

Thirteenth meeting of the Technology Executive Committee

United Nations Campus (AHH building), Bonn, Germany
6-9 September 2016

Draft paper

Aligning technology needs assessments with the process to formulate and implement national adaptation plans

I. Background

1. The COP-21 in the Decision 3/CP.21 (report of the Adaptation Committee) requested the Technology Executive Committee, in collaboration with the Climate Technology Centre and Network, the Adaptation Committee and the Least Developed Countries Expert Group, to consider how it can help Parties align their technology needs assessments (TNAs) with the process to formulate and implement national adaptation plans.
2. In response to the above COP decision, as per activity 9.1 of its workplan for 2016–2018, the TEC is to consider, in collaboration with the CTCN, the Adaptation Committee (AC) and the Least Developed Countries Expert Group (LEG), how Parties could be helped to align their TNAs with the process to formulate and implement national adaptation plans (NAPs).

II. Scope of the note

3. The scope of this draft paper is to provide a background to options of aligning the TNAs with the process to formulate and implement NAPs, in collaboration with the AC, the LEG, and the CTCN, to consider how Parties could be helped, drawing on the previous work.

III. Expected action by the Technology Executive Committee

4. The TEC will be invited to consider the draft paper, and provide further guidance on this work.
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Annex

Draft paper on aligning the work of developing countries on technology needs assessments (TNAs), with the process to formulate and implement national adaptation plans (NAPs)

I. Introduction

A. Background

1. The COP-21 in the Decision 3/CP.21 (report of the Adaptation Committee) requested the Technology Executive Committee, in collaboration with the Climate Technology Centre and Network, the Adaptation Committee and the Least Developed Countries Expert Group, to consider how it can help Parties align their technology needs assessments with the process to formulate and implement national adaptation plans.

Previous considerations on linkage issues:

2. The COP 18 welcomed the report on activities and performance of the Technology Executive Committee (TEC) for 2012,¹ which includes an activity on the review of technology needs from various sources, with a view to strengthening the understanding of technology needs, to complement the processes for national adaptation plans (NAPs), and national communications (NCs), and to support the TEC in preparing its recommendations on guidance on policies and programmes.

3. The SBSTA 37 welcomed the report on the experience-sharing workshop on technology needs assessments² (TNAs) which was organized by the United Nations Environment Programme, in collaboration with the secretariat in September 2012 in Bangkok, Thailand, and encouraged Parties to draw upon the outcomes of the experience-sharing workshop on TNAs. SBSTA 37 also encouraged Parties to build on the outcomes of the workshop when preparing their NAPs, low-emission development strategies and technology road maps and action plans. The outcomes relevant to this work were the following:

(a) The continuation of efforts to explore and operationalize synergies between the TNA-TAP process and other existing efforts, such as the preparation of national communications, LEDS, and NAPs, while also reaching out to new initiatives, such as the CTCN, was considered essential for the sustainability of the TNA process;

(b) Capitalizing on the experiences gained and lessons learned from the TNA process for the preparation and implementation of NAPs, LEDS and technology road maps or action plans was considered of key importance. These processes were recommended to be developed as circular, feeding into one another and avoiding duplication of effort and overburdening the capacity of countries to report on their development.

4. The secretariat, in collaboration with the TEC, organized an in-session workshop on TNAs in conjunction with the TEC-7. The aims of the workshop were also to discuss possible linkages between the TNA process and other planning tools under the Convention, such as NAPs, and NCs. The workshop was attended by members of the TEC and the Advisory Board of the CTCN, TNA country coordinators, NC country coordinators, and NAP practitioners. Taking into account the outcomes of the workshop, the TEC finalized two TEC briefs on TNAs, including one on possible integration of the TNA process with NAP process.³

5. Building on the work that has been undertaken by the TEC in 2013, the TEC delivered in its report to COP-19 the following relevant key messages on TNAs.⁴

¹ FCCC/SB/2012/2.

² FCCC/SBSTA/2012/INF.7.

³ <http://unfccc.int/ttclear/pages/tec_home.html>.

⁴ FCCC/SB/2013/1 paragraph 45.

- (a) Parties, when identifying and preparing adaptation actions such as NAPs, could ensure coherence with the methodology and results of their TNA processes;
 - (b) The use of a road-mapping approach may help to improve planning processes, including technology action plans, and NAPs, and may help Parties to transform the results of their TNAs into actions;
 - (c) National Designated Entities (NDEs) have the potential to play a key role in establishing strong linkages and maintaining coherence at the national and regional levels between the different planning processes under the Convention, such as TNAs, and NAPs.
6. The TEC at its eight meeting included in its work plan for 2014–2015 the following relevant activities:
- (a) Further work on possible ways to establish linkages between TNAs and NAPs and NCs, and involve NDEs in the process;
 - (b) Prepare recommendations to COP 20 on TNAs and the linkages between TNAs and NAPs and national communications, based upon the above activities.
7. The SBSTA 40 acknowledged the possible interlinkages between TNAs and other climate and development related domestic processes, such as those involving NAPs. It encouraged non-Annex I Parties to take those interlinkages into account when preparing their NAPs.
8. The COP 21 requested the TEC, in collaboration with the CTCN, the Adaptation Committee (AC), and the Least developed Countries Expert Group (LEG), to consider how it can help Parties align their TNAs with the process to formulate and implement NAPs.
9. The TEC at its twelve meeting agree on its 2016-2018 rolling workplan, which includes an activity 9.1 to collaborate with the AC, the LEG, and the CTCN and consider how Parties could be helped to align their TNAs with the process to formulate and implement NAPs, and prepare a background paper to inform the TEC at its thirteenth meeting in September 2016.

B. Draft objectives of the paper

10. The objectives of the paper are to:
- (a) **Align their TNAs with the process to formulate and implement NAPs;**
 - (b) **Enhance understanding on linkages** between TNAs and NAPs processes and on how this could be achieved;
 - (c) **Propose options** to establish linkages between TNAs and NAPs, and to involve NDEs in this process; and
 - (d) Assist the TEC, AC and LEG in **delivering relevant recommendations** to COP-22.

C. Scope and approach

11. The information in the paper is based on the current state of play of:
- (a) The TNA process including conducting and reporting of TNAs and TAPs;
 - (b) The development of other relevant processes under the Convention including NAP and NC processes;
 - (c) The relevant decisions from COP-18 and COP-19;
 - (d) The TEC briefs on Results and success factors of TNAs, and on Possible integration of the TNA process with NAP, and NC processes;
 - (e) The work plan of the TEC for 2014-2015 and its relevant activities;
 - (f) The delivery of services by the Climate Technology Centre and Network (CTCN);

- (g) The findings of the in-session TNA workshop organized in conjunction with the TEC-7, in Bonn;
- (h) Country driven planning and implementation that are envisaged for enhanced national action on adaptation;
- (i) Possible relevant work of the NDEs;
- (j) Relevant experiences and lessons learned from similar processes outside the Convention;
- (k) Other relevant documents and literature.

12. In this paper TNA and NAP processes were considered to identify possibilities to realize their linkages. Since the TNA process has a focus on technologies, while the NAP process is a less defined iterative country driven process, the NAP process is used as a baseline for which entry points for the TNA are identified. As the NAP process is relatively new and still in the initial stage of its implementation in 2014, a strong basis in literature is not yet available.

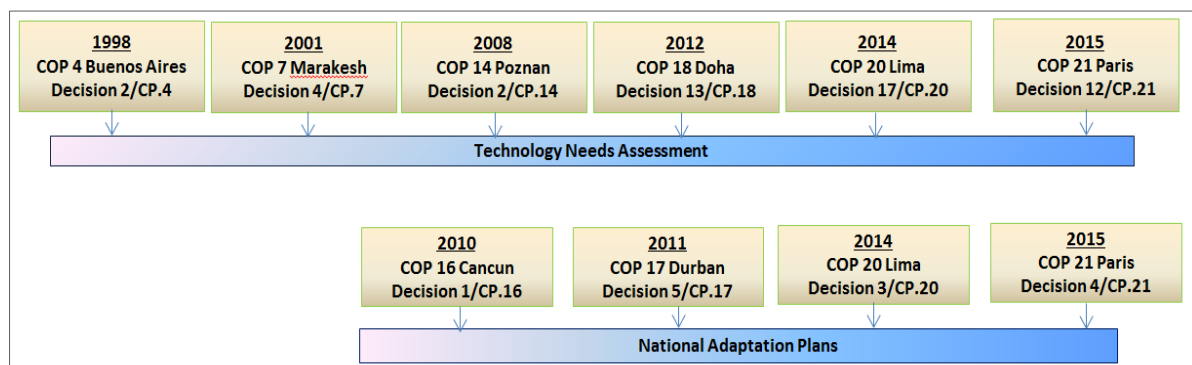
D. Possible action by the Technology Executive Committee

13. The TEC may wish to consider the draft, and:
- (a) Identify follow-up actions, including agreeing on a process for finalising the paper after TEC 13;
 - (b) Provide initial guidance to the task force on TNAs on possible elements of draft key messages/recommendations to the Conferences of the Parties (COP) on this matter.

II. TNA and NAP processes under the Convention

14. Figure 1 below provides an overview of the age of the both processes and hence a potential for integration and synergies.

Figure 1 TNA and NAP processes under the Convention:



A. TNA process

15. TNA was introduced under the Convention at COP-7, which encouraged “...developing countries ...to undertake assessments of country-specific technology needs, subject to the provision of resources, as appropriate to country-specific circumstances.”⁵

16. Already in 1999, the GEF Council agreed that “some of the immediate capacity building priorities of non-Annex I Countries, identified in the COP decision 2/CP.4, may initially be met through additional funding under expedited procedures for enabling activities. Based on the above COP Decision, GEF identified a list of eligible activities for the top-up projects, including identification and submission of

⁵ Decision 4/CP.7, pp. 22-30.

technology needs, and capacity building to assess the technology needs. Consequently the GEF funded the development of the first 69 TNAs reports since 1999 until 2008.

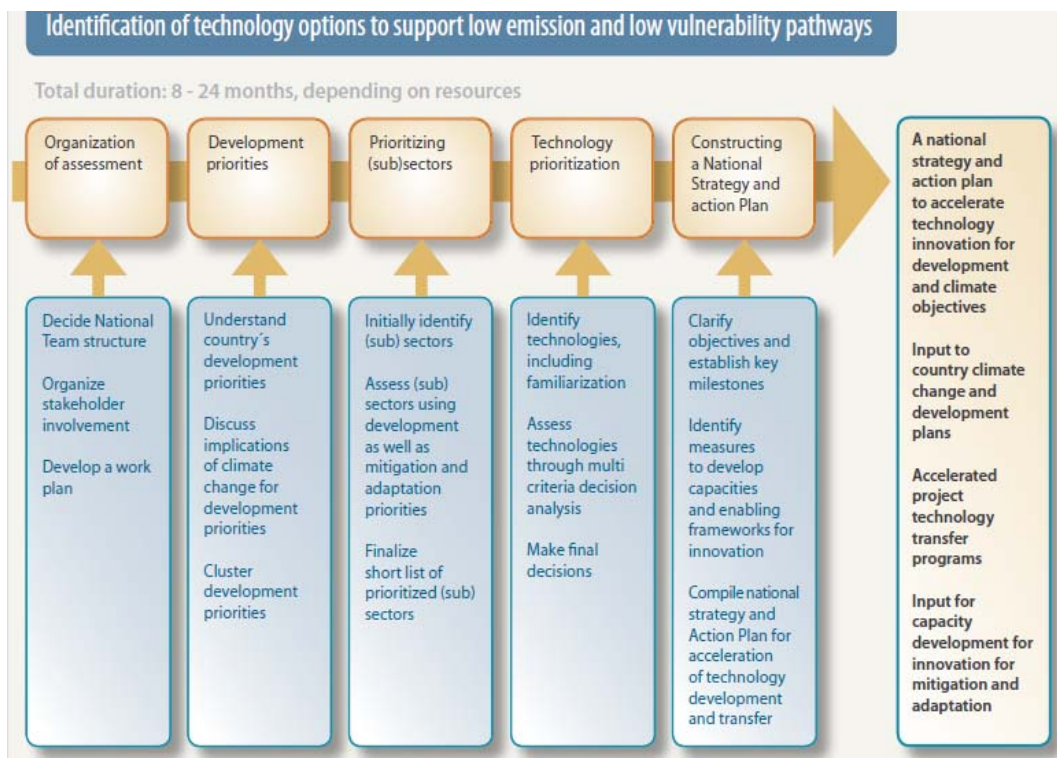
17. In 2008, TNA development was included in the Poznan Strategic Programme on Technology Transfer as a key component for “scaling up the level of investment in technology transfer in order to help developing countries address their needs for environmentally sound technologies.”⁶

18. COP-18 recognized that TNAs and their syntheses “are a key information source for the work of the Technology Executive Committee in prioritizing its activities under the Technology Mechanism, and could be a rich source of information for governments, relevant bodies under the Convention and other stakeholders.”⁷

19. The following main structure of steps in the TNA process, which usually takes between 8 to 24 months, is a compilation presented and described within the TNA handbook (figure 2):

- (a) Organization of process;
- (b) Determination of development priorities and derive criteria from those to prioritize sectors and technologies;
- (c) Prioritisation of strategic sectors and technologies within these sectors;
- (d) Barrier analysis of identified priority technologies and identification of elements of enabling framework;
- (e) Acceleration of prioritised technologies through projects, programmes and strategies, and
- (f) Identification of next steps.

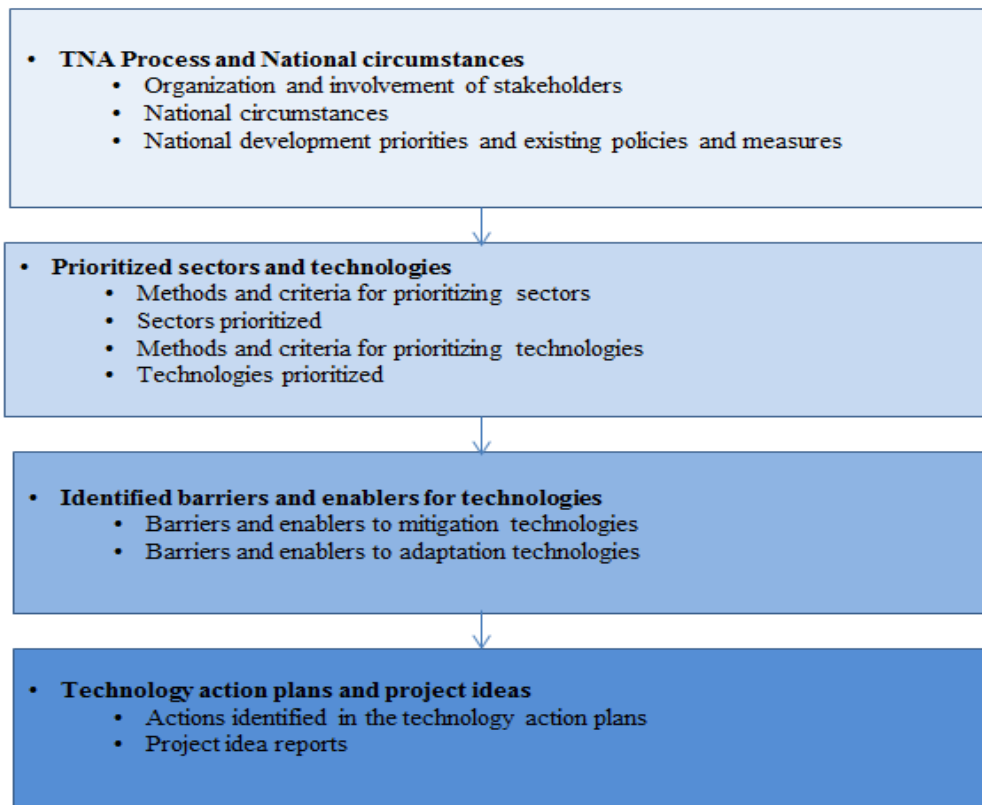
Figure 2: Key steps of the TNA process proposed by the updated TNA Handbook in 2010:



⁶ Decision 2/CP.14, FCCC/CP/2008/7/Add.1, para 1.

⁷ Decision 13/CP.18, FCCC/CP/2012/8/Add.2, para 10.

Figure 3: The main steps of the current TNA process, developed under the GEF-UNEP TNA project in 2012:



B. NAP process

20. The process to formulate and implement national adaptation plans (NAPs) was established by the Conference of the Parties (COP) at its sixteenth session (December 2010) to enable LDCs (and other developing countries) as a means of identifying medium- and long-term adaptation needs and developing and implementing strategies and programmes to address those needs.⁸ The process to formulate and implement NAPs builds on existing and ongoing activities in countries, including the NAPAs in the case of LDCs. It is expected to create a platform for coordinating adaptation efforts at the national level involving all relevant actors, serving interests of all adaptation stakeholders.

21. As stated in the NAP guidelines from 2012,⁹ the NAP process is envisioned as a better way of doing business, of fully considering climate change concerns in planning and decision-making processes. It will encompass all the arrangements necessary to develop the knowledge to support decision-making, and required capacity-building to facilitate all actions that are needed for a strategic country-owned adaptation planning process.

22. As with any planning process, the NAP process may have variable and specific outputs at given points in time, including comprehensive national adaptation plans, programmes and policies. The structure and form of these national adaptation plans will vary by country, and may include sectorial plans and sub-national plans to provide the necessary guidance in addressing adaptation needs where they matter.

23. The objectives of the NAP process are:

- (a) To reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience;

⁸ Decision 1/CP.16, paragraph 15.

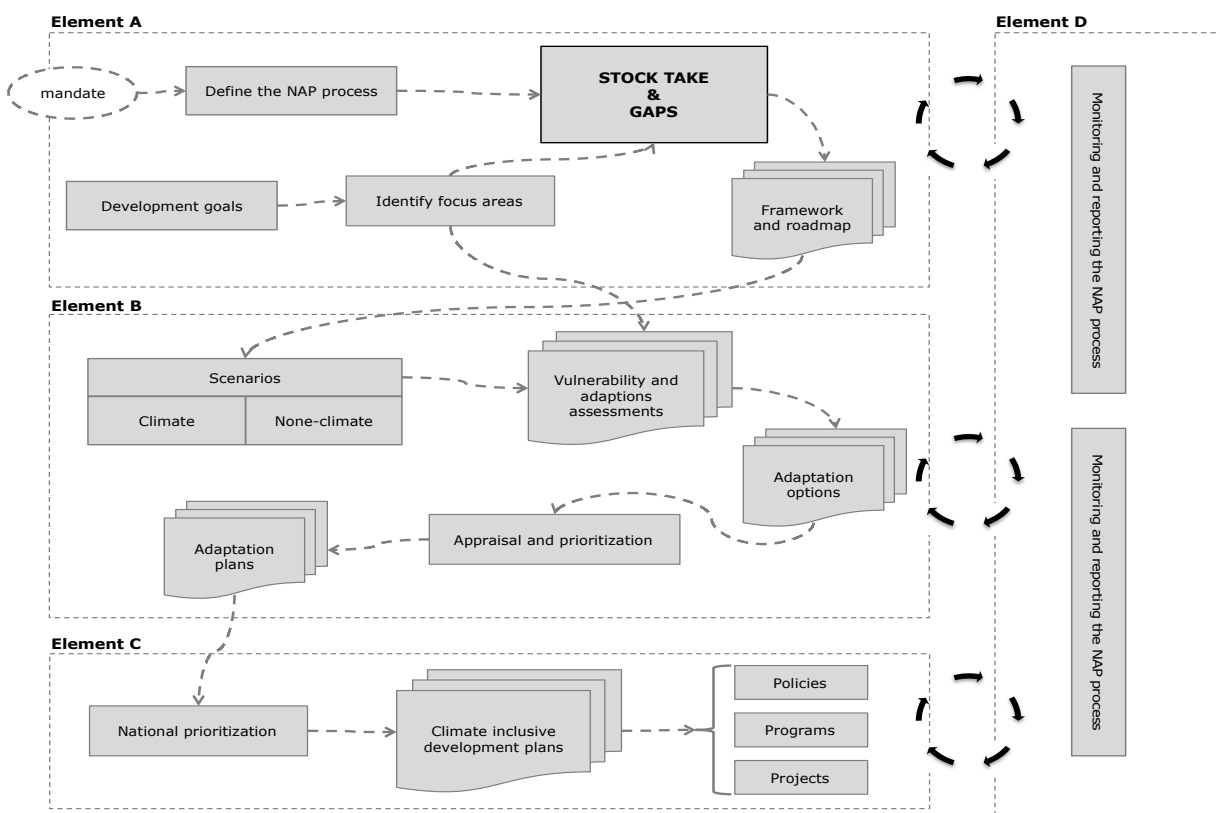
⁹ <http://unfccc.int/files/adaptation/cancun_adaptation_framework/application/pdf/naptechguidelines_eng_high_res.pdf>.

(b) To facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and existing policies, programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate.¹⁰

24. The NAP process is framed in 4 elements:
- (a) Laying the groundwork and address gaps;
 - (b) Preparatory elements;
 - (c) Implementation strategies;
 - (d) Reporting, monitoring and review.

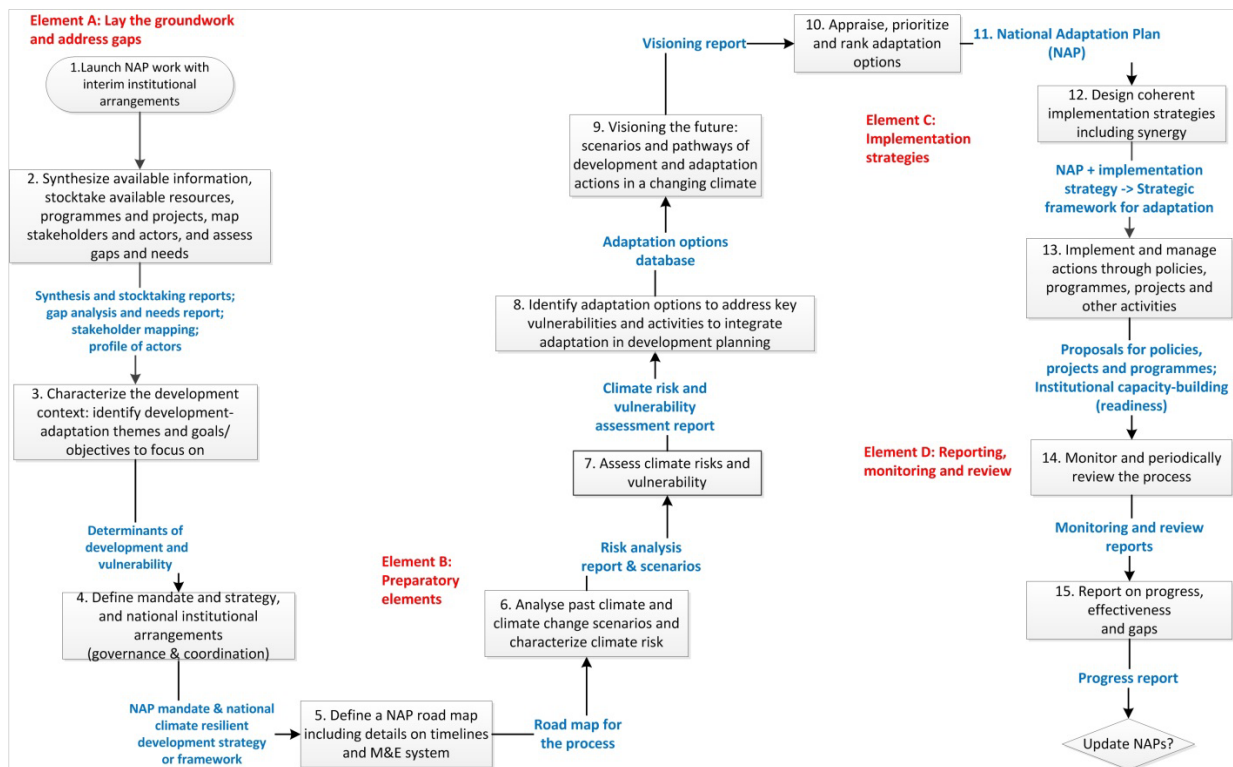
25. Within these elements steps and related activities can be defined. In Figures 4a and 4b an example flow of a NAP process is presented using the 4 elements and key steps.

Figure 4a: NAP process (2014)



¹⁰ Decision 5/CP.17, paragraph 1.

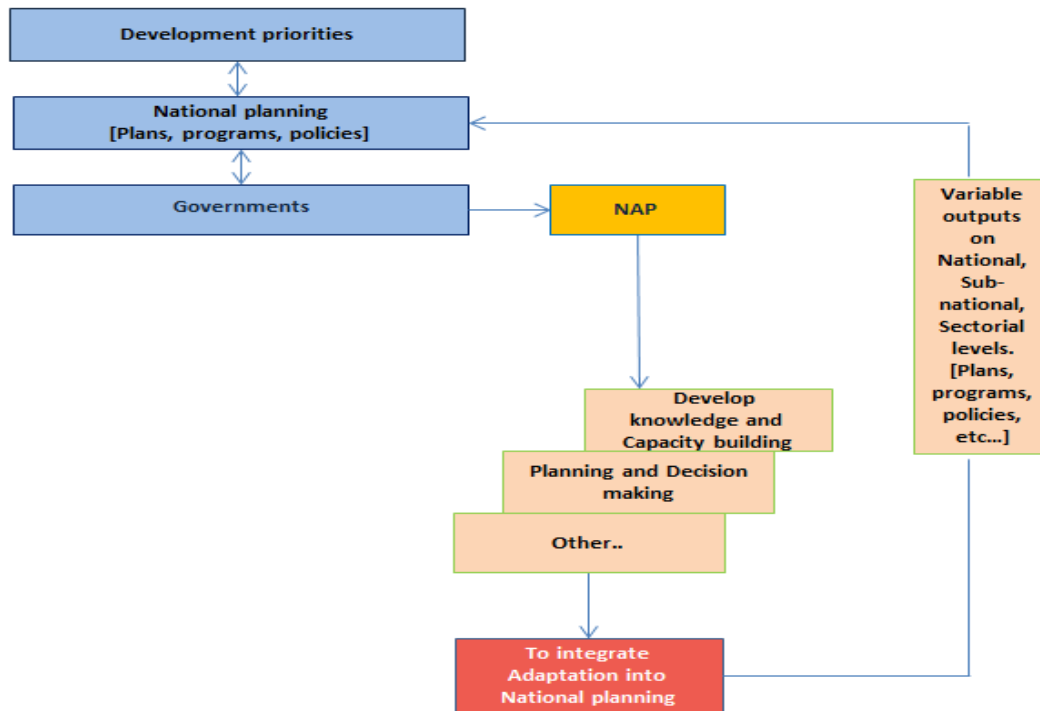
Figure 4b: NAP process (2016)



26. In element A the key steps are the mandate, the stocktake and identification of gaps. Getting a high level mandate to start the process is important for effective mainstreaming. In element B the results of the vulnerability or risk and adaptation assessment can be translated into adaptation plans. The plans can be sectorial, regional or cross sectorial. Most countries already have done vulnerability or risk assessments which can directly be used to define adaptation plans. Bringing it all together is done in element C. Element D deals with the monitoring and reporting of the process, mainly to improve the national process but also communicate best practices and lessons learned to other parties.

27. Both the TNA and NAP process are country driven, country owned and start from development priorities. Technologies are used throughout the NAP process, and element C involves implementation and many projects or programmes may be about technology or involve application of technologies for the implementation. Technologies may be even more relevant in element C, than in the other elements.

28. Figure 5 below shows the possible ways of using the NAP outputs within the National development plans:

Figure 5: Links between the NAP process and national planning:

III. Linkages between TNA process and NAP process

A. Why linkages?

29. At COP18,¹¹ it was recognised that TNAs are a key information source, which should be linked to other related processes under the convention, including NAPs.

30. NAPs are to be “coordinated with sustainable development objectives, policies, plans and programmes”, as decided by COP17.¹²

31. All the three process are aimed at integrating the climate change actions with the sustainable development planning and implementation process, and derive from the sustainable development priorities of the country. Thus in the three process the starting point is the sustainable development priority. The consideration of priority in this context has embedded elements of environment, economic and social aspects.

32. Based on these decisions and based on the on-going work of Parties there are numerous opportunities to link TNA processes with NAP process. For example an element of possible linkages are the common issues of prioritization of sectors, barriers identification and implementation, which are present in all three processes. The results of TNA can be implemented after finalization of the technology action plans (TAPs) and project ideas flowing out of the TAPs and project idea reports. A leveraging option would be however to broaden the implementation potential, by inserting the identified measures in TAPs and project idea reports into NAP project portfolio. Potential funders are looking at those and hence the opportunity of a project idea being noticed and further elaborated for implementation is much higher.

¹¹ Decision 13/CP.18, FCCC/CP/2012/8/Add.2, paras 10-13.

¹² Decision 5/CP.17, Annex Initial guidelines for the formulation of national adaptation plans by least developed country Parties, FCCC/CP/2011/9/Add.1.

33. Several TNA practitioners and technology transfer experts have recommended to interlink TNA with NAP process, which would have advantages such as:

- Double work is avoided: Analysis work can be separated from implementation activities, as deep sector and technology analysis is done in the TNA, while the preparation of project implementation could be carried out through the NAP process.
- Interlink processes rationalise the outputs and enabling synchronized messages to potential investors.

34. Interlinking TNAs with NAPs creates opportunities for up-scaling the outcomes. NAPs are focussed on the national level, and by integrating the TNA into these processes it can be assured that the TNA supports a higher level strategy implementation rather than single project with small impacts.

35. Countries and implementation of their ideas can be more effectively supported by linking different processes they are undertaking under the Convention.

B. Examples of commonalities and differences between TNA process and NAP process

Table 1: Examples of commonalities and differences between the TNA, and NAP processes.

Table 1. Overview of commonalities and differences between processes	
a. To what extent are TNA and NAP processes embedded in a country's long term national development priorities?	
Commonalities	Differences
<ul style="list-style-type: none"> • Common focus on a country's overall sustainable development context, • Strategic (sub)sectors and areas identified in a TNA could be used as inputs for NAP, • Processes are generally participatory, • Implementation is a common goal of all the three processes. 	<ul style="list-style-type: none"> • Unlike for TNAs, under the Convention no specific methodologies exist for NAPs.
b. How are technologies or measures for adaptation in the country identified?	
Commonalities	Differences
<ul style="list-style-type: none"> • TNA procedures are in principle suitable for policy concepts that identify technologies and actions in light of climate policy and sustainable development, • TNA technology portfolios and TAPs could be input for NAP processes. 	<ul style="list-style-type: none"> • TNAs explicitly focus on technology choices. In NAPs prioritisation of technologies is more an implicit step before formulating policy action, • NAP has a broader focus, where technology portfolio from TNA could be included for purpose of planning and decision making.
c. What actions are envisaged for low-emission and climate-resilient pathways?	
Commonalities	Differences
<ul style="list-style-type: none"> • There is a common focus on <i>strategic pathways</i> with action plans either at the technology or sector and national levels. • NAP formulation could possibly benefit from the identification in a TNA of actions for acceleration of technologies for adaptation. 	<ul style="list-style-type: none"> • Whereas a TNA focuses mainly on technologies and measures for adaptation, NAPs could be more overarching and focus on broader adaptation and development issues.

36. Some NAP TNA linkages related issues:

(a) TNA is a goal-oriented process starting from development objectives. It is time bound (usually from 8 to 24 months) with clear deliverables and outcomes;

(b) The NAP is a process focussing on medium and long term planning which connects to existing national planning processes and has no clear time frame or pre-set outputs;

(c) Technology is key in achieving the NAP objective in reducing vulnerabilities;

(d) TNA is a linear process, the NAP process is multiple entry process without clear start or end;

(e) The NAP process is flexible and may change (focus, direction, goals).

IV. Inter-linkages between TNA and NAP process

A. How could TNAs contribute to NAP process

37. **Prioritisation of sectors technologies and measures:** the TNA methodology can be used for a detailed prioritisation of sectors, technologies and measures to be included in NAPs and in the case of technologies and measures also possibly implemented. This could support the process of embedding NAPs in national mainstream processes.

38. **Clarity on scale of implementation:** while several NAPs have been identified, the scale at which these actions could potentially be implemented within a country is often not clear. For instance, implementation could be at full technical potential, at a scale required for meeting country and/or sector goals, or in the form of an isolated project. TNAs and TAPs could offer this information as these assume a certain scale of technology implementation: as project, sector programme, or national strategy.

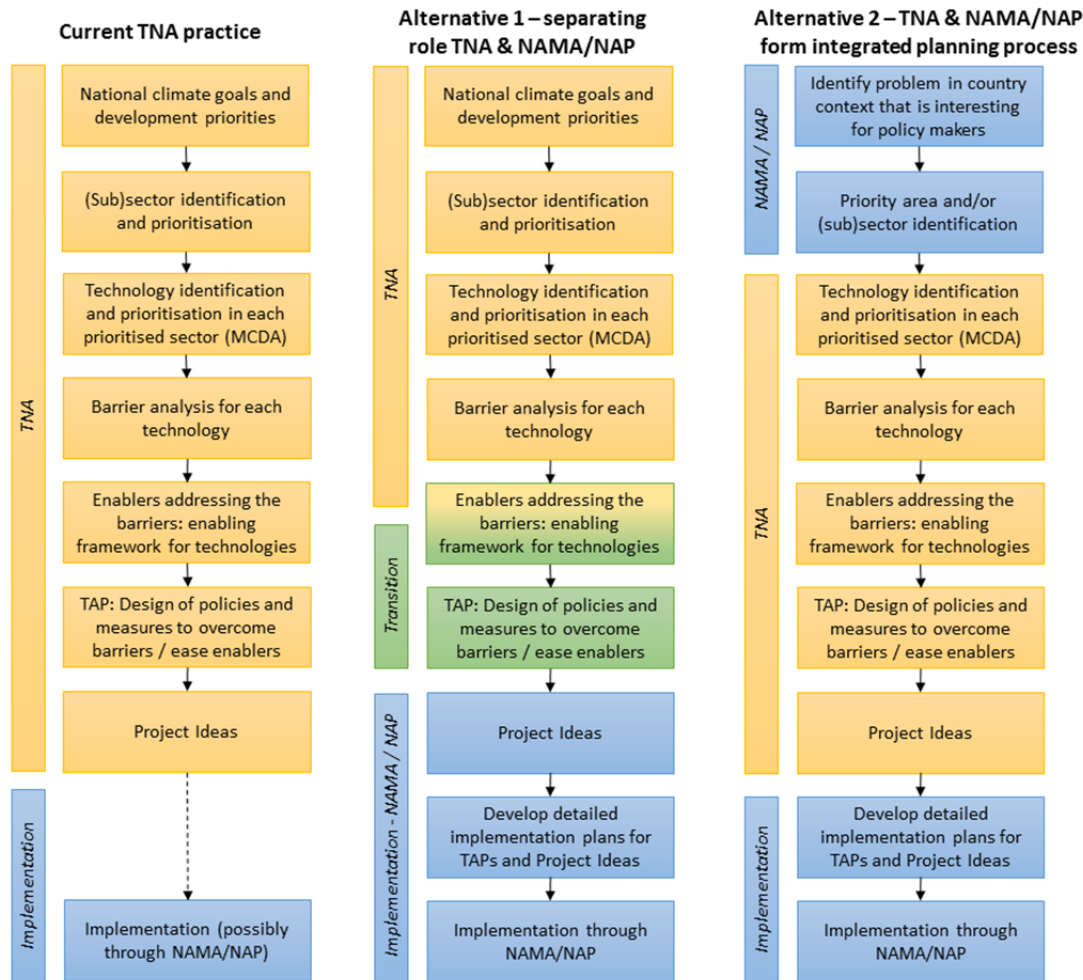
39. **Identification of actions to accelerate development and transfer of technologies and adaptation measures:** In a TNA, stakeholders analyse how the development and transfer of priority technologies can be accelerated in the country. This is done by **exploring gaps and barriers** in the enabling environment for prioritised technologies, and by identifying **actions to solve these** gaps and barriers.

40. **A national strategy** for technology development and transfer with action plans, technology programmes, and/or technology projects help to **create an enabling environment** in a country for technologies for adaptation. Clearly this national strategy needs to be embedded in the socio-economic and legal reality of the country which together with the development priorities are the starting point for the NAP process.

41. With respect to interlinkages between the TNA process and NAP process for enhanced technology implementation, a number of views were noted (see also figure 6), including:

- Consideration of TNA and NAPs as **two subsequent stages** in a national planning process, whereby TNAs focus on analysis (priority sectors and technologies and barriers/action analysis) and NAPs comprise the technology implementation stage.
- **An integrated national planning process** whereby, first, priority areas are identified (possibly as part of a NAP) such as electricity, transport and water, which is then followed by TNA to prioritise technologies within these areas and produce TAPs and project ideas for implementation as a NAP.

Figure 6. Examples of possible inter-linkages from TNA to NAMA/NAP for enhanced implementation:



B. NAP

42. The contribution of technology in shaping development and adaptation is critical. Technology is a however a broad category which includes high range to low range technologies spanning all adaptation sectors, including agriculture, forestry, water, early warning and assessment, coastal zone management, urban design, communication, transport, human health. Mapping and selecting appropriate technologies for the specific target sectors or groups is a critical factor in the success of the NAP process.

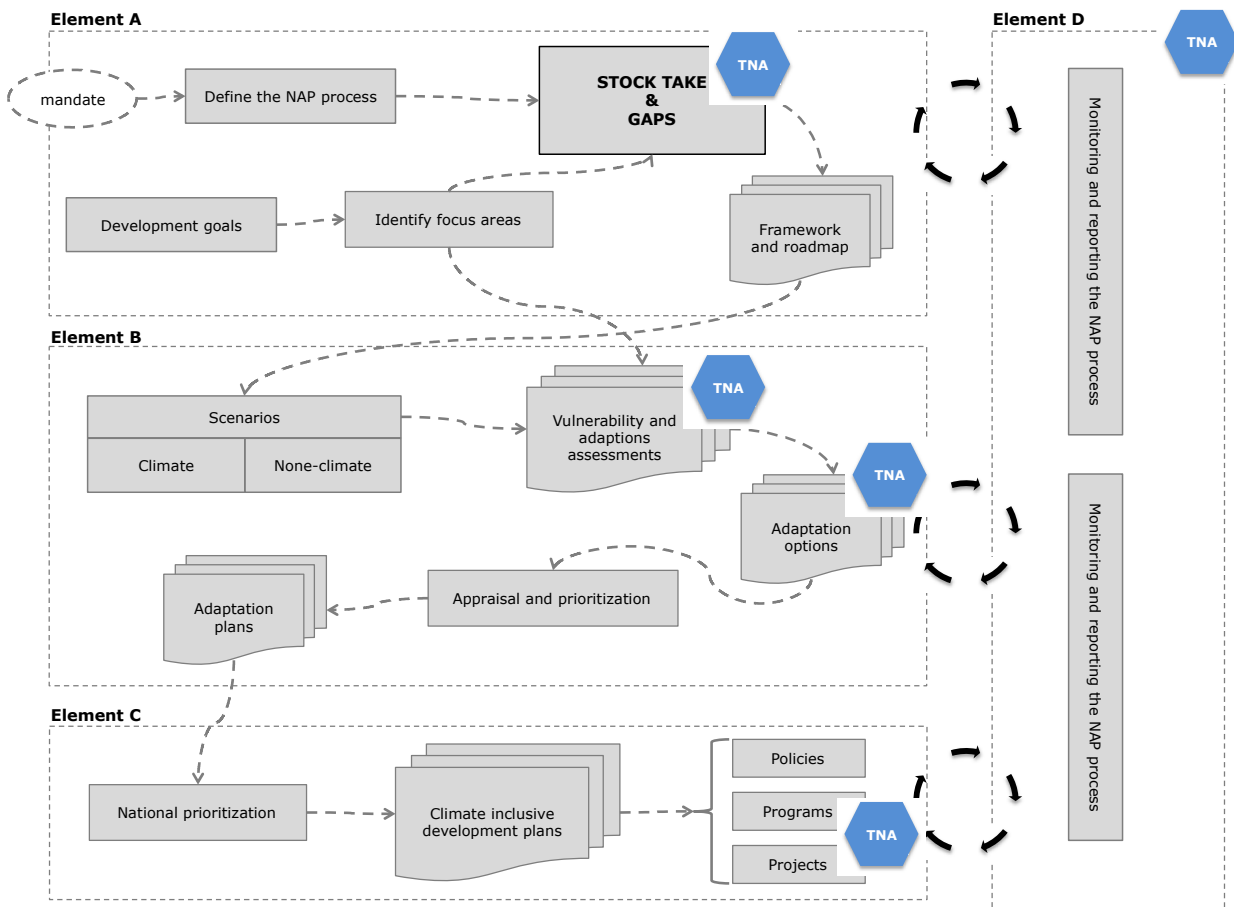
43. Acknowledging the importance of technologies in the onset of the NAP process and, if possible including results of existing TNAs in the NAP process will allow for effective and efficient linkages between the processes.

44. So when defining the NAP process the coordinating body is advised to identify steps in the NAP process that will benefit from technologies.

45. Results of the TNA can be part of the NAP process. In element D of the NAP process (see Figure 7) the results of the TNA are used to report and monitor the process, but also TNA results carried forward via the implementation of programs and projects in element C.

46. Both the TNA and NAP process require the input from various stakeholders not only to start and lead the process but also to guide and direct the process. Coordination of the stakeholder processes in the two processes is important in harmonizing the messages and maintaining stakeholder interest.

Figure 7: Possible connections between the TNA and NAP process at the process level (2014)



47. In element A the stocktake and gaps analysis can benefit from an assessment of available and needed technologies. In this step a first scoping of the available resources and institutions settings including the arrangement needed for the NAP process is done. A special focus on available and needed technologies in this step would help in highlighting the importance of technologies in the development process.

48. Also in element D the link with the technologies is clear, monitoring of progress and collecting and storing data require a functioning infrastructure in which Information and Communication Technologies (ICT) can play an important role.

49. Adaptation includes the use and development of appropriate technologies the adaptation options are identified in element B. For specific sectors a special focus on technologies can be helpful for example when looking at water saving in agriculture, coastal protection, transport and health technologies can be important. In this step both existing but also new technologies can be addressed, allowing countries to formulate programmes to obtain the needed technologies.

50. In element C technology linkages are carried forward from element B. In the actual implementation of programs and projects TNAs can be used to sharpen the tools and have a deeper understanding of technologies that can be applied or are needed in the specific programmes and projects.

51. All elements in NAP process will benefit from the use of technologies. Elements that will benefit from a TNA: A, B and D, notably: stocktake, V&A assessments, monitoring.

52. In any process data storage, management and access are key for monitoring reporting and review. Communication technology is key in awareness raising and informing policy makers and civil society.

V. Possibilities of creating linkages amongst the planning tools on an institutional level (Existing good practices for countries on interlinking their work on various planning tools)

A. TNA

53. Over 60 per cent of the TNAs analysed in 3SR described possible linkages of TNAs with other processes under the Convention. Around half of these countries explained how the TNAs have been based on completed work on NAMAs and national adaptation programmes of action (NAPAs), or how they can provide inputs to these processes. Some countries have identified TNA outputs as inputs for work on National Communications, NAMAs or NAPs.

54. Box shows examples of how in TNAs it is mentioned that TNAs and TAPs may offer helpful background material for the development of NAMAs and other processes. The advantages that the other processes can bring to the TNA process are however underexposed. Bidirectional synergies between the TNA process on the one hand and LEDS, NAMAs and NAPs on the other hand need to be operationalised. The processes are to be developed in a circular manner, feeding into each other while avoiding duplication of efforts or 'institutional congestion'.

Box 2: Some linkages between TNAs and other processes in TNA reports.

Argentina In its TNA, Argentina has expressed the relevance of TNA methodologies, barrier analysis, and outcomes for the formulation of NAMAs and NAPAs in the country. In this respect, it also underscores the potential supporting role of the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN) to promote the development of environmentally friendly technologies.

Bangladesh Bangladesh explained that the TNAs for adaptation play two important roles within the country. First, TNAs support, as a management tool, in formulating domestic development strategies. Second, TNAs help to identify NAMAs in Bangladesh and the country states that the TNA for adaptation is a pre-requisite for implementing climate-resilient development planning with innovative adaptive measures through introduction of new and appropriate technologies.

Georgia In the TNA report by Georgia a clear link has been suggested between the recommendation from the TNA process and the work of the CTCN. In the Georgian TNA, it has been recommended to facilitate joint involvement in feasibility studies and exchange of experience and software used for assessments. Such knowledge and experience could be provided by CTCN in support of establishing/strengthening/increasing local capacities.

Mauritius Mauritius sees a link between the learning-by-doing methodology used throughout the duration of the TNA project and how these can be used for developing NAMAs using an evidence-based approach. In addition, Mauritius explains that in its TNA project, prioritised technologies were not regarded as stand-alone projects, but as cumulative installed capacity (e.g. wind energy capacity to 2025) or programmatic approaches for scaling-up emission reduction activities. This programmatic approach is aligned with the development of sectoral NAMAs for Mauritius. The TNA of Mauritius has also resulted in revisions of measures proposed in previous national documents, such as the first TNA and Second National Communication.

Peru Peru highlights in its TNA that it has made three voluntary commitments to reduce GHG emissions (zero net deforestation by 2021, a 40 per cent share of renewable energy in the energy mix, and a nationwide solid waste management system). For these targets, NAMAs will be formulated and the TNA results could provide input for that.

B. NAP

55. When conducting NAPs countries started from diverse positions and used various pathways embarked on the NAP process. Some LDCs built on the experiences gained during the NAPA process. However it is important to notice that while NAP process is considering medium and long term needs of LDCs and other developing countries, NAPA process focused on urgent needs of LDCs. Within both NAPA and NAP processes the institutional structure and the awareness at the highest political level needed to start the process are considered elements of key importance.

56. Most countries have worked on components that can be carried forward or used in the NAP process. Information obtained via TNAs can for example be used to in the prioritisation of adaptation

options, communication strategies and data collection and storage. So far no clear examples of results of TNAs that are used in the NAP process exist. TNAs and NAP are currently regarded as two separate processes with no interactions.

57. Building on the NAPA experience Kiribati started the NAP process. Among the key issues identified during the 2013 NAP Expo (ref: presentation at NAP Expo 2013) are strengthening technical information and knowledge of the national climate change committee and national institutions.

58. Indonesia captured the NAP process in the Indonesia National Action Plan on Climate Change Adaptation (RAN-API). This plan, which is based on existing policies, contains the initial guidance and multi-sectoral coordination efforts to address climate change adaptation. The coordination is done by the State Ministry of National Development Planning (BAPPENAS). The ministry of Environment is mandate to design the monitoring and evaluation scheme.

59. To link international finance with national climate policies, programs and projects Indonesia created the Climate Change Trust Fund (ICCTF). The innovation funds mechanism under the ICCTF is specifically designed to stream funding to line ministries.

60. Cambodia during the NAP Expo of 2013 presented its roadmap for the NAP process. Existing institutional arrangement such as the Inter-Ministerial National Climate Change Committee (NCCC) and the Climate Change Technical Team (CCTT) are the backbone of the process.

61. Cambodia was able to secure funding from GIZ and GEF via the NAP-GSP. The limited of technical and institutional capacity are among the gaps and challenges were identified during the planning and establishing the NAP process (NAP Expo).

C. Summary and conclusions

62. Taking into account the existing commonalities between TNA and NAP processes (country driven processes, focus on national level sustainable development, usefulness of TNA technology portfolios and action plans as inputs for NAPs, and focus on implementation actions at national, sector or technology project levels), this paper has provided a number of arguments, and options, for interlinkages of TNA and NAP processes:

- TNA outputs could serve as inputs for NAPs (and the other way round, as has been the case in several countries);
- Interlinkages with NAP processes can support implementation of TNA results;
- Through interlinkages of processes duplications can be avoided so that developing country resources are more efficiently used.

63. In light of these arguments, a remaining issue is how to organise this harmonisation. This report has suggested a number of options at the level of integration for further consideration, including:

- Policy decision makers on the national level could consider exchange of information among its institutions that are responsible for climate change policy, climate change action identification, and their implementation. This would ensure exchange of data and results on climate change process within countries and help to attain synergies.
- A higher level of coordination in climate change strategy and policy making and development of climate change action could be achieved by clearly defining process of adaptation including related actions, identification of roles of various actors in these processes, and where and how could the TNA process feed into them.
- Highest level of integration could be achieved to institutional integration of all actions related to climate change. As shown in figure 9, institutional arrangements that integrate the responsibility of NAP coordination with the function of also coordinating technology needs across sectors, ensure that the line ministries or state governments that are responsible for identifying adaptation options also lead on assessing the technology needs for those actions.

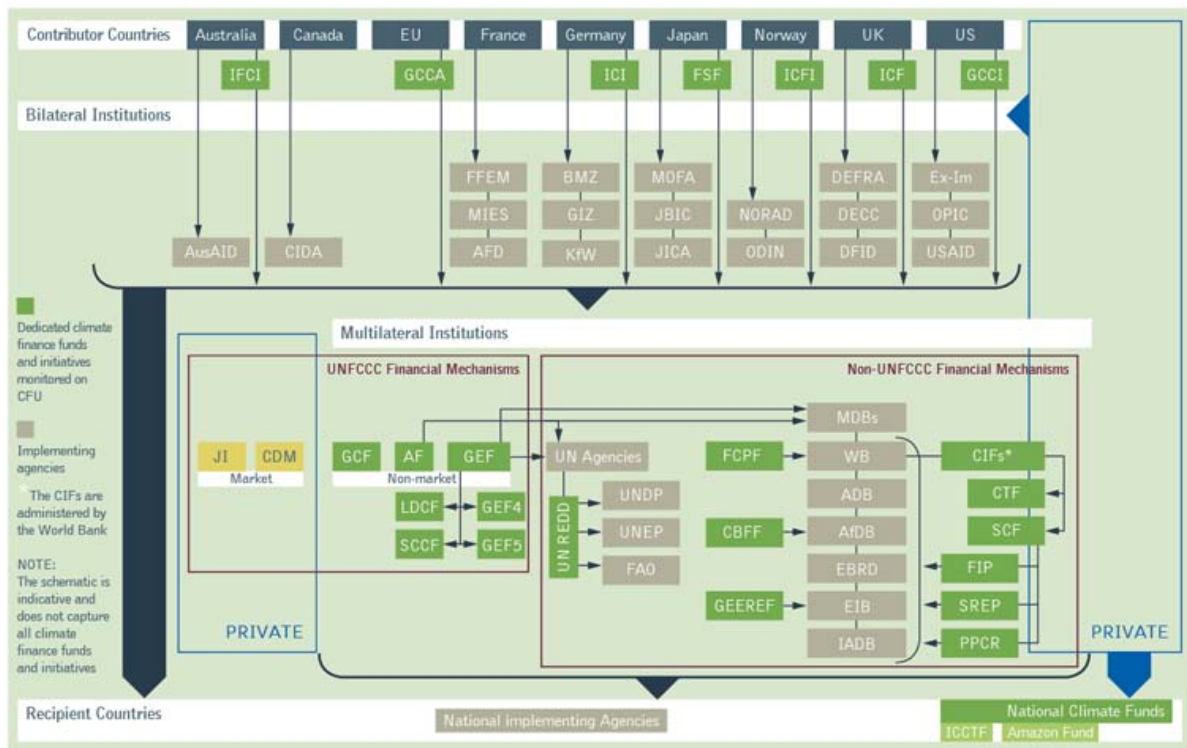
64. Finally, in order to facilitate interlinkages of the processes on national level it may be considered to develop, design, and agree on a mechanism of coordination and information sharing across the relevant institutions on national level behind the existing processes under the Convention.

VI. Possible implementation through the Financial Mechanism and other financial sources (GCF, GEF other...)

A. Global climate finance architecture

65. The climate finance architecture is comprehensive, as it is channeled through multilateral funds, such as the GEF and Climate Investment Funds, as well as increasingly through bilateral channels. In addition, a growing number of recipient countries have set up national climate change funds that receive funding from multiple developed countries in an effort to coordinate and align donor interest with national priorities. There is generally much more knowledge about the status of implementation of multilateral climate finance initiatives than of bilateral initiatives, also due to the different levels of transparency. A solution could be employment of certain climate change mechanisms also to increase the challenges of coordinating and accessing finance.

Figure 8. The architecture of funds



B. TNA

66. In line with the decision 2/CP.4 the GEF provided funding for more than 90 non-Annex I Parties to conduct TNAs through its interim funding for capacity building in priority areas – enabling activities (phase II) also known as the top-up funding. Within this process UNEP assisted 14 countries and UNDP assisted 78 countries to conduct and report TNAs.

67. The Conference of the Parties to the UNFCCC at its fourteenth session (COP 14) welcomed the GEF’s Strategic Program on Technology Transfer (renaming it the Poznan Strategic Program on Technology Transfer) in COP decision 2/CP.14, as “a step towards scaling up the level of investment in technology transfer in order to help developing countries address their needs for environmentally sound technologies” and recognized “the contribution that this strategic programme could make to enhancing technology transfer activities under the Convention.”

68. The TNA project concept, under window one of the Poznan Strategic Program on Technology Transfer (PSPTT), was approved by the LDCF/SCCF Council in April 2009. Based on this TNA project concept, UNEP, as the GEF Agency, developed a full project document, which was endorsed by the GEF CEO in September 2009. Project implementation by UNEP started in October 2009. Total GEF funding for this project is \$9 million.

69. The objective of the TNA project is to provide targeted financial and technical support to assist 35 to 45 developing countries in developing and/or updating their TNAs within the framework of Article 4.5 of the UNFCCC. The intention is that assisted countries go beyond identifying technology needs narrowly and develop TAPs for prioritized technologies.

70. In total more than 75 countries have been supported by the GEF funding so far. Countries that wish to develop more in-depth and extensive analysis to facilitate technology transfer have been invited to do so under their GEF national resource allocation, which would be then complementary to the GEF funding from the PSPTT. For example, the GEF is providing support to a country to carry out a detailed assessment of current technology developments and needs, key barriers, and ways to promote environmentally sound technology transfer. Through TNA exercise the country may identify needs for technology development and capacity enhancement on its identified priority sectors such as energy and agriculture. A concrete technologies, such as biomass, solar, and for example energy conservation technologies were assessed to be priority technology needs. Going beyond technology identification, the country pursued and co-financed its pilot activities, and implemented them with assistance from a GEF implementation agency, such as for example UNIDO in order to promote coordination with its investment strategy.

71. The GEF intends to support additional TNAs, mainly focusing on small and medium income countries, including LDCs, taking into consideration the lessons learned from the ongoing Poznan-supported TNA project implemented by UNEP.

72. Few TNA reports were conducted by bilateral funding. As indicated by Parties in their success stories, implementation of TNA results may benefit from multiple financing sources, including domestic co-funding, bilateral, multilateral funding, and also funding from the financial mechanism under the UNFCCC. In some realized projects which had their origin in the TNA reports, private sector investors were amongst the most significant investors.

C. NAP

73. The NAP process will most likely have multiple financing sources. In addition as the second objective of the NAP process is related to integration of adaptation in development planning so development and non-climate related funding maybe linked to the NAP process. External funding for the NAP process (including the actual implementation of the policies, programs and projects) can be captured using three broad categories:

- Domestic investment;
- Multilateral funding and donors;
- Private investment;
- Other.

74. The second objective of the NAP process (to integrate climate change adaptation into relevant new and existing policies, programmes and activities) implies that domestic funding (climate and non-climate) is part of the NAP process.

75. For LDCs the NAP Global Support Program (NAP GSP) is designed to advance National Adaptation Plans (NAPs). The NAP GSP is set up to assist countries to bring greater focus and attention to medium and long-term climate change adaptation planning as well as budgeting. As of November 2013, partner agencies to GSP include UNDP, UNEP, WHO, FAO, IFAD, UNITAR, GEF, UNFCCC, GWP, GIZ, PROVIA, and UNISDR. The Global Support Programme was launched on 14 June 2013 with financing from the Least Developed Country Fund (LDCF).

76. UNFCCC finance mechanisms related to adaptation are the Adaptation Funds (AF), the Green Climate Funds (GCF) and the GEF coordinated Special Climate Change Fund (SCCF) and LDCF.

77. Important non-UNFCCC finance mechanism that is important for the NAP process is the World Bank initiated Pilot Program on Climate Resilience (PPCR). In addition bilateral initiatives (for example UK, Japan, Germany, Australia and Norway) are potentially important for the NAP process.

78. So far private investments which are related to the NAP process are not clear. The NAP process was launched in 2012 the private sector is expected to become more visible during the implementation of adaptation strategies.

79. In the Decision 4/CP.21 the COP:

(a) Noted the decision B.11/04 of the Board of the Green Climate Fund on the readiness programme implementation, whereby it reaffirms that it may support a voluntary country-driven national adaptation planning process, through its readiness and preparatory subprogramme, in coordination with other programmes and channels¹³.

(b) Invited the Green Climate Fund, as an operating entity of the Financial Mechanism, in accordance with paragraphs 36 and 40 of its governing instrument, to consider how to improve access to financial support for the process to formulate and implement NAPs.

(c) Requested the Least Developed Countries Expert Group and the Adaptation Committee to consider how they can provide more information on accessing funding from the Green Climate Fund for the process to formulate, and implement NAPs, and to include such information, as appropriate, in their reports.

VII. TNA and NAP in the Paris Agreement

A. TNA

80. There are several technology related elements in the Paris agreement which may be considered TNA supportive. They include the following:

(a) Shared long-term vision, on the importance of fully realizing technology development and transfer in order to improve resilience to climate change and to reduce greenhouse gas emissions.

(b) Importance of technology, noted for the implementation of mitigation and adaptation actions under the Paris Agreement, and recognized existing technology deployment and dissemination efforts which shall strengthen cooperative action on technology development and transfer.

(c) Technology Mechanism, serving the Paris Agreement

(d) Established Technology Framework, to provide overarching guidance to the work of the Technology Mechanism in promoting and facilitating enhanced action on technology development and transfer in order to support the implementation of this Agreement, in pursuit of the shared long-term vision.

(e) Support, including financial support, which shall be provided to developing country Parties for the implementation of this Article, including for strengthening cooperative action on technology development and transfer at different stages of the technology cycle, with a view to achieving a balance between support for mitigation and adaptation.

(f) The global stock take, referred in the Article 14 of the Paris Agreement, which shall take into account available information on efforts related to support on technology development and transfer for developing country Parties.

81. In the Decision 1/CP.21, Adoption of the Paris Agreement, the COP-21 requested the SBSTA-44 to initiate the elaboration of the technology framework established under Article 10, paragraph 4, of the Agreement, and to report on its findings to the COP, with a view to the COP making a recommendation on the framework to the COP, serving as the meeting of the Parties to the Paris Agreement, for consideration and adoption at its first session, taking into consideration that the framework should facilitate, inter alia:

(a) The undertaking and updating of TNAs, as well as the enhanced implementation of their results, particularly technology action plans and project ideas, through the preparation of bankable projects;

(b) The provision of enhanced financial and technical support for the implementation of the results of the TNAs;

- (c) The assessment of technologies that are ready for transfer;
- (d) The enhancement of enabling environments for and the addressing of barriers to the development and transfer of socially and environmentally sound technologies

B. NAP

82. There are several technology related elements in the Paris agreement which may be considered NAP supportive. They include the following:

(a) The global goal, established by Parties, on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2 of the Paris Agreement.

(b) Engagement in adaptation planning processes, and the implementation of actions, by each Party, as appropriate, including the development or enhancement of relevant plans, policies and/or contributions, which may include:

- (i) The implementation of adaptation actions, undertakings and/or efforts;
- (ii) The process to formulate and implement NAPs;
- (iii) The assessment of climate change impacts and vulnerability, with a view to formulating nationally determined prioritized actions, taking into account vulnerable people, places and ecosystems;
- (iv) Monitoring and evaluating and learning from adaptation plans, policies, programmes and actions.

(c) Submit and update periodically an adaptation communication, by each Party, as appropriate, which may include its priorities, implementation and support needs, plans and actions, without creating any additional burden for developing country Parties.

(d) The adaptation communication, referred to above, which shall be, as appropriate, submitted and updated periodically, as a component of or in conjunction with other communications or documents, including a NAP, a nationally determined contribution as referred to in Article 4, paragraph 2, and/or a national communication.

83. In the Decision 1/CP.21, Adoption of the Paris Agreement, the COP-21 requested:

(a) the Green Climate Fund to expedite support for the least developed countries and other developing country Parties for the formulation of NAPs, consistent with decisions 1/CP.16 and 5/CP.17, and for the subsequent implementation of policies, projects and programmes identified by them;

(b) the Ad Hoc Working Group on the Paris Agreement, in developing the modalities, procedures and guidelines referred to in paragraph 91 of the Paris Agreement, to consider:

- (i) That Parties report information on adaptation action and planning including, if appropriate, their NAPs, with a view to collectively exchanging information and sharing lessons learned;

VIII. Possible roles of the National Designated Entities in establishing linkages between the planning processes under the Convention

84. One of NDEs role is to identify priority technology, and related capacity-building needs, which are in line with national development and climate strategies, TNAs, and NAPs. This role provides a great opportunity to coordinate with the actors and bodies behind these processes, with a view to harmonize their outputs and results for implementation.

85. Coordinate with other national focal points of UNFCCC Mechanisms such as the Adaptation Fund's Designated Authorities and National Implementing Entities to enhance effectiveness and scope of technical assistance and other services provided by the CTCN to strengthen the readiness of adaptation

projects for financing by the UNFCC Finance institutions and both private and public financing instruments outside the Convention.

86. Relevant technology priorities identified in TNAs should form the basis of requests send by Parties, through their NDE, to the CTCN for assistance. Therefore, NDEs could be key actors in the domestic process established for prioritising the technology needs identified through TNAs and defining technology action plans. Part of their contribution could be to defining how the priority technology needs can be addressed and what support can be accessed to do so, be it from CTCN or other international cooperation and domestic opportunities.

87. Monitoring of technical assistance - provide a feedback on the quality of received support for development of TNAs, and NAPs, and on how services provides through the CTCN could improve the quality of this planning assistance.

88. The NDE, in its role as focal point for CTCN, have the following functions: serve as national focal point for all CTCN activities; support the articulation and prioritization of requests for technical assistance to the CTCN; manage the national prioritisation and submission process of technical assistance requests to the CTCN; and oversee the timely and appropriate implementation of all responses to requests deemed eligible and prioritised for support through the CTCN. To enable NDEs to play this role, it is important they be a national repository of information on technology priorities, capacity building needs, and technical assistance needs for identified technology priorities. Performing this role requires being integrated as a key actor in these planning processes.

89. In its role, the NDE could be part of the coordinating entity to work with the sectoral line ministries and other stakeholders to play its role effectively. The coordinating entity could also include other relevant national focal points to ensure synergies in efforts of country in address climate change.

90. As the institutions in the TNA countries, which are running the TNA projects, are often set-up for the purpose of the project, and the links among many of these TNA institutions may become less used once project is concluded, NDEs could be an important institutional element and take over the TNA information package with a purpose of its dissemination to relevant organizations on national (NAP) and international levels.

91. Technology implementation could benefit from inter-country cooperation and knowledge sharing, beyond the current regional training support, as this could result in an improved coordination of TNAs and requests for international support. The CTCN could play a major role in this coordination, by helping to provide and/or suggest tools and catalyze financial support for taking action to address common technology priorities identified across a number of TNAs, thereby further supporting NDEs.

92. As suggested by the Advisory Board of the CTCN, NDEs should be encouraged to identify opportunities to coordinate with other national focal points of the UNFCCC processes, such as national adaptation plans, and low emissions development strategies. These processes should be linked to national planning processes and technology market potential. Such a role provides an opportunity to encourage the bodies and actors involved, to align the processes and outputs of their work in a way which will enhance the prospects for successful implementation.