan with a volume of THB 900 billion. The plan is based on the results of the so-called public hearings that were nationally organized and held in September last year. Cornerstones of the strategy will be comprehensive and integrated analyses of the water sector, which apart from flood protection also include measures against drought and improvement of water quality. The funding in the next 10 years should come from the current budget and should not cause an increase in the budget deficit.
- The projects shall be implemented under the patronage of several government organizations, such as the Department of Water Resources, the Royal Irrigation Department, the National Council for Peace and Order (NPCO), as well as non-governmental organizations and representatives of the civilian population.
- For 2015, THB 108 billion has already been approved by the Cabinet for projects nationwide. The largest part (THB 70.6 billion) will be allocated for water for agriculture, THB 16.9 billion for protection against flooding and THB 12.8 billion for urban water management. The rest will be spent on water management in general, erosion control and rehabilitation measures.

Biodiversity

News

- The 4th National Biodiversity Strategy and Action Plan (NBSAP) developed in 2014 by the Office of Natural Resources and Environmental Policy and Planning (ONEP) under the Ministry of Natural Resources and Environment is in the process of adoption by the Thai Cabinet.
- The Ministry of Environment agreed with the Ministry of Industry on a joint initiative to contribute to an improved mobilization of private sector funds for biodiversity protection.
- Thailand is currently preparing for the ratification of the Nagoya Protocol.
- The background paper has been updated
- **The background paper has been updated.**



A world map showing Thailand highlighted in orange. The orange area covers Thailand and parts of its surrounding regions, including parts of Laos, Cambodia, and the southern tip of China. The rest of the world map is in a light green color.

Background Information on the Climate Policy in Thailand



Background and Development Target of the Partner Country

As the second largest economy in Southeast Asia, Thailand is one of the emerging countries important for climate protection. The economic growth of recent years has led to a continuous increase in CO₂ emissions in Thailand, as well as a heavy loss of primary forest areas. At the same time, Thailand is one of the countries around the world which are most severely affected by the consequences of the climate change, with a large potential for CO₂ reductions. As an active member of ASEAN and a major economy in the region, Thailand can assume a leading role and become a reference point for its neighboring countries.

In accordance with the decision of the National Climate Change Committee (NCCC), Thailand has set a target to reduce 7-20% of its CO₂ emissions by 2020, compared to the BAU scenario with the reference year 2005. This target has been introduced as a pledge during COP 20 in Lima by the Thai Minister of Environment. 7% of the emission reductions shall be achieved through domestic NAMAs, the implementation of which will bring about a cost reduction in the short term. The additional savings of up to 20% shall be achieved through supported NAMAs, particularly in the areas of energy efficiency, renewable energy and transportation. In this regard, international funds shall be raised to cover the incremental costs of measures for a less CO₂ intensive development.

The Thai pledge on the reduction target of 7-20% by 2020 measured by the BAU is a step in the right direction. In 2014, the development process to define the Intended Nationally Determined Contributions (INDCs) was started up by Thailand, led by the Office for Natural Resources, Environmental Policy and Planning (ONEP).

While Thailand strives to contribute to the reduction of greenhouse gas emissions, adaptation to the climate change also has a high priority. Thailand is one of the countries around the world which are mostly affected by the consequences of the climate change in accordance with the Climate Risk Index (CRI) of Germanwatch. Also in response to the increasing extreme weather events and rising costs, the Ministry of Environment by ONEP has initiated the process for the development and implementation of the National Adaptation Plan (NAP) based on a Climate Change Risk Assessments. Thailand aims to define development-oriented adaptation measures in the NAP. Although data required for the risk assessment are mostly available in international and national sources, they are currently not systematically evaluated and utilized.

The current political situation in Thailand and the takeover of office by the interim government currently does not have discernible adverse impacts on the development of the climate policy in general, neither on the definition of INDCs or the announcement of the pledge at COP 20 in particular. On the contrary, the Government has made important climate policy decisions. For example, the National Climate Change Committee not only confirmed in November the reduction targets of 7-20% by 2020 compared to the BAU scenario, it also confirmed the Climate Change Master Plan, which has been existing for years and was developed with the support of BMUB.

Laws and Strategies

A central component of the climate policy is the Climate Change Master Plan (CCMP). It defines the short-, medium- and long-term mitigation, adaptation and capacity development targets for different sectors. The preparation was supported by the IKI, and the CCMP was confirmed by the NCCC. A Cabinet decision is still pending, but this is only considered a formality as all important sectoral ministries in the NCCC have already given their agreement.

Currently, the Climate Change Action Plan (formerly called the Climate Change Strategy) is being developed by ONEP with the support of IKI. The action plan has a duration of 5 years and defines measures to achieve the short- and medium-term targets of the CCMP for this period. A first draft of the strategy was discussed in public hearings and is now being revised with the support of GIZ.

In 2015, the development of the National Adaptation Plan (NAP) should commence in Thailand. In addition to the Climate Change Master Plan and Action Plan, the NAP represents the third central document of the climate policy in Thailand and will complete the instruments of the climate policy at national level.

Additional plans important for the mitigation are the Energy Efficiency Development Plan 2011-2013, the Alternative Energy Development Plan 2008-2022 and the Thailand Power Development Plan 2012-2030 of the Ministry of Energy (MoE). The MoE is currently working on the standardization of the time frames and the targets defined in the plans. For the transportation sector, the National Transport Master Plan defines the framework.

Institutional Set-up

The National Climate Change Committee (NCCC) is headed by the Prime Minister and has the mandate to define the national climate policy. Members of the Committee are the Ministry of Environment and its subordinate agencies, as well as other sectoral ministries, whose working areas are closely connected with the climate change.

The Thai Ministry of Environment (MoNRE) is responsible for matters related to environmental and climate protection in Thailand and represents Thailand at international climate negotiations, just as recently the case at COP 20 in Lima. MoNRE is a partner of BMUB in the German-Thai dialogue on climate change, as well as at the annual steering committee meeting on the German-Thai climate cooperation.

As a subordinate agency of MoNRE, ONEP takes over the central tasks in the field of the climate policy. In this regard, ONEP is currently working on the development of the climate strategy and will later deal with the NAP development from 2015. In addition, ONEP represents Thailand as UNFCCC Focal Point and assumes the role of NAMA Focal Point within the government.

The development of INDCs is also coordinated by ONEP. Furthermore, ONEP is the National Designated Authority of Thailand in the GCF process. In pursuing all central tasks related to the climate protection, ONEP has been supported by the IKI. Additional important subordinate agencies under the Ministry of Environment are the Thai Greenhouse Gas Management Organization (TGO) and the Pollution Control Department (PCD).

The Ministry of Energy (MoE) is responsible for the area of energy supply and energy consumption. Planning of the MoE is of great importance to the climate policy as the reduction potential in Thailand is identified to be particularly in the areas of energy efficiency and renewable energy. Major subordinate agencies of the MoE are the Energy and Policy Planning Office (EPPO) and the Department for Alternative Energy Development and Efficiency (DEDE).

Another key player in the climate policy is the Ministry of Interior (MoI). Cities and regions fall under the MoI's responsibility. Thus, the implementation of climate protection measures depends heavily on the cooperation of MoI at subnational level.

BMUB – Support in the Sector

The BMUB currently promotes the development and implementation of two of the three key instruments for the climate protection, namely the Climate Change Master Plan and the climate strategy. For the development of the third key instrument, the BMUB has opted for a sketch prepared by GIZ. The relevant proposal is currently in the process at BMUB. Additionally, ONEP receives support from the BMUB in the development of INDCs.

In addition, the BMUB supported Thailand in the development of NAMAs through a large number of projects implemented by UNEP, CCAP, ECN and GIZ among others. The application submitted by ONEP to NAMA Facility for the promotion of Refrigeration and Air-Conditioning (RAC) NAMA was confirmed in the first stage of the selection process. The appraisal mission of the RAC-NAMA project will commence in early 2015.

The largest reduction potential in Thailand is recognized in the energy sector. Currently, the MoE still receives the BMUB support through the project "National Energy Efficiency Plan as a Core Element of Emission Reduction Strategy" until the end of 2015.

In regard to REDD+, the BMUB promoted the meanwhile discontinued project of WWF. In the area of adaptation to climate change which is important for Thailand, the IKI supported Thailand through a project on ecosystem-based management in water catchment areas.



Background and Development Target of the Partner Country

In the coming years, the economic growth achieved by Thailand as an ambitious emerging country will be accompanied by an increase of CO₂ emissions. While the emissions accounted for 192.724 ktCO₂ in 2005, the Thai government estimates that the emissions will increase to 367.437 ktCO₂ in 2020 under the Business-As-Usual (BAU) scenario. This represents almost a doubling of CO₂ emissions in 15 years. In order to limit the increase of CO₂ emissions, Thailand has set a target to avoid 7-20% of CO₂ emissions under the BAU scenario by 2020. The target was introduced in 2014 by the Minister of Environment as a pledge within the frame of COP 20 in Lima. In this context, 7% of the reduction shall be generated by domestic NAMAs that are funded by the country's own budgets. Through domestic NAMAs, measures which can be re-financed in a short period of time shall be implemented. This should lead to an expected reduction of 23.330 ktCO₂ by 2020. The savings of higher than 7% up to 20% shall be achieved through supported NAMAs and are therefore dependent on the international support in the area of mitigation. Through the implementation of supported NAMAs, up to 49.658 ktCO₂ shall be saved by 2020. The largest saving potential is recognized in the development of renewable energies, in increasing energy efficiency, as well as in the transportation sector.

To take account of the growing importance of NAMAs, the Office for Natural Resources and Environment Policy and Planning (ONEP) was designated as the national NAMA focal point. In the mentioned capacity, ONEP shall not only incorporate developed NAMA concepts in the NAMA registry, but also support other sectoral ministries in the development of NAMAs, using a relevant MRV system. The exact responsibilities of the NAMA focal points are currently being defined with the support of IKI.

At the same time, Thailand has been working on the development of NAMAs. In this regard, a most advanced NAMA aims to increase energy efficiency and reduce F-gases in the area of cooling technologies (RAC NAMA). The development of this NAMA was supported by GIZ through the funds of BMUB. As well for its implementation, the BMUB has now pledged funds in cooperation with the British Ministry of Environment (DECC). The RAC NAMA plans to achieve, through collaboration with partners from the government, producers of RAC equipment, customers and banks, a transition to climate-friendly cooling technologies. Currently, the GIZ has been arranging for a detailed preparation of project implementation in cooperation with the partners.

Besides the Ministry of Environment, the Ministry of Energy and its subordinate Energy Policy and Planning Office (EPPO) have also been working on the development of NAMAs. The central document for increasing energy efficiency in Thailand is the Energy Efficiency Development Plan (EEDP), for the implementation of which measures have been developed, targeted at different energy-intensive sectors. These measures will be worked out in detail as NAMAs, using a relevant MRV system. The Ministry of Transport has also taken the first steps towards the development of NAMAs and thus allows for meaningful expectations for the reduction in the transportation sector.

Laws and Strategies

The Climate Change Master Plan which was developed with the IKI support and confirmed in 2014 by the National Climate Change Committee is the framework document for the climate protection in Thailand. The Climate Change Action Plan (formerly called the Climate Strategy) defines measures to achieve the short-term goals of the Master Plan.

In the area of energy efficiency, the Energy Efficiency Development Plan is the authoritative document. On the basis of the energy intensive sectors defined by the Plan, NAMAs are designed to increase energy efficiency. For the development of renewable energy, the Alternative Energy Development Plan 2008-2022 was set to be a framework document. However, no NAMAs have yet derived from the document although renewable energy in Thailand offers a significant reduction potential.

The National Transport Master Plan 2011-2020 defines targets in the area of transportation.

The Thailand Greenhouse Gas Management Organization (TGO), which is a subordinate agency under the Ministry of Environment, is also involved in the development of MRV systems of NAMAs.

The Ministry of Energy (MoE) is responsible for the area of energy supply and energy consumption. It is of great importance in terms of the climate policy since a large part of the reduction potential of 7-20% identified in Thailand and to be tapped through NAMAs lies in the field of energy efficiency and renewable energy. Major subordinate agencies of the MoE are the Department for Alternative Energy Development and Efficiency (DEDE) and the Energy and Policy Planning Office (EPPO), which is currently working on the implementation and the derivation of NAMAs from the Energy Efficiency Development Plan.

For the development and implementation of NAMAs in the transportation sector, the Ministry of Transport is responsible.

Institutional Set-up

The National Climate Change Committee (NCCC) is headed by the Prime Minister and has the mandate to define the national climate policy. It is therefore also for the development and implementation of NAMAs of relevance. Members of the Committee are the Ministry of Environment and its subordinate agencies, as well as other ministries, whose working areas are closely connected with climate change. The Secretariat of the Committee is located at the Ministry of Environment.

The Thai Ministry of Environment (MoNRE) is responsible for matters related to environmental and climate protection in Thailand and represents Thailand at international climate negotiations just as recently the case at COP 20 in Lima. MoNRE is a partner of BMUB in the German-Thai dialogue on climate change, as well as at the annual steering committee meeting on the German-Thai climate cooperation.

As a subordinate agency of MoNRE, ONEP and in particular its Department of Climate Change Coordination and Management (CCMC) assume key responsibilities in the area of the climate policy. In this context, CCMC is currently working on the development of the Climate Change Action Plan and assumes the role of the NAMA Focal Point within the government. In this function, ONEP shall support other sectoral ministries in the development of NAMAs and in the submission of developed NAMAs in the NAMA registry or to the NAMA Facility.

BMUB – Support in the Sector

As part of the IKI project "Support to the Development and Implementation of the Thai Climate Change Policy", the BMUB supports the Thai Ministry of Environment through ONEP in the development of the climate change strategy. The project also provides ONEP with advice on the definition and fulfilment of its duties as the national NAMA Focal Point in the process of NAMA development, as well as on its cooperation with sectoral ministries.

The Ministry of Energy through EPPO is supported by the IKI project "National Energy Efficiency Plan as a Core Element of Emission Reduction Strategy" in the derivation of NAMAs from the Energy Efficiency Development Plan.

In addition, the BMUB promotes global projects aimed at developing NAMAs with components in Thailand, which have been implemented by the World Resources Institute and the Center for Clean Air Policy among others. With the support of IKI, the RAC-NAMA was as well developed, which will be the first NAMA to be implemented by Thailand with the support of the NAMA Facility.



Energy Efficiency



Background and Development Target of the Partner Country

Thailand is the largest electricity consumer among Southeast Asian countries and this trend is likely to continue in the decades to come. In recent years, the electricity demand has continuously been growing by 6% per year. The energy sector is the largest contributor to GHG emissions in Thailand, accounting for about 67% of total emissions (159 MtCO₂eq in 2000). GHG emissions in the energy sector are almost exclusively due to the combustion of fossil fuels in energy industries, manufacturing industries, and transportation. According to Thailand's Directive on Development of Emission Inventory Data and model (TGO, 2010b), the total GHG emissions are expected to double from the 2000 level to around 500 MtCO₂eq in 2020 and to rise to 1.3 bntCO₂eq in 2050 (TGO, 2011). In the recent development of the Thailand GHG emissions reduction pledge, Thailand aims to realize all of its GHG emission reduction in the energy sector, with reductions equally expected to come from energy efficiency in all end use sectors and renewable energy on the supply side.

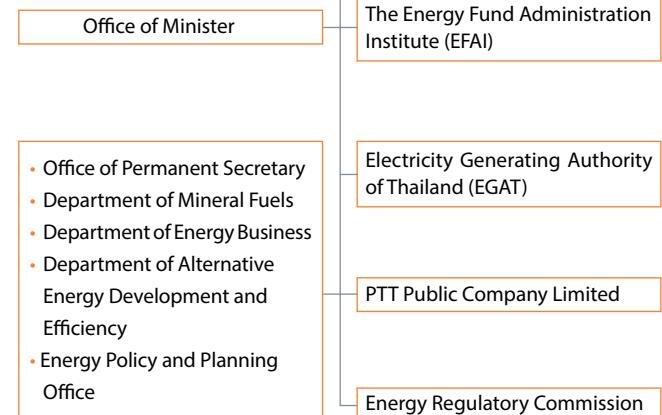
In the early 1990s, the Thai government laid the foundation for transformative energy policy planning in the country by passing the Energy Conservation Promotion Act in 1992 that set energy efficiency standards for industry and by establishing an Energy Conservation Promotion Fund, which raised funds for energy efficiency projects by taxing petroleum products. In order to develop understanding of energy efficiency projects amongst banks, the Thai government introduced an Energy Efficiency Revolving Fund in 2002, offering credit lines - initially at no interest - to local banks so that they could provide loans for energy efficiency projects. The Revolving Fund made commercial banks more familiar with energy efficiency projects, and by 2010, it had financed projects worth a total investment of more than 300 million €, resulting in energy cost savings in the region of more than 100 million € each year.

Thailand is now embarking on a 20-year Energy Efficiency Development Plan (EEDP) funded through the Energy Conservation Promotion Fund, which aims to reduce the country's overall energy consumption by 20% by 2030 compared to 2010. Building an enabling environment for investment in clean energy is an ongoing process. As Thailand moves forward with its 20-year plan, it must continue undertaking readiness activities - such as training programs to address remaining skill gaps - to ensure it has the right conditions in place to scale up clean energy development.

Laws, Policies, and Strategies

The three main energy policy plans in the Thai energy sector relevant to date are the Alternative Energy Development Plan 2012-2021(AEDP), developed by Department of Alternative Energy Development and Efficiency (DEDE) in the Ministry of Energy (MOE), the Power Development Plan 2010-2030 (PDP) which is the main planning instrument of Thailand's Electricity Generating Authority (EGAT), as well as the Energy Efficiency Development Plan 2011 - 2030 (EEDP) of the Energy Policy and Planning Office (EPPO). The following figure provides an overview of the main policy instruments and respective target sector.

MINISTER OF ENERGY



Energy Supply	Industry	Transport
Alternative Energy Development Plan 2008-2022 (previous govt.) Alternative Energy Development Plan 2012-2021 (present govt.) Dept. of Alternative Energy Development and Efficiency (DEDE)		
Power Development Plan (PDP) 2010-2030 Electricity Generating Authority of Thailand (EGAT)	Energy Efficiency Development Plan (EEDP) 2011-2030 Energy Policy and Planning Office (EPPO)	
Industrial Development Master Plan 2010-2014 Office of Permanent Secretary of Industry	Transport and Traffic Master Plan 2012-2021 Office of Transport and Traffic Policy and Planning (OTP)	

Institutional setup

The Ministry of Energy (MoE) is the main government institution responsible for energy in Thailand. Under the MOE, there are six departments and four state enterprises, as shown in the figure below. The Energy Policy and Planning Office (EPPO) is in charge with setting energy policy, measures and plans while the Department of Alternative Energy Development and Efficiency (DEDE) is the main department responsible for development of implementation of renewable energy and energy efficiency programmes.

Support of BMUB

TGP-EEDP or Thai-German Programme on Energy Efficiency Development Plan, commissioned by the German Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (BMUB) to contribute to the further development of the 20-year Energy Efficiency Development Plan (EEDP, 2011-2030) and to support the actions and to assist the implementation of the plan which targets to reduce energy intensity (Energy consumption/ GDP) by 25% in 2030, compared with that in 2010. The 3-year project has officially started in May 2012 and will run until 2015. The project partners of TGP-EEDP include the Energy Policy and Planning Office (EPPO), the Department of Alternative Energy Development and Efficiency (DEDE) and the Thailand Greenhouse Gas Management Organization (TGO). In particular the project aims at promoting the increase of energy efficiency in industry and building sectors by supporting the implementation of the EEDP plan which will have a direct impact on CO₂ emission reduction. The main activities of this project are divided into four work packages (WP):

WP1: Developing baselines and energy efficiency indicator (EEI) for sectoral or sub-sectoral level with EPPO, DEDE and the experts from Enerdata (in addition to existing aggregated baseline so-called Energy Intensity (EI)

WP2: Supporting energy efficiency standards such as the uptake of Building Energy Code (BEC) and developing policy framework by setting up "series of focus group meetings" for Energy Efficiency Resource Standards (EERS) which is obligation with energy saving targeting for utilities

WP3: Strengthening ESCO business in Thailand and supporting incentive instruments to promote Energy Efficiency in industry and building; firstly to assist EPPO to set up the pilot project for "Standard Offer Programme: (SOP) which is a subsidy programme for SMEs, secondly to support DEDE by conducting an analysis of incentive mechanism for EE building labeling

WP4: Integrating energy efficiency policy and monitoring mechanisms into Climate Policy by developing MRV system for energy efficiency measures which can be deployed to domestically supported and internationally supported NAMA



Renewable Energy



Background and Development Target of the Partner Country

With an import rate of around 55-60%, Thailand is heavily dependent on energy imports, which is one of the main reasons why Thailand promotes the development of renewable energy. Thailand reaches with an electrification rate of 99% one of the highest values in Southeast Asia. However, the issue of energy supply security is of great importance due to the high import rate. Since power outages occur regularly partly in some widespread areas in the country, renewable energies are definitely perceived by the decision makers and the public as an option for cleaner energy production.

Against the background of the planned expansion of coal power, as well as the allocation of additional licenses for the oil and gas exploration, (at least a first quiet) discussion about a **transformation of the energy supply system** has begun in Thailand. In early January, the National Reform Council (NRC) voted in favour of a simplification of installation of rooftop equipment and recommended to include this decision to promote of PV in the new Power Development Plan (PDP). In addition, the panel by a large majority rejected an application for the development of oil and gas exploration. Although the decisions represent only a recommendation, which the Government most probably may ignore, the processes show that first confrontations in the politics and the press are taking shape with the question arising how a (sustainable) energy supply system of the future should look like.

In the first quarter of 2014, the majority of Thailand's power generation capacity was still based on natural gas and coal power plants (together 70.8%) while the share of large hydropower (17%) and other renewable energies (12.2%) has increased compared to 2013.

Renewable energies are perceived in Thailand as a possibility to promote participation and value creation in local communities. The share of renewable energies should reach 25% of the total energy consumption by 2021 according to the Alternative Energy Development Plan. At a relatively low starting level, a total capacity of up-to-date 13,927 MW should be available in 2021 from renewable sources, with the focus on biomass (4,800 MW), biogas (3,600 MW), solar (3,000 MW) and wind (1,800 MW).

While in Germany with the coalition agreement of the federal government energy crops shall be utilized with lower priority as a basis for **biogas production**, the Thai Government plans to rely more on them in the future. In July 2013, the National Energy Policy Council (NEPC) raised the expansion target for biogas from an installed capacity of 600 megawatts (MW) to 3,600 MW by 2021. The additional capacity shall be generated through an increased use of energy crops. To date, biogas plants installed in Thailand were supplied mainly with manure and agricultural waste

Following the increase of the development target, a support program for pilot plants, among others, was approved. The program should demonstrate technical and economic feasibility of biogas production based on mono-fermented energy crops (especially Napier grass [*Pennisetum purpureum*]). This program, in which also German technology suppliers were involved, was discontinued again due to the lack of transparency. It was one of a total of 21 programs which should be promoted by the Energy Conservation Fund (ENCON) and are still being examined in respect of transparency and proper procedures or have already been suspended.

However, this does not represent a shift from the promotion of biogas using energy crops. A support program for energy production using industrial waste water and industrial waste, for example, was expanded so that energy crops can be also used in the supported biogas plants.

The currently existing premium remuneration system ("Adder") for biogas plants, as well as for other energy sources, should be replaced in the near future by a **feed-in tariff**. The exact rate and design of the new remuneration system, inclusive of a biogas FiT, is not yet determined. A decision on this is expected soon.

The bioenergy policy should benefit in particular the low-income rural regions of the country. The Ministry of Energy expects that farmers will join together in cooperatives to grow **energy crops** (Napier grass) and sell them to the plant operators at guaranteed minimum prices. To achieve this goal, pilot Napier grass plantations in ten communities with different natural conditions, as well as the development of municipal business models, will be supported by the Ministry. The organization of a reliable supply of raw materials is one of the major challenges for the small-scale farming structures.

Besides its use for power generation, biogas should be applied as a substitute fuel in natural gas vehicles, particularly in remote rural areas not connected to the gas network. For this purpose, 1,200 tons of "compressed biogas" (CBG) as an additional goal should be produced per day by 2021.

For the **solar industry** in Thailand, the so-called "Adder" has so far been the most important promotional instrument. The feed-in premium model was launched in 2007 and has led to a rapid growth in the field of solar parks. In this context, licenses for 2,537 MW were granted. Until the end of 2014, however, only 1,084 MW were in operation and about 253 MW under construction. The Government therefore decided to approve additional 500 MW in order to achieve the goal of 2,000 MW (solar parks). For this purpose, the government is making use of the previously submitted, but not approved projects (totaling about 1,000 MW). After a re-examination, additional 138 MW expects to receive a PPA shortly. At present, about 500-600 MW can therefore still hope for a feed-in tariff of 5.66 Baht/kWh for 25 years. The previous "Adder" is no longer applicable. The plants to be newly approved should be in operation by the end of 2015.

To take account of the concept of subsidiarity and participation in the area of PV, the Thai Ministry of Energy focusses as well on the support programs that benefit fewer institutional investors. In summer 2013, the Ministry of Energy first raised the government's targets significantly. **Rooftop installation** has been highlighted since then. In this context, around 200 MW were licensed in 2013, which have been under construction since early 2014. The solar industry expects that additional lots will be awarded. In addition, the National Reform Council (NRC) spoke

in early January in favour of a program that aims at simplifying the installation of rooftop equipment and allows all citizens to install rooftop equipment and connect it to the power network (German title of the program: "Free Access to Rooftop Equipment"). In 2013, another program was already adopted, which should support **local solar systems** of up to 1 MW. This was, however, converted in summer 2014 so that these additional 800 MW can be installed only as public-private partnerships on public property or agricultural cooperatives. To this effect, the implementation guidelines are currently being developed.

Laws and Strategies

Thailand has currently specified its long-term energy planning in the Power Development Plan (PDP) 2012-2030. This document is the primary planning document for the demand for energy production. The existing "PDP 2010" should have already been revised in 2013, but a new version could not be approved by Cabinet due to the current political situation and is currently under revision.

Besides the PDP, there exist different plans that address the areas of energy efficiency, renewable energy and climate change, namely the Climate Change Master Plan (CCMP, 2012-2050), the Alternative Energy Development Plan (AEDP, 2012-2021) and the Energy Efficiency Development Plan (EEDP, 2011-2030). AEDP and EEDP were prepared by the Ministry of Energy; AEDP developed by the Department of Alternative Energy Development and Energy Efficiency (DEDE) and EEDP by the Energy Policy and Planning Office (EPPO). The CCMP was jointly developed by the Office of Climate Change Coordination (OCCC) and the Office of Natural Resources and Environmental Policy and Planning (ONEP), both under the Ministry of Environment. What the different plans from the different ministries may suggest, the ideas of contributing to renewable energy in Thailand are inconsistent. Nevertheless, the AEDP lays down the most concrete targets for renewable energy: The share of final energy consumption (attributable to renewable energy sources) should be 25% by 2021.

In August 2014, the NEPC however announced that the PDP would be revised in a way to integrate AEDP and EEDP and thus create a more comprehensive approach for integrated energy planning. Surprisingly, the Head of the National Council for Peace and Order (NCPO) and Thailand's Prime Minister General Prayuth Chan-ocha announced in this context that nuclear energy should not play a role in the future.

According to announcement of the Energy Policy and Planning Office (EPPO), the revised PDP 2015 will be presented in February in a public hearing and then submitted to the NEPC in its revised version. From April, implementation should already be started. The new plan sets out for up to 2036 and is, among others, based on lower power demand since the projected economic growth rate of 4.5% was corrected down to 3.9%. It is surprising that higher generating capacity from coal has been planned in the PDP 2015: In 2036, 25% of electricity demand shall be covered by coal, instead of 19% so far. EGAT in particular is committed to the **development of coal capacity**. Besides the controversial 800 MW power plant in Krabi, additional power plants in Songkhla, Nakhon Si Thammarat, Trang and Satun should be planned for. The projects however encounter significant resistance from the population and non-governmental organizations and support the reform movement. Although the target for renewable energy in the new PDP was raised, it may be viewed as not particularly ambitious and lags behind the goals of the AEDP: 15-20% of the power supply (8% in the PDP 2010). The development target for nuclear power was corrected from 5% to 0-5% by 2036 in the new PDP and thus manifests the announcement of the Prime Minister.

Institutional Set-up

The Ministry of Energy (MoE) is the most important government agency in charge of energy planning and policy. Under the MoE, EPPO is nominally responsible for the design of energy policies, measures and planning while the DEDE is responsible for the implementation of the policies and implementation in regard to renewable energy. Practically, however, responsibilities between the departments frequently overlap.

National energy policies and energy management and development plans are recommended by the National Energy Policy Council (NEPC) to the Cabinet. The Council oversees and supports all other operational energy committees in Thailand. The Council is presided over by the Prime Minister and further represented by different ministers (Minister of Foreign Affairs, Minister of Defense, Minister of Finance, etc.). The Secretariat of the NEPC is the EPPO.

The Electricity Generating Authority of Thailand (EGAT) is the state enterprise that manages electricity generation in Thailand. EGAT holds and operates about 50 percent of the generation capacity of the country by itself. The rest is supplied to EGAT by independent power producers. EGAT is also the owner and operator of the transmission networks in Thailand.

The distribution networks in Thailand are operated by the Metropolitan Electricity Authority (MEA) and the Provincial Electricity Authority (PEA). Access to the network is regulated by the Energy Regulatory Commission (ERC).

BMUB – Support in the Sector

The "Strategic Alignment and Implementation of the Climate Change Policy in Thailand" project supports the Ministry of Energy in achieving the set development goals for renewable energy, in particular through an assessment of renewable energy potential in different regions of Thailand in collaboration with the Fraunhofer Institute. The existing political dialogue between Germany and Thailand will be extended to cover the topic of a turnaround in energy policy. In addition, the BMUB supports Thailand in the development of renewable energy through the "Capacity Development on Renewable Energy and Grid Integration" (CapREG) project implemented by the Renewable Academy AG (RENAC). Already completed projects are the GIZ project for the promotion of "Sustainable palm oil production", as well as the project on "Combined Heat, Cooling and Power from Solar Energy and Biomass" or TRESSERT implemented by SOLARLITE.

Support of Other German Donors in the Sector

The Project Development Programme (PEP) of GIZ, on behalf of the Federal Ministry of Economic Affairs and Energy (BMWi), supports German companies in their step into these promising, but often difficult markets. It promotes business partnerships between German and local companies and accompanies them in the long term through the different stages of market positioning and concrete project development. In this context, the PEP supports the transfer of technology and know-how and promotes sustainable market structures and the dissemination of renewable energy and energy efficiency solutions. The PEP is implemented by GIZ as part of the Export Initiative Renewable Energies (EEE) and the Export Initiative Energy Efficiency (EnEff) of the BMWi and focuses in the coming years especially on the establishment of renewable energies in communities through providing advice on municipal business models.

Further information:

<http://www.giz.de/fachexpertise/html/4029.html>



Sustainable Consumption and Production (SCP)



Background and Development Target of the Partner Country

Green Public Procurement (GPP) and eco-labeling have been important instruments to increase sustainable consumption and production and at the same time contribute directly to reduce GHG emissions and mitigate climate change impacts. Recently, these instruments have gained more and more importance in Thailand and ASEAN region. It is noteworthy that the government sector is one of the largest consumers that can drive the manufacturers to produce environmental friendly products. In Thailand, the fiscal budget of governmental sector for purchasing products, constructions and services is approximately 15% of GDP. The Sustainable Consumption and Production (SCP) strategy in Thailand identified the public procurement as a central mechanism for the long-term establishment of SCP which at the same time will also have an impact on private consumption towards a more climate-friendly direction.

Pollution Control Department (PCD) was assigned from the Permanent Secretary of Ministry of Natural Resources and Environment to be a coordination agency among the departments in MoNRE and lead the pilot implementation phase of Thai Green Public Procurement (GPP). The Thai GPP is not enforced by law but the government sector is encouraged to be a role model for stimulating the demand for green or climate friendly products and services through the Green Public Procurement Plan (GPP Plan). The first GPP Plan was mainstreamed during 2008-2011. It was approved and endorsed by the Cabinet Resolution on 22 January 2008. The PCD was assigned to implement the GPP Plan with relevant ministries and stakeholders e.g. the Thai Environment Institute (TEI), National Science and Technology Development Agency (NSTDA) and the private sector. In this plan, target groups were Central Government Agencies, departments within MoNRE both in head departments in Bangkok and in the regional offices as well as departments of other Ministries. The goal of the first GPP Plan (2008-2011) is to increase the government's spending on

environmental friendly products and services. The achievement of this plan was measured through the increased number of governmental agencies participating and the procured amount of environmentally friendly products and services compared to the overall procurement budget.

The first GPP Plan aimed for a participation of governmental agencies not less than 25%, 50%, 75%, and 100% in 2008, 2009, 2010, and 2011 respectively. Regarding the procured amount, it aimed for the Governmental Agencies to quantitatively procure of 17 environmentally friendly products and services for not less than 25%, 30%, 45%, and 60% of the respective annual budgetary.

Results from the implementation of GPP Promotion Plan were presented as following:

- 170 Central Government agencies participated in the GPP Plan which accounts for 100% participation,
- The volume of green products and services procured was 861 Million baht from the total procured amount of 2,090 Million baht,
- The number of products being certified by the Thai Green Label Scheme increased significantly, illustrating a good market acceptance,
- 25,685 tons of CO₂ were reduced through procurement of 10 environmentally friendly products as reported by implementing agencies.

The current 2nd Green Public Procurement Promotion Plan (2013-2016), which aims to firstly encourage governmental units in implementing GPP, secondly support the private sector in green production leading to an increased number of green products on the market, and thirdly to change consumption behaviors towards sustainable consumption. The Governmental units include Governmental Departments of all Ministries, municipalities, State enterprises, public organizations, and universities. More target groups also include the Private sector (production, services and distributors) as well as the general public. From the 1st GPP Plan, the number of GPP products and services has been increased from 14 to 17 products and from 3 to 5 services. The four strategies of the 2nd GPP Plan are 1) increasing the GPP volume, 2) encouraging production of green products and services to comply with GPP criteria, 3) supporting sustainable consumption in the public and private sector and among the general public and 4) monitoring, evaluation and steering of GPP implementation.

The targets of this plan have been set in terms of (1) purchasing volume of environmentally friendly products and services and (2) number of participating organizations in Thai GPP.

Regarding to purchasing volume, the Governmental Agencies at Department level or equivalent, who have been participating in the 1st GPP plan, aim to increase the amount of purchasing volume of the 17 environmentally friendly products and 5 services by not less than 70 % of the total purchasing volume of each product and service category in 2013, 75% in 2014, 80% in 2015, and 90% in 2015.

For the organizations at the municipality level, it aims for participation of at least 10% of municipalities nationwide in 2013, 15% in 2014, 30% in 2015, and 50% in 2016. For State enterprises, public organizations, and universities, the GPP Plan aims to have not less than 50% participation in 2013, 60% in 2014, 70% in 2015, and 100% in 2016.

Last but not least, awareness of the relevance of the integration of climate-relevant aspects in the framework of GPP is increasing significantly. Therefore, GPP will be developed further and complemented by climate-relevant aspects as additional criteria. An eco-label extended by climate aspects and a more strict, eco-friendly public procurement can serve as role-models both for climate protection strategies and low carbon economies.

Laws, Policies, and Strategies

Since the 9th National Economic and Social Development Plan, Sufficiency Economy (2002-2006), incorporated the sustainable development according to Agenda 21 of the Earth Summit as the concerns about sustainable development issues in Thailand have risen.

In the 10th National Economic and Social Development Plan, Green & Happy Society (2007-2011), and the Environmental Quality Management Plan (2007-2011) it was stated that the government sector should be a leader in the area of green procurement in order to create a green market of environmental friendly products and services.

The current 11th National Economic and Social Development Plan, Balanced Growth (2012-2016) and the Environmental Quality Management Plan (2012-2016) address key development issues such as encouraging sustainable consumption, including GPP, creating favorable conditions for environmental friendly industries, shifting the development paradigm and redirecting the country to a low carbon and environmentally friendly economy as well as empowering communities in adapting to climate change and fostering environmental friendly cities.

The 1st and 2nd Green Public Procurement Promotion Plan were well aligned with other national Policies and Strategies, for example the 10th -11th National Economic and Social Development Plan (NESDP), Environmental Quality Management Plan (EQMP), Green Growth National Strategy, etc.

Institutional setup

Ministry of Natural Resources and Environment (MoNRE)

The Pollution Control Department (PCD) was assigned by the Permanent Secretary of MoNRE to be the coordination agency and to pilot the Thai GPP. The PCD was responsible to select products, establish the criteria for environmentally friendly products and services, lead the GPP implementation in the pilot phase in order to evaluate, adjust and expand the implementation of Thai GPP to other governmental agencies.

The **Department of Environmental Quality Promotion (DEQP)** plays an important role in raising awareness on Sustainable Consumption and Production among the general public, municipalities and SMEs through capacity building programs, project implementation and public relation campaigns. The current project related to Sustainable Consumption is called "Low Carbon City", which contributes to an increase in demand for green products from end-users in the society.

Ministry of Finance (MoF)

The **Comptroller General's Department (CGD)** is the main actor involved in Thai GPP. Generally, the CGD sets out the rules and regulations for procuring products and services, distributes the allocated budget to governmental agencies and monitors the spending of the budget. Most of governmental agencies are subjected to the regulations of the CGD except for some organizations such as the municipalities, which are subjected to regulations of the Ministry of Interior. To support the Thai GPP, the CGD circulated a document in August 2008 to all governmental agencies under the Regulations of the office of the Prime Minister on Procurement to urge for the purchasing of environmentally friendly products and services. The document aimed to increase the procurement of products and services from the GPP list, however, the procuring procedure has to strictly follow the regulations, which determines that the lowest price is always the cutting edge. There is no extra point or awarding system for environmentally friendly products or services at all. GPP is still not a mandatory process for governmental procurement.

Ministry of Industry (MoI)

The **Department of Industrial Work (DIW)** plays an important role in promoting sustainable production because its mandate is to regulate the industry to ensure the sustainability of industrial development while safeguarding the environment. One of the programs, called "Green Industry", aims to promote sustainable production in the Industrial sector. The Thai green industry is divided into 5 levels. The levels from 1 to 5 are Green Commitment, Green Activity, Green System, Green Culture, and Green Network, respectively. The Green Industry Program can help to increase the number of products complying with GPP criteria.

The **Department of Industrial Promotion (DIP)** has the mandate to promote and foster the industrial section in Thailand. There are a number of programs to support manufacturers, for example, improve energy and resource management, enhance energy efficiency and clean technology etc. The DIP can contribute to GPP by accelerating the number of manufacturers with green production facilities and producing green products.

The **Thai Industrial Standards Institute (TISI)** was established in the Ministry of Industry as the national standards body of Thailand in 1969. TISI, in co-operation with the Thai Environment Institution (TEI), carries out the Green Label Scheme which aims to reduce environmental pollution as well as to encourage manufacturers to use clean technologies in their production processes. The certified product is allowed to carry the green label. With regards to Thai GPP, the green label certified products are also automatically qualified for GPP as environmentally friendly products.

The **Thailand Environmental Institute (TEI)** is a NGO which plays many key roles for climate protection, emission reduction and SCP such as research, project implementation, consultation and providing of trainings in environmental aspects. TEI together with TISI carries out the Thai Green Label Scheme (Type I eco-label).



Adaptation to the Climate Change



Background and Development Target of the Partner Country

In accordance with the 5th IPCC report, the impacts of climate change today are not only already noticeable all over Asia, they will continue to increase in intensity. Throughout the region, it is expected that there will be a sharp rise in temperatures and changes in the rainy seasons. The rising sea levels and increasing storms will cause damages to the coastal areas. Due to the increasing temperatures, as well as the growing number of extreme weather events, adverse effects on the health of the population and on numerous other socio-economic factors are increasingly expected. The fact that Southeast Asia also in an international comparison suffers especially from the consequences of climate change is clearly demonstrated by Global Climate Risk Index 2015 of the Germanwatch. According to the index, five Southeast Asian countries are among the 15 countries most severely threatened by climate risks - including Thailand. Taking into account only the financial damage inflicted between 1994 to 2013 by the disasters, which were influenced by the climate change, Thailand even ranks fourth in the index.

While the 2011 flood alone has caused an economic damage at the amount of US\$ 45 billion, it is expected that further damages will occur through breakdowns in major economic sectors of the country. The agricultural sector in Thailand is not only one of the most important economic sectors. It also employs about 40% of the population. At the same time, agriculture is strongly affected by the climate change due to the rise in temperatures and changes in precipitation. Impacts on widespread, intensively used agricultural areas are already noticeable today. Inappropriate land use planning is also affected by the climate change and extreme weather events. The tourism industry especially in the coastal areas is as well affected by the climate change. In addition to an increase of malaria and dengue fever, cities are expected to face flooding and destructions caused by storms.

The Thai Government has begun to take into account the growing economic damages caused by the climate change. The 11th National Economic and Social Development Plan specifically responds to the risks of rapidly changing environmental conditions and refers to the strengthening of resilience of Thailand as one of the top goals of the Thai development policy. The Thai Climate Change Master Plan prepared by the Ministry of Natural Resources and Environment defines the higher-ranking national goals for adaptation, mitigation and capacity development. The Climate Change Action Plan focuses on the implementation of the short-term goals of the Master Plan, including the area of adaptation. However, in order to address the growing challenge and to more strongly integrate adaptation considerations into strategies and development plans of sectoral ministries, as well as those at subnational level, Thailand has started to work on the development of the National Adaptation Plan (NAP). Through the NAP, Thailand aims to integrate development-oriented adaptation measures into adaptation planning and define development-oriented development measures.

Although the data needed for the risk assessment are mostly available in international and national sources, they are currently not systematically evaluated, nor forwarded to the stakeholders and utilized. National and local decision makers therefore lack a basis for the assessment and the definition of development-oriented adaptation measures. In order to improve the basis for planning, the Office of Natural Resources and Environmental Policy and Planning (ONEP) entrusted with the NAP development decided to develop the NAP based on a Climate Change Risk Analysis (CCRA). The BMUB has selected a sketch to support the NAP process in Thailand, based on which the implementation of this CCRA is also planned for. Thus, once the project gets started, the work on the analysis of the expected climate changes in Thailand, the resilience and the associated risks, which is fundamental for the development of the NAP, can commence and be incorporated into the NAP.

Laws and Strategies

A central component of the climate policy is the Climate Change Master Plan (CCMP). It defines the short-, medium- and long-term adaptation, mitigation, and capacity development targets for different sectors. The preparation was supported by the IKI, and the CCMP was confirmed by the NCCC. A Cabinet decision is still pending, but this is only considered a formality as all important sectoral ministries in the NCCC have already given their agreement.

Currently, the Climate Change Action Plan (formerly called the Climate Change Strategy) is being developed by ONEP with the support of IKI. The action plan shall be valid for 5 years and defines measures for the implementation of the short- and medium-term targets of the CCMP for this period. A first draft of the strategy was discussed in public hearings and is now being revised with the support of GIZ.

In 2015, the development of the National Adaptation Plan (NAP) should commence in Thailand. In addition to the Climate Change Master Plan and Action Plan, the NAP represents the third central document of the climate policy in Thailand. It will complete the instruments of climate policy at national level and contribute to the mainstreaming of adaptation into strategies and planning of sectoral ministries.

Institutional Set-up

The National Climate Change Committee (NCCC) is headed by the Prime Minister and has the mandate to define the national climate policy. Members of the Committee are the Ministry of Environment and its subordinate agencies, as well as other sectoral ministries, whose working areas are closely connected with the climate change.

The Thai Ministry of Environment (MoNRE) is responsible for matters related to environmental and climate protection in Thailand and represents Thailand at international climate negotiations, just as recently the case at COP 20 in Lima. MoNRE is a partner of BMUB in the German-Thai dialogue on climate change, as well as at the annual steering committee meeting on the German-Thai climate cooperation.

As a subordinate agency of MoNRE, ONEP takes over the central tasks in the field of climate policy. In this regard, ONEP is currently working on the development of the Climate Change Action Plan and will later take care of the NAP development. In addition, ONEP represents Thailand as UNFCCC Focal Point. Furthermore, ONEP is the National Designated Authority of Thailand in the Green Climate Fund (GCF) process. In pursuing all central tasks related to the climate protection, ONEP has been supported by the IKI.

Another key player in the climate policy is the Ministry for Interior (Mol). Cities and regions fall under the Mol's responsibility. Thus, the implementation of climate protection measures depends heavily on the cooperation of Mol at subnational level.

BMUB – Support in the Sector

The BMUB currently promotes the development and implementation of two of the three key instruments for the climate protection, namely the Climate Change Master Plan and the climate strategy. For the development of the third key instrument, the BMUB has opted for a sketch initiated by GIZ. The relevant proposal is currently in the process at BMUB. Additionally, ONEP receives support from BMUB in the development of INDCs.

In the area of ecosystem-based adaptation, the BMUB supports Thailand through the bilateral GIZ project "Improved management of extreme events through ecosystem-based adaption in watersheds (ECOSWat)". In addition, a number of regional or supraregional projects are being carried out by different organizations. In cooperation with various other organizations, the IUCN identifies and documents the benefits of conserving ecosystems in the project "Ecosystems Protecting Infrastructure and Communities (EPIC)" and supported the conservation of mangrove forests through the project "Promotion of Ecosystem-based Adaptation through Reforestation and Sustainable Utilization of Mangrove Forests in Thailand and Vietnam". The Asian Institute of Technology also promoted until the end of 2014 the exchange of instruments and methods to adapt to the climate change through the project "Adaptation to Climate Change in Water Resources Management in Southeast Asian Coastal Towns". Lastly, the GIZ implemented the project "Climate-Sensitive Flood management in the Lower Mekong Basin" until the end of 2014 on behalf of BMUB.



Flood and Drought Management



Background and Development Target of the Partner Country

Thailand regularly fights the consequences of flooding and drought. In 2011, Thailand was affected by the worst floodings in 50 years (more than 650 deaths and hundreds of thousands homeless; Measured by the economic costs, this was the fourth most expensive environmental disaster worldwide). The fourth and fifth IPCC report calls large river basins and here "African and Asian mega-deltas" (Synthesis Report) and refers to them as the most vulnerable regions to the climate change. As a result of the climate change, more frequent extreme events are projected for Thailand.

Among the four objectives of Thailand's new National Economic and Social Development Plan (NESDP), one focusses on sustainable management of natural resources and environment. Eight of its sub-goals include capacity development towards a society that better withstands climate changes (climate change resilient society), as well as improvement of preparation against natural disasters. Similarly, the Climate Change Master Plan, which is in a draft version for approval, refers to the issue of water management among adaptation measures as one of the key sectors for action. The plan also names, among others, the relevance of the transfer of competences to the local level and the transfer of a functioning management to the national level as fields of action.

Laws and Strategies

The general water policy that was prepared in the year 2000 is currently the applicable guideline. A comprehensive water policy was later drawn up, but never became legally binding. It still exists as a suggestion since it is considered to require a revision. In addition to these general documents, there exist a large number of different strategies.

His Majesty the King's seven principles for sustainable water management, which are not legally binding, but have a great influence, have higher priority over the water vision and water policy adopted in 2000. In addition, there is the "Water Act", which is only present as a draft and has not yet been adopted. The official vision for the water sector reads: "By the year 2025, Thailand will have sufficient water of good quality for all users through to efficient management, organizational and legal systems that would ensure equitable and sustainable utilization of its water resources with due consideration on the quality of life and the participation of all stakeholders."

The different strategies and policies of the water-related institutions should focus on the superordinated strategies and visions. An excerpt of strategies is as follows:

- Integrated Water Resource Management Project (2012) by Department of Water Resources (DWR)
- Strategic Plans for Water Resources Management in 25 Basins (2007) by DWR
- Formulation of Integrated Plan for Water Resources Management in Chi River Basin (2006) by DWR
- Formulation of Integrated Plan for Water Resources Management in South East and Pattani River Basin (2006) by DWR
- Royal Irrigation Department's (RID) strategies based on the Royal Irrigation Act
- National Economic and Social Development Plan 2012-2016 by NESDB
- Climate Change Master Plan 2013-2050 (draft) by ONEP,
- Master Plan of Water Resource Management by SCWRM/NWFP/WFMC/ONWFPC

Except that of the RID, all the mentioned strategies make reference to ecosystems, nevertheless without indicating the positive effects of functioning ecosystems on flood and drought management. In the Climate Change Master Plan, the clearest indication of these positive effects is to be found under the catchword: Ecosystem-based Adaptation (Eba).

Institutional Set-up

The Royal Irrigation Department (RID), which is a subordinate agency under the Ministry of Agriculture and Cooperatives (MAC), was formerly the most important organization in the water sector and still has major influence in almost all water related matters. The Department of Water Resources (DWR) under the Thai Ministry of the Environment (MoNRE) is responsible for the implementation of integrated water resources management approach (IWRM). Upon its establishment, the DWR took over the personnel and the agendas of the RID, which has led since then again and again to discussions regarding the areas of responsibility. This situation leads to only a modest cooperation between these two key institutions.

The central planning is responsibility of the National Economic and Social Development Board (NESDB), which develops the 5-year plans (current NESDP 2012-2016). The content of the plans shall be considered as recommendations.

In addition, the Office of Natural Resources and Environment Policy and Planning (ONEP), which is a subordinate agency under MoNRE, is another important water-related organization. On the one hand, ONEP is responsible for climate-related issues and currently working on the climate strategy for the implementation of the Climate Change Master Plan (CCMP). On the other hand, ONEP carries out environmental impact assessments (EIA) and can therefore have a direct influence on the planned infrastructure measures in the water sector.

BMUB – Support in the Sector

In the area of ecosystem-based adaptation, the BMUB supports Thailand through the bilateral GIZ project "Improved management of extreme events through ecosystem-based adaption in watersheds". In addition, a number of regional or supraregional projects are being carried out by different organizations. In cooperation with various other organizations, the IUCN identifies and documents the benefits of conserving ecosystems in the project "Ecosystems Protecting Infrastructure and Communities (EPIC)" and supported the conservation of mangrove forests through the project "Promotion of Ecosystem-based Adaptation through Reforestation and Sustainable Utilization of Mangrove Forests in Thailand and Vietnam". The Asian Institute of Technology also promotes the exchange of instruments and methods to adapt to climate the change through the project "Adaptation to Climate Change in Water Resources Management in Coastal Cities of Southeast Asia". Lastly, the GIZ implements the project "Climate-Sensitive Flood management in the Lower Mekong Basin" on behalf of BMUB.



Background and Development Target of the Partner Country

Thanks to the numerous, diverse ecosystems, Thailand's biodiversity is one of the richest in Southeast Asia. The different mountain regions, the numerous tributaries of the Mekong and other wetlands, forests and rainforests, as well as coastal and marine areas in the Gulf of Thailand and in the Andaman Sea are home to a huge diversity of species. It is estimated that there are about 12,000 different species of plants in Thailand. In addition to over 300 species of mammals, there are about 350 species of reptiles, 2,800 species of fish and 900 species of birds. Nevertheless, many of these ecosystems and the species living in them are endangered. While in 1961 yet over 50% of the land area was forest, the forest covers today only just under 30% of the total land area. The unique ecosystems in the coastal and marine areas with mangrove forests, coral reefs, seagrass beds and coastal forests suffer from the growing number of tourists, the illegal logging, the industrial fishing and the development of ports. Studies show that only about 40% of seagrass beds are in good condition. The situation of the coral reefs is even more alarming: In Suratthani province which is rich in reefs, 65% of coral reefs are either in poor or very poor condition. Today, 121 species of mammals living in Thailand, 184 species of birds, 33 species of reptiles, 218 species of fish, and no less than 1,131 species of plants are considered in danger of extinction.

In order to promote the protection of biodiversity, Thailand ratified the Convention on Biological Diversity (CBD) in 2004 and the Cartagena Protocol in 2006 and significantly expanded the number of protected areas. To implement the CBD, Thailand developed and implemented three consecutive "National Biodiversity Strategies and Action Plans" (NBSAPs) for the periods 1998-2002, 2003-2007 and 2008-2012. Thailand had thus already formulated NBSAPs even prior to the ratification of the CBD.

The Office of Natural Resources and Environmental Policy and Planning (ONEP), entrusted by the Ministry of Environment with the development of NBSAPs, is currently working on the 4th NBSAP, by means of which Thailand aims to contribute to the achievement of the Aichi Targets 2011-2020. The 4th NBSAP with its time frame of 2013-2021 is set to be longer-term than the former plans. The document is currently in a draft version since the final political confirmation is still pending. The 4th NBSAP has been submitted for a Cabinet decision. The key objectives of the plan are to improve the management of protected areas, to reduce the loss of habitats and to improve the protection of endangered and endemic species. A focus of priority measures defined in the NBSAP is the protection of coastal and marine areas, as well as the mobilization of private investment to this end, the creation of awareness among the population and the private sector in regard to the importance of ecosystems and biodiversity, as well as measures to better combine tourism with biodiversity protection. In addition, ecosystem services should be recognized and integrated into policy planning processes while positive incentives should be created and negative incentive mechanisms be reduced.

At present, Thailand has already made its first experiences in the recognition of ecosystem services in terrestrial areas in conformity with "the Economics of Ecosystems and Biodiversity" (TEEB). In this connection, the Government decided to set up a TEEB Committee, which will be located at ONEP.

Laws and Strategies

The National Park Act, which entered to force in 1961, is one of the most important laws for the protection of ecosystems and biodiversity. It forms the basis for the designation and protection of national parks. In accordance with the Act, the collection, destruction and removal of wood, animals and plants in national parks are prohibited. Other important legal foundations include the National Reserved Forest Act, the Fishery Act, as well as the Wild Animal Reservation and Protection Act.

Thailand has so far developed and implemented three National Biodiversity Strategies and Action Plans (NBSAPs). The most recent NBSAP covered the period from 2008 to 2012. The 4th NBSAP is awaiting a Cabinet decision.

Furthermore, the protection of ecosystems and biodiversity is incorporated into other cross-sector national strategies of Thailand. The 11th National Economic and Social Development Plan (2012-2016) defines measures for the protection and restoration of coastal and marine areas. The plan calls for the entire government to contribute to the protection of mangrove forests, seagrass beds and coral reefs, as well as to avoid policies that counteract these protection efforts.

The Climate Change Master Plan was developed by MoNRE through ONEP. The Plan will be the framework document for the climate protection in Thailand until 2050 as soon as it has been through the last steps in the process of political adoption. In the plan, short-, medium- and long-term goals are defined, which will contribute to the protection of biodiversity, as well as to the combination of measures to adapt to the climate change with those to protect biodiversity.

Institutional Set-up

The most important ministry for the conservation and restoration of ecosystems and biodiversity is the Thai Ministry of Environment (MoNRE) with its subordinate agencies, including the Office of Natural Resources and Environmental Policy and Planning (ONEP), the Department of National Parks, Wildlife and Plant Conservation (DNP), the Department of Marine and Coastal Resources (DMCR) and the Biodiversity-Based Economy Development Office (BEDO).

The Biological Diversity Division under ONEP was appointed by MoNRE as the national focal point for the Convention on Biological Diversity, as well as for the Cartagena Protocol. In this role, ONEP is responsible for the implementation of the CBD, the Cartagena Protocol as well as for initiating concrete measures to protect biodiversity and represents Thailand together with MoNRE at COPs. At the same time, it performs a coordinating function as a focal point within the government.

The major player in the designation and management of national parks in Thailand is the DNP. It was entrusted by the Ministry of Environment with the protection of national parks and the conservation of flora and fauna.

The conservation, restoration and management of resources of the coastal and marine regions, in particular the mangrove forests, coral reefs, seagrass beds and marine animals is the responsibility of DMCR.

BEDO is responsible for improving the administration related to the utilization of natural resources for economic purposes and should contribute to the sustainable utilization of biodiversity, as well as to the creation of awareness of the importance of biodiversity.

BMUB – Support in the Sector

The BMUB is currently no bilateral biodiversity conservation projects in Thailand. Nevertheless, through the close cooperation of BMUB with key players of biodiversity protection (MoNRE, ONEP) and the annual management meeting between BMUB and Thailand, however, these institutions will be strengthened. In addition, aspects of biodiversity protection have been taken into account in other BMUB projects in Thailand whenever possible, such as in the project "Support to the Development and Implementation of the Thai Climate Change Policy" or in the projects "Promotion of Ecosystem-based Adaptation through Mangrove Restoration and Sustainable Use in Thailand and Vietnam" and "Improved management of extreme events through ecosystem-based adaption in watersheds".