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Non-market-based approaches

Technical paper

Summary

This document responds to a request made by the Subsidiary Body for Scientific and Technological Advice for a technical paper on experience and good practice relevant to the design and operation of non-market-based approaches, including, but not limited to: best practices and lessons learned in relation to developing and implementing non-market-based approaches; options for international cooperation on non-market-based approaches; the co-benefits of such approaches; and information on the extent to which such approaches address the elements referred to in decision 1/CP.18, paragraph 2. The document concludes with possible implications for the work programme to elaborate non-market-based approaches.

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I. Introduction

A. Mandate

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its fortieth session, invited Parties and admitted organizations to submit, by 22 September 2014, their views on experience and good practice relevant to the design and operation of non-market-based approaches (NMAs), including, but not limited to:

(a) Best practices and lessons learned in relation to developing and implementing NMAs;

(b) Options for international cooperation on NMAs;

(c) The co-benefits of such approaches, including, but not limited to, their contribution to sustainable development, poverty eradication and adaptation;

(d) Information on the extent to which these approaches address the elements referred to in decision 1/CP.18, paragraph 2.[1]

2. It requested the secretariat to prepare, for consideration at SBSTA 41, a technical paper on the matters referred to in paragraph 1 above, drawing on the submissions referred to in the same paragraph, the equivalent submissions on the framework for various approaches (FVA)[2] and other relevant materials.[3]

B. Scope of the document

3. This document seeks to assess relevant experience and good practice and draws possible ideas and lessons learned regarding international cooperation on NMAs for further consideration by Parties. In doing so, the document encompasses a wide range of the NMAs currently being implemented or developed at the national, regional and international levels.

4. The NMAs referred to in this document have been drawn from a number of sources, including the submissions from Parties on NMAs and the FVA, relevant SBSTA discussions, work under the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), national communications and other relevant material. Nevertheless, these NMAs are for illustrative purposes and are not meant as an exhaustive list.

5. Chapter II outlines the context of NMAs, in particular their consideration to date and what appears to be the current understanding of Parties. Chapter III sets out and assesses experience and good practice in relation to the matters referred to in paragraph 1 above. Chapter IV concludes the document by summarizing possible implications for the work of the SBSTA.

6. This document should be read in conjunction with the accompanying technical papers on the FVA[4] and the new market-based mechanism.[5]

[1] FCCC/SBSTA/2014/2, paragraph 178.
[2] Submissions requested by SBSTA 40 on the FVA as referred to in paragraph 166 of the report on SBSTA 40 (FCCC/SBSTA/2014/2).
[3] FCCC/SBSTA/2014/2, paragraph 180.
[4] FCCC/TP/2014/9.
[5] FCCC/TP/2014/11.

C. Possible action by the Subsidiary Body for Scientific and Technological Advice

7. The SBSTA may wish to draw on the assessment of experience and good practice in relation to NMAs, as contained in this document, in its consideration of NMAs under its agenda item 12(b), with a view to recommending a draft decision for consideration and adoption by the Conference of the Parties (COP) at its twentieth session.[6]

II. Context

8. Discussions on NMAs began under the AWG-LCA in the context of "various approaches" to enhance the cost-effectiveness of, and to promote, mitigation actions. The current work programme to elaborate NMAs was mandated at COP 18, with a view to the SBSTA recommending a draft decision for adoption at COP 19.[7] The subsequent work has included deliberations during SBSTA sessions and a workshop on NMAs, which was held on 7 October 2013 in Bonn, Germany.[8]

9. During these discussions, Parties exchanged views on the importance of NMAs and activities that could be considered as NMAs, as well as their possible characteristics and the circumstances in which they may be appropriate and effective in reducing emissions.

10. Parties generally view market-based approaches as approaches that enable mitigation by one entity to be transferred to, or used by, another entity, for example emissions trading schemes and crediting programmes. The emerging view of NMAs therefore appears to be that such approaches refer to any actions that drive cost-effective mitigation without relying on market-based approaches or mechanisms (i.e. without resulting in transferable or tradable units). Some Parties stress that some NMAs may also simultaneously address adaptation. NMAs are seen by some as an alternative to market-based approaches, while others see them as complementary.

11. Noting that most examples of NMAs put forward by Parties are of a domestic nature, Parties have been exploring where NMAs may benefit from international collaboration and where the work programme under the SBSTA could add value to already ongoing initiatives within and outside of the UNFCCC process.

III. Analysis and options

12. This chapter explores experience and good practice relevant to the design and operation of NMAs in relation to each of the elements referred to at SBSTA 40. Guidance on good practice and lessons learned are highlighted as well as options for international cooperation; the co-benefits of NMAs; and how such approaches address the elements of decision 1/CP.18, paragraph 2.

A. Best practices and lessons learned

1. Overview

13. Several policies and programmes have been identified to date that use NMAs. These include, but are not limited to, policies to promote the development and transfer of

[6] See document FCCC/SBSTA/2014/2, paragraph 181.
[7] Decision 1/CP.18, paragraph 47.
[8] The report on the workshop is contained in document FCCC/SBSTA/2013/INF.12.

renewable energy technologies, initiatives to support energy efficiency, policies and measures to phase out the production and consumption of hydrofluorocarbons (HFCs) and joint mitigation and adaptation initiatives.

14. Nationally appropriate mitigation actions (NAMAs) may also embody NMAs, although they may also be a vehicle for market-based approaches, such as for implementing an emissions trading system, or a combination of non-market-based and market-based policy instruments.

15. The REDD-plus[9] mechanism is also seen by some as an example of a non-market-based approach, in particular the results-based finance component. There are, however, diverging views about whether REDD-plus is solely a non-market-based approach or whether it should also have a market-based track. As a result, a joint mitigation and adaptation mechanism for the integral and sustainable management of forests has been proposed as an alternative approach to REDD-plus.[10]

16. Using the emerging concept outlined in paragraph 10 above, the following are some broad classifications of non-market-based policies and measures:[11]

(a) Economic and fiscal instruments;[12]

(b) Regulations;

(c) Voluntary agreements;

(d) Framework targets;

(e) Information, education and awareness programmes;

(f) Research and development.

17. This section provides examples of concrete policies and measures being undertaken that use a non-market-based approach, as outlined in paragraph 10 above, in keeping with the classifications identified in paragraph 16 above. Where possible, good practice and lessons learned in the development or implementation of these policies and measures are highlighted.

2. Examples of non-market-based policies and measures

Economic and fiscal instruments

18. Non-market-based economic and fiscal instruments include policies such as energy and carbon taxes. Whereas an energy tax is levied on the energy content of fuels, a carbon tax is levied on the carbon content of such fuels and therefore acts as an incentive to shift towards using fuels which emit less carbon when combusted. Such fiscal instruments are a form of carbon-pricing policy and internalize the costs incurred by society and the environment as a result of the emission of greenhouse gases (GHGs) into the economic choices of polluters and potential polluters, but they are not classified as market-based approaches because they do not result in tradable units. They can achieve environmental protection at low overall cost to the economy and can also produce substantial tax revenues.

[9] Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

[10] See <https://unfccc.int/files/bodies/awg-lca/application/pdf/3_bolivia_ws_redd+__bkk_august_2012.pdf>.

[11] These classifications are used in the compilation and synthesis of fifth national communications (FCCC/SBI/2011/INF.1/Add.1) to classify policies and measures.

[12] Some economic and fiscal instruments include market-based policies, such as emissions trading schemes. This document specifically addresses instruments that do not result in tradable units.

19. Energy and carbon taxes send important price signals that influence energy use patterns. The primary purpose of such taxes has been to give businesses and consumers an incentive to use alternative energy sources, to use less energy and to allow a shifting of the tax base from social goods (such as income and investment) to social bads (such as emissions).

20. The International Monetary Fund (IMF) supports the use of such taxes as a means to address current environmental issues and recently called for higher taxes on energy, noting that if properly developed and implemented, such increases should not have negative economic consequences and would facilitate a shift to cleaner fuels or more fuel-efficient vehicles.[13]

21. According to an Organisation for Economic Co-operation and Development (OECD) report on taxing energy use,[14] the highest overall effective tax rates can be found in European countries, where energy tax policy is significantly shaped by the 2003 European Union (EU) energy taxation directive, which sets minimum tax rates for a variety of energy commodities. Many of the countries with the highest effective tax rates on carbon are countries with explicit carbon taxes, such as Denmark, Iceland, Ireland, Norway, Sweden and Switzerland. Explicit carbon taxes generally exist alongside other taxes on energy products, which are sometimes based on the energy content of different fuels. These countries tend to tax a broad range of energy products and to have more consistency in rates across different fuels and uses, particularly with respect to heating and process use.

22. To date, several other countries and subnational entities have implemented or are in the process of implementing carbon taxes. For example, carbon taxes have been introduced in Costa Rica, Japan and Mexico, and in British Columbia, Canada.[15] Chile has recently introduced a carbon tax, which is due to take effect in 2018, and South Africa is working towards introducing a carbon tax in 2016.

23. Several lessons have been learned over the years in implementing carbon and energy taxes, which can assist other countries that may be thinking about implementing such a policy. Some of the positive impacts and effects of a well-designed tax include:

(a) Environmental benefits – lower levels of GHG emissions and, depending on the point in production at which the tax is imposed, less local pollution;

(b) Resource preservation – lowering the use of energy;

(c) Improved energy security – owing to the lower use of energy;

(d) Simplicity of operation – once the hurdle of introducing the tax has been overcome, it is a simple system to maintain;

(e) Economic benefits – direct tax revenue to the government for use in other areas of the economy.

24. Some negative effects or impacts associated with such taxes are that:

(a) Carbon taxes fix a price for GHG emissions but do not provide certainty of environmental benefits if the revenue is not earmarked for environmental activities;

(b) Carbon taxes can have regressive impacts, where a disproportionate tax burden is passed on to low-income populations, necessitating other compensatory measures;

[13] Parry IWH, Heine D, Lis E and Li S. 2014. *Getting Energy Prices Right: From Principle to Practice*. International Monetary Fund.

[14] Available at <http://www.oecd.org/ctp/tax-policy/TaxingEnergyUse_ExecutiveSummary.pdf>.

[15] See <http://www.worldbank.org/content/dam/Worldbank/document/SDN/background-note_carbon-tax.pdf>.

(c) As with any tax, carbon taxes may, depending on the sector, result in a loss of competitiveness regionally or internationally.

25. Energy and carbon taxes can integrate other policy instruments, including of a market-based nature. For example, a government can provide for the surrender of emission reduction credits to reduce a company's tax obligation. Mexico and South Africa are considering such action with regard to the use of credits from the clean development mechanism and other crediting standards.

26. Other taxes that directly or indirectly serve to mitigate climate change or support environmental policies include: congestion charges to limit environmental damage from automobiles; taxes on water use based on consumption, house size or number of occupants; taxes on polluting products such as batteries, plastic bags, tyres and disposable cameras; taxes on fine particulate emissions, nitrogen oxides and sulphur dioxide; and taxes on vehicles that generate diesel exhaust.

27. Incentives are a type of economic and fiscal instrument used to promote or penalize certain purchases, investments or behaviour through financial means. Types of incentives include: fees, subsidies and project funding, for example charges for using landfills; subsidies for energy-efficient product purchases or home/commercial building renovations; guaranteed minimum feed-in tariffs for electricity production from renewable energy sources; and grants, loans or guarantees for emission mitigation projects or project financing assistance.

28. Incentives are widely used to promote activities, such as sustainable transport, increased home energy efficiency and sustainable consumption.

29. Under the Warm Front programme, the United Kingdom of Great Britain and Northern Ireland earmarked funds to improve energy efficiency in poor households.[16] Sweden provides subsidies to single family households for investments in energy-efficient systems for heating, water and electricity, and solar and thermal water heaters are subsidized in Denmark, Germany and Spain.

30. Other incentive schemes which promote a non-market-based approach include the "eco-point" system in Japan to reward purchases of energy-saving home appliances[17] and the "waste against bus tickets" programme in Brazil, where the urban poor in the city of Curitiba can bring their waste to neighbourhood centres and exchange it for bus tickets and food.[18]

31. Implementing subsidies is also a way to encourage climate-friendly practices using a non-market-based approach. Germany was one of the first countries to implement a feed-in tariff law through the Renewable Energy Sources Act (2000).[19] Since then, many countries, states and regions have replicated the German model and there has been a significant uptake in renewable energies and significant reductions in their cost. Germany's success can be attributed to strong political will, a solid policy framework to incentivize renewable energy through feed-in tariffs and multi-stakeholder buy-in.

[16] The Warm Front programme closed to new applications on 19 January 2013. For more information, see the United Kingdom's sixth national communication and first biennial report <http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/7742.php> and <https://www.gov.uk/government/policies/helping-households-to-cut-their-energy-bills/supporting-pages/warm-front-scheme>.

[17] See <http://www.gov-online.go.jp/pdf/hlj_ar/vol_0031e/14-15.pdf>.

[18] See <http://www.bbc.co.uk/schools/gcsebitesize/geography/urban_environments/urbanisation_ledcs_rev4.shtml>.

[19] The Renewable Energy Sources Act has frequently been revised to refine its regulatory framework. The latest revision entered into force on 1 August 2014.

32. Energy subsidies, such as fossil fuel or electricity subsidies, can, however, cause countries to pursue inefficient consumption and production paths. Fossil fuel subsidies, for example, create a dependency on fossil fuels and discourage users from shifting to cleaner sources of energy. The International Energy Agency (IEA) and OECD estimate that eliminating fossil fuel subsidies would lead to a 10 per cent reduction in GHG emissions below 'business as usual' by 2050.[20] While IMF proposes that subsidy reform could lead to a more efficient allocation of resources, which could increase economic growth over the longer term and also benefit the environment.[21] Furthermore, the Intergovernmental Panel on Climate Change (IPCC) is highly confident that the reduction of subsidies on fossil energy could achieve significant emission reductions at negative social cost.[22]

33. Several countries, including Malaysia, Philippines, Poland and United Kingdom, have undertaken subsidy reform programmes, with varying levels of success. Countries that have undertaken such reforms have often done so to alleviate fiscal pressure on government budgets, resulting from high international energy prices, rather than for environmental benefits.[23] However, the role of fossil fuel subsidy reform in the context of climate change is being increasingly understood and recognized.

34. Some grants, loans and project financing initiatives were highlighted in the sixth national communications of Parties included in Annex I to the Convention (Annex I Parties), including the United States of America's Energy Efficiency and Conservation Block Grant Program, which provides funding to local and state governments, tribal governments and territories to develop, promote, implement and manage energy efficiency and conservation projects, and Australia's Clean Energy Finance Corporation, which has invested in clean energy projects since July 2013. Its investments will deliver the financial capital needed to assist Australia in transitioning its economy to cleaner energy sources.[24]

35. The Brazilian Amazon Fund[25] was established in 2008 to provide incentives to combat deforestation and promote the preservation and sustainable use of forests in the Amazon biome. It provides non-reimbursable loans, which are effectively grants. The funding is treated as a loan until the end of the project period, but once it has been verified that the funds have been spent in line with the agreed terms, repayment is cancelled.

Regulations

36. Regulations (rules, standards and permitting requirements) are used to directly shape the market by reducing the role played by less-efficient, more carbon-intensive products (e.g. making it illegal to sell poorly performing equipment), or by increasing the role of climate-friendly operating practices (e.g. requiring the use of energy audits or best available technologies in industrial plants). Some examples of regulations include industrial permits and approvals, appliance and equipment efficiency standards, building codes, vehicle standards and landfill operating standards.

37. In recent years, China has made significant advances in the implementation and development of clean energy technologies. The Government set a clear legal framework through the use of laws and regulations, including the renewable energy law and the national five-year plans, and articulated time-bound goals and objectives for renewable

[20] See <http://www.iea.org/media/g20/1_2011_Joint_report_IEA_OPEC_OECD_WorldBank_on_fossil_fuel_and_other_energy_subsidies.pdf>.

[21] See <http://www.imf.org/external/np/pp/eng/2013/012813.pdf>.

[22] See <http://report.mitigation2014.org/drafts/final-draft-postplenary/ipcc_wg3_ar5_final-draft_postplenary_technical-summary.pdf>.

[23] As footnote 20 above.

[24] See document FCCC/SBI/2014/INF.20/Add.1.

[25] See <https://unfccc.int/files/bodies/awg/application/pdf/statement_by_brazil.pdf>.

energy deployment, including diversifying the energy mix. China's advances in renewable energy can be attributed to strong political will and the commitment of the Government to diversify the energy economy, reduce environmental problems and avoid massive increases in energy imports.

38. Regulations are widely used for buildings. In Annex I Parties' fifth national communications, the use of mandatory energy efficiency requirements for residential and commercial buildings was reported by some Parties, for example Australia (National Construction Code), EU (energy performance of buildings directive) and United States (Building Energy Codes Program).[26]

39. Singapore has developed a Green Building Master Plan, with a goal of 80 per cent 'Green Mark' certification of buildings by 2030. The initiative certifies buildings in relation to energy and water efficiency, indoor environmental quality, green space integration and the use of eco-friendly materials for construction, and emphasizes high standards for measurement and verification. Singapore also has regulations in place for energy consumption in buildings and mandates regular energy audits.[27]

40. The United States is developing new rules, or standards, that will reduce carbon emissions from power plants. The standards, known as the Clean Power Plan, are being developed under the Clean Air Act.[28] It is estimated that the Clean Power Plan, which establishes state-by-state carbon emission reduction targets, will reduce the national emissions from the electricity sector by an estimated 30 per cent below the 2005 level by 2030.[29] The standards are scheduled to be finalized by June 2015.

41. Canada is also developing regulations for the coal-fired electricity sector, which will set a stringent performance standard for new coal-fired units and units that have reached the end of their useful life. The performance standard is expected to foster a permanent transition towards lower- or non-emitting types of generation, such as high-efficiency natural gas and renewable energy. The standard will come into force on 1 July 2015. Environment Canada anticipates that, in their first 21 years, the regulations will result in a net cumulative reduction in GHG emissions of about 214 Mt.[30]

42. Another area where regulations are employed is in the global phase-down of HFCs.[31] In the EU, there is legislation to control fluorinated gases (F-gases). Some EU member States have additional measures that go further than EU policy, including taxes on F-gas sales and further bans. The EU legislation could be used by other interested countries as an example in developing their own laws to control F-gases.

43. Regulations are also used in relation to the operation of landfills. For example, landfill regulations are used in New Zealand and United States. The New Zealand National Environmental Standard for Landfill requires the collection and destruction of methane gas at all landfill sites with a total design capacity greater than 1 Mt refuse. The regulation sets standards for the flaring of the gas, but also allows for the destruction of collected gas via

[26] See document FCCC/SBI/2011/INF.1/Add.1.

[27] See <http://unfccc.int/files/bodies/awg/application/pdf/4_singapore.pdf>.

[28] The Clean Air Act, originally passed in 1973 and amended in 1990, is a United States federal law designed to protect human health and the environment from the effects of air pollution. Under the Act, the Environmental Protection Agency is required to regulate emissions of pollutants that "endanger public health and welfare".

[29] See <http://www2.epa.gov/carbon-pollution-standards/fact-sheet-clean-power-plan-framework>.

[30] See <https://www.ec.gc.ca>.

[31] See <http://ec.europa.eu/clima/policies/f-gas/legislation/index_en.htm>.

beneficial uses of methane, such as electricity generation. The United States Stringent Landfill Rule requires large landfills to capture and combust their landfill gas emissions.[32]

Voluntary agreements

44. Voluntary agreements, also known as long-term agreements, are contracts negotiated between industry and government, which often include voluntary targets and time frames.

45. Voluntary environmental agreements can have very varied characteristics. For example, these agreements may be binding once entered into, and may also involve regulatory or fiscal sanctions in the case of non-compliance. Under the Danish agreement on industrial energy efficiency (which was recently terminated owing to a reform of the electricity tax system), a company entering into an agreement obtained a rebate on its carbon dioxide (CO_2) tax. In a case of non-compliance, however, the agreement was rescinded and the company would have become subject to full taxation and tax rebates received by the company would have to be reimbursed.

46. Voluntary agreements can be classified into one of four types:

(a) Unilateral commitments by industry;

(b) Private agreements between industry and stakeholders;

(c) Environmental agreements negotiated between industry and government;

(d) Voluntary programmes developed by government that individual firms can join.

47. Since the early 1990s, the Netherlands has been making such agreements with various industrial and non-industrial sectors as part of Dutch energy policy. The agreements, aimed at promoting energy savings in the Netherlands, span the period 2005 to 2020. Over 1,000 companies and over 40 sectors are participating in such agreements.[33]

48. Other examples include: Finland's Energy Efficiency Agreements for the period 2008–2016,[34] which play a central role in the implementation in Finland of the EU energy end-use and energy services directive; and Ireland's Energy Agreements Programme,[35] which was launched in 2006 and is intended to last until 2020, aimed at large energy users that want to take a strong, strategic and systematic approach to energy management in order to reduce energy-related costs and emissions.

49. The introduction of the European Union Emissions Trading System (EU ETS) brought with it new issues in terms of avoiding double counting between voluntary agreements and the EU ETS. Member States revised their voluntary agreements accordingly so as not to cause such interference.[36]

Framework targets

50. Framework targets establish legally binding or indicative goals for GHG emissions, technology shares, fuel shares and efficiency, followed up with monitoring, reporting and verification procedures to ensure compliance.

51. The EU burden-sharing agreement and the energy efficiency directive are two examples of framework targets. To ensure that the EU met its Kyoto Protocol target for the

[32] See document FCCC/SBI/2014/INF.20/Add.1.
[33] See <http://www.rvo.nl>.
[34] See <http://www.motiva.fi/files/1348/Finland_Energy_Efficiency_Agreements_2008-2016.pdf>.
[35] See <http://www.seai.ie/Your_Business/Large_Energy_Users/Energy_Agreements_Programme/>.
[36] See <http://ec.europa.eu/energy/efficiency/studies/doc/2010_05_jrc_va_study.pdf>.

first commitment period, each of the EU-15[37] member States agreed to national emission reduction or limitation targets under the burden-sharing agreement. These national targets were differentiated according to each member State's relative wealth at the time of the agreement but collectively added up to the 8 per cent reduction needed. The targets were legally binding under EU law.[38]

52. The energy efficiency directive is aimed at keeping the EU energy efficiency target on track and sets explicit goals for primary and final energy consumption by 2020.

Information, education and awareness programmes

53. Information, education and awareness programmes help individuals to understand and address the impact of climate change, encourage them to change attitudes and behaviour and help them to adapt to climate change related trends. Information can be passed on in a number of ways, including through public awareness campaigns; the use of labels for household appliances and office equipment; ratings and certification programmes; audits for buildings; and best practice manuals.

54. The report on good practices of stakeholder participation in implementing Article 6 of the Convention[39] highlights several national and international examples of good practice in education and awareness campaigns. Germany's *Energiewende* campaign aims to raise awareness of the country's new energy policy and its importance through nationwide outdoor advertising. Elements of the campaign include a series of publications and an online advisory and information service on energy saving, which is advertised by the Federal Government in daily and weekly newspapers.

55. Swaziland organized climate change dialogues where different stakeholders shared views on possible measures to address climate change. This initiative aimed to foster behavioural change by encouraging action by individuals to reduce the carbon footprint.

56. The United Nations Educational, Scientific and Cultural Organization supports countries in integrating its Climate Change Education for Sustainable Development programme into their education policies and strategies and runs a set of country programmes, which include training of educators, education planners and policymakers.[40]

57. The Food and Agriculture Organization of the United Nations (FAO) and the International Labour Organization lead the Junior Farmer Field and Life Schools (JFFLS) programme, which aims to empower vulnerable youth by providing them with the livelihood options and gender-sensitive skills needed for long-term food security. A JFFLS module dedicated to climate change has been launched, targeting JFFLS facilitators and providing them with the information and exercises needed to convey climate-coping agricultural strategies to young people (15–24 years of age) from rural areas. The climate change module has been pilot-tested in Malawi and the United Republic of Tanzania.

58. Eco-labelling is another way of providing individuals with information. This is the practice of marking products with a distinctive label so that consumers know that the products that they have purchased conform to recognized national or international environmental standards. The eco-label of the Indonesian Ecolabelling Institute promotes sustainable management of Indonesia's forests. FAO has developed eco-labels for fish and seafood that are harvested or raised in a sustainable manner, and the EU Ecolabel helps to

[37] The 15 member States that formed the European Community at the time of ratification of the Kyoto Protocol.

[38] See <http://ec.europa.eu/clima/policies/g-gas/kyoto/index_en.htm>.

[39] FCCC/SBI/2014/3.

[40] In 2012–2013, pilot programmes were implemented in Dominican Republic, Guyana, Mauritius, South Africa and Tuvalu. In 2014, country programmes will be launched in Bangladesh, Brazil, Cuba, Mongolia, Namibia, Nepal and the Philippines.

identify products and services that have a reduced environmental impact throughout their life cycle.

59. The EU has implemented an energy labelling directive, which establishes mandatory energy labelling requirements for energy-related products (except vehicles) on the EU market. Energy labels allow consumers to make informed choices by alerting them to the consumption/running cost of a product, thus helping them to save energy and money.[41] India also has an appliance standards and labelling scheme, which was established through the Energy Conservation Act (2001) and the National Action Plan for Climate Change (2008) and has been successful in creating a 'brand' for energy-efficient appliances.[42]

60. The Fuel Consumption Label is an initiative of the Government of Australia to promote consumer demand for fuel-efficient vehicles. Encouraging a consumer preference for more fuel-efficient vehicles is helping to reduce GHG emissions from transport and raises consumer awareness of the impacts of different fuels and the role of fuel-efficient vehicles in reducing emissions.[43]

61. IEA has released a scoping study[44] to inform policymakers, decision makers and other stakeholders on communication-related best practices for renewable energy. The study, conducted under the IEA Implementing Agreement on Renewable Energy Technology Deployment (IEA-RETD), concludes that targeted, effective renewable energy communications can be achieved via more consistent, holistic and rigorous approaches to pre- and post-campaign development.

62. Some best practices in developing communication strategies on renewable energy include: using partnerships to broaden the reach of communication and reduce costs; conducting pre-campaign research to gain an in-depth understanding of target audiences; developing targeted and measurable objectives; and evaluating the communication practices once completed to assess whether the communication measures have met the defined objectives.

Research and development

63. Research and development policies lead to the development of new products or procedures, or to the improvement of existing products or procedures. Such policies do not have an immediate impact, but help to ensure that in the long term countries will be able to respond adequately to climate change while improving their competitive position in the potential markets for the new technologies. They include direct funding and contributions to joint international research efforts.

64. The sixth national communications of Annex I Parties highlight several initiatives related to research and development. For example, Canada, Japan and United States fund the development of carbon dioxide capture and storage and Japan and United States also support advanced nuclear fission power technologies. The United States also supports research on solar, geothermal and distributed energy technologies.

65. Germany's Innovation and New Energy Technologies programme supports a wide range of climate-related research and development efforts, including on: power station technologies, efficient electricity use, energy efficiency in industry, commerce, trade and services and measures for supporting research into safety and final storage for the nuclear sector.

[41] See <http://ec.europa.eu/energy/efficiency/labelling/labelling_en.htm>.

[42] See <http://unfccc.int/files/bodies/awg/application/pdf/2_india_revised.pdf>.

[43] See Australia's sixth national communication, available at <http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/7742.php>.

[44] See <http://iea-retd.org/wp-content/uploads/2013/04/IEA-RETD-RE-COMMUNICATE-Report_Final_20130403.pdf>.

66. In addition, Parties are focused on research and development activities to enable the widespread use of alternative-fuel vehicles, such as those that run on biofuels, electricity or hydrogen. Canada and United States continue to fund programmes on fuel cells, biofuels and hydrogen, while Japan funds programmes on fuel cells and hydrogen. The Seventh Framework Programme of the EU includes a European Technology Platform for hydrogen and fuel cells. Furthermore, Japan is promoting systems approaches to reducing emissions from transportation and shipping and distribution, and Australia announced its Second Generation Biofuels Research and Development Program in 2008 and has released a technology road map to advance hydrogen and fuel cell technology.

B. Options for international cooperation

1. Overview

67. NMAs are generally viewed as domestic policies; however, as highlighted in chapter III.A above, there are several examples of regional and international NMAs. Furthermore, Parties are considering where NMAs may benefit from international collaboration and where the relevant work programme under the SBSTA could add value to already ongoing initiatives within and outside of the UNFCCC process.

68. Cooperation can provide capacity-building, facilitate technology development and transfer, offer financial assistance and provide a forum to share best practices and lessons learned in developing and implementing policies and initiatives. This section highlights some existing cooperative initiatives that facilitate the development and implementation of NMAs.

2. Examples of non-market-based cooperative initiatives

Regional cooperation

69. Regional cooperation plays an important role in addressing global challenges such as climate change and sustainable development. There is a growing demand to scale up regional solutions and to mainstream regional issues into national development planning, including addressing the climate change challenge.

70. The IPCC notes that regional cooperation offers substantial opportunities for mitigation thanks to geographical proximity, shared infrastructure and policy frameworks, and trade and cross-border investment that would be difficult for countries to implement in isolation. It also notes that climate-specific regional cooperation using binding regulation-based approaches in areas of deep integration, such as the EU directives on energy efficiency, renewable energy and biofuels, has made some impact in the achievement of mitigation objectives. Nonetheless, evidence suggests that there is substantial potential to increase the role of climate-specific regional cooperation agreements and associated instruments, including economic and regulatory instruments.[45]

71. There are several planned and ongoing regional initiatives to promote renewable energy. At the Secretary-General's Climate Summit 2014, two new regional initiatives were announced by a coalition of leaders from government, business and civil society, aimed at expanding energy access through scaled-up access to clean, renewable energy in Africa and small island developing States (SIDS).[46] The Africa Clean Energy Corridor and SIDS Lighthouses initiatives are both facilitated by the International Renewable Energy

[45] As footnote 22 above.

[46] See <http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/05/RENEWABLES-PR.pdf>.

Agency and will strengthen international cooperation and speed up the development of low-carbon energy resources.

72. The Economic Community of West African States set up the Centre for Renewable Energy and Energy Efficiency to mainstream renewable energy and energy efficiency into its regional activities and policies. The Centre, in collaboration with financial institutions and other private companies, set up the Renewable Energy Investment Initiative, which aims at mitigating financial barriers to investments in medium- and large-scale renewable energy projects and businesses in the region. It assists member countries to make use of their individual renewable energy potential by providing support to develop a technical and economically feasible pipeline of projects and attract the interest of possible investors and financiers.[47]

73. The Nordic Ecolabel is the official eco-label of the Nordic countries. It was established in 1989 by the Nordic Council of Ministers with the purpose of providing an environmental labelling scheme that would contribute to sustainable consumption.[48] The scheme evaluates the impact of products on the environment throughout their life cycle and guarantees among other things that climate requirements are taken into account and that harmful gases, such as CO_2, are limited. As a means of sharing knowledge and know-how, the Nordic Council of Ministers has recently initiated a joint venture with the United Nations Environment Programme, whereby Argentina, Brazil, Chile, Paraguay and Uruguay may set up a new eco-label inspired by the Nordic Ecolabel.

74. Other regional eco-labelling initiatives under development include Eco Mark Africa[49] and the Eastern Caribbean Energy Labelling Project. Eco Mark Africa will establish a certifiable sustainability standard as well as a recognition system for other sustainability standards. It will provide one continent-wide and cross-sectoral label to identify sustainably produced African products. The Eastern Caribbean Energy Labelling Project aims at increasing energy efficiency in the Organization of Eastern Caribbean States region by introducing energy efficiency labels and standards for electrical household appliances and lighting equipment and promoting the use of energy-efficient products.[50]

75. The Asian Co-benefits Partnership supports the mainstreaming of co-benefits into sectoral development plans, policies and projects in Asia. The partnership includes: information sharing and knowledge management, including knowledge generation and dissemination; enhanced communication among members; the development of policies and projects related to co-benefits in Asia; and the strengthening of regional cooperation to promote co-benefits.

International cooperation

76. The IPCC highlights two characteristics of climate change that necessitate international cooperation: firstly that climate change is a global commons problem; and secondly that it is characterized by a high degree of heterogeneity in the origin of emissions, mitigation opportunities, climate impacts, and capacity for mitigation and adaptation. The IPCC notes that international cooperation on climate change has become more institutionally diverse over the past decade. This institutional diversity has been attributed in part to the increasing inclusion of climate change issues in other policy arenas, such as sustainable development, international trade and human rights. The emergence of new transnational climate-related institutions not centred on sovereign states has also been noted. Such institutions include public–private partnerships, private-sector governance

[47] See <http://www.ecreee.org>.
[48] See <http://www.nordic-ecolabel.org>.
[49] See <http://www.ecomarkafrica.com>.
[50] See <http://www.ecelp.org>.

initiatives, transnational programmes conducted by non-governmental organizations and city-level initiatives.[51]

77. The UNFCCC capacity-building portal[52] is an international initiative that contains several examples of cooperation through capacity-building, including: the Low Emission Capacity Building Programme to support low-emission development strategies, NAMAs and measurement, reporting and verification (MRV); the regional gateway for technology transfer and climate change action in Latin America and the Caribbean, which strengthens capacity and knowledge-sharing in relation to climate change technologies and experience with adaptation and mitigation in Latin America and the Caribbean; and regional renewable energy training initiatives for the Asia-Pacific and African regions, convened by the United Nations Industrial Development Organization, aimed at assisting technicians from developing countries by enhancing their skills and contributing to the spread of renewable energy technologies in their respective countries.

78. There are several other international partnerships aimed at supporting Parties in the preparation and implementation of NAMAs. One such initiative is the NAMA Partnership, which aims at enhancing collaboration on, and the complementarity of, the activities of multilateral, bilateral and other organizations to accelerate the provision of support to developing countries in the preparation and implementation of their NAMAs. The partnership is a knowledge-sharing initiative focusing on disseminating information on best practices and lessons learned concerning key aspects of NAMA preparation and implementation.[53]

79. Another initiative which assists Parties in the development and implementation of their NAMAs is the International Partnership on Mitigation and MRV. This initiative supports a practical exchange on mitigation-related activities and MRV between developing and developed countries in order to help to close the global ambition gap. The partnership seeks to foster mutual learning between peers; identify best practices; establish a shared mitigation-related knowledge base; and disseminate lessons learned.[54]

80. IEA-RETD has the mandate to address cross-cutting issues that influence the deployment of renewable energy and to act as a vehicle to accelerate the market introduction and deployment of renewable energy technologies. The IEA-RETD vision is that significantly higher utilization of renewable energy technologies will result from international cooperation, encouraging more effective, efficient and rapid deployment. The programme aims to empower policymakers and energy market actors to make informed decisions on the deployment of renewable energy by providing innovative policy options, disseminating best practices and increasing awareness.[55]

81. The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants is an international cooperative initiative which supports action on short-lived climate pollutants in the atmosphere, including HFCs. In its first two years, it has launched 10 initiatives to address short-lived climate pollutant emissions from a wide range of sources, raise awareness of short-lived climate pollutants and help countries to develop their own plans and actions to tackle these pollutants.[56]

82. The Global Methane Initiative is a voluntary, multilateral partnership that aims to reduce global methane emissions by advancing the abatement, recovery and use of methane as a valuable clean energy source. It achieves this by creating an international network of

[51] As footnote 22 above.
[52] See <http://unfccc.int/capacitybuilding/core/activities.html>.
[53] See <http://www.namapartnership.org/>.
[54] See <http://www.mitigationpartnership.net/>.
[55] See <http://iea-retd.org/>.
[56] See <http://www.ccacoalition.org/>.

partner governments, private-sector members, development banks, universities and non-governmental organizations in order to build capacity, develop strategies and markets, and remove barriers to project development for methane reduction in partner countries. The initiative strives to build capacity and overcome barriers to methane reduction projects around the world.[57]

83. The Climate Technology Initiative is a multilateral initiative originally established to foster international cooperation for the accelerated development and diffusion of climate-friendly technologies and practices. Through a variety of capacity-building activities, the Climate Technology Initiative has promoted meaningful technology transfer to and among developing countries and countries with economies in transition. Specific activities include technology needs assessments, seminars and symposiums, implementation activities, training courses, information dissemination and support activities.

84. The Carbon Sequestration Leadership Forum is an international climate change initiative focused on the development and improvement of cost-effective technologies for the separation and capture of CO_2 for transport and long-term safe storage. The Forum facilitates the development and deployment of such technologies via collaborative efforts that address key technical, economic and environmental obstacles. It also promotes awareness of and champions legal, regulatory, financial and institutional environments that are conducive to the development of such technologies.[58]

85. Enhancing Capacity for Low Emission Development Strategies is a programme of the United States Government that has forged partnerships with more than 20 developing countries, including Colombia, Indonesia, South Africa and Ukraine, that are planning and implementing low-emission development strategies. The programme supports the development and implementation of country-driven low-emission development strategies by providing targeted technical assistance for efforts, such as GHG inventories, economic and emission modelling and analysis, and landscape and clean energy related interventions.

86. The Global Climate Change Alliance is an EU initiative to strengthen dialogue and cooperation on climate change with the developing countries that are most vulnerable to climate change, in particular the least developed countries and SIDS. Its portfolio has increased from 4 pilot projects in 2008 to supporting more than 45 national and regional programmes across 35 countries and 8 regions and subregions.[59]

87. The Friends of Fossil Fuel Subsidy Reform is a group of countries that do not belong to the Group of 20 (G20) that support the reform of fossil fuel subsidies through information exchange and advocacy. The group convenes events at major environmental conferences, including the United Nations Climate Change Conferences, to discuss topics such as: peer review processes currently under way through the G20 and the Asia-Pacific Economic Cooperation; lessons learned from experiences with reform; and tools and initiatives available to support reform.[60]

88. In an effort to promote more environmentally friendly initiatives, a number of green funds have been established in recent years, at the international and national levels. The most recent international climate fund is the Green Climate Fund, which is intended to promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries, which could be in the form of an NMA.

[57] See <https://www.globalmethane.org/>.
[58] See <http://www.cslforum.org/>.
[59] See <http://www.gcca.eu/>.
[60] See <http://www.mfat.govt.nz/fffsr/>.

89. Over the years, Parties have proposed other areas of climate action that could benefit from international collaboration. For example:

(a) A group of Parties suggested that the UNFCCC and the Montreal Protocol on Substances that Deplete the Ozone Layer could cooperate to find an appropriate solution to phase out the use of HFCs. Collaboration could allow the maximization of impacts that policies and actions have on both the protection of the ozone layer and climate change mitigation, in a cost-effective manner and in line with environmental integrity;

(b) Cooperation could accelerate the phase-out of fossil fuel subsidies. The leaders of the G20 countries agreed in September 2009 to phase out inefficient fossil fuel subsidies over the medium term and the issue has been raised by several Parties in international processes, including at the Rio+20 United Nations Conference on Sustainable Development, held in June 2012, and under the UNFCCC.

C. Integration of co-benefits, including contributions to sustainable development, poverty eradication and adaptation

1. Overview

90. Although NMAs have mostly been motivated by the need for mitigation action, there is an increasing awareness of the need to align such policies with development objectives, particularly in developing countries. This can increase the effectiveness of policies in meeting multiple objectives and strengthen the political will to act. Factors such as economic development, health and safety, energy security, air and water pollution, and social equality are central to public concern.

91. The realization that the development agenda is becoming an increasingly important component of GHG mitigation is recognized by the IPCC, under the term "co-benefits approach". The co-benefits approach aims to produce several different benefits from one particular policy. This section examines the additional benefits that NMAs can provide.

2. Examples of how non-market-based approaches integrate co-benefits

92. Many of the initiatives highlighted above have been shown to contribute to sustainable development, economic development, poverty eradication, resilience or adaptation and are not limited to achieving mitigation benefits alone. Renewable energy programmes and policies are known to address not only climate change but also energy security, energy import cost concerns and job creation. In fact, it has been noted that developing countries in particular see climate change mitigation as a co-benefit rather than the primary driver for renewable energy deployment.

93. Climate change measures that bring renewable energy to remote communities and households in particular have the additional co-benefits of supporting the sustainable growth of small towns, enabling new green economic enterprises and diversifying income sources where agricultural decline due to climate change is likely.

94. Programmes and projects aimed at addressing agriculture, land-based activities and activities to reduce deforestation also contribute to economic growth and food security through improved land management, increased agricultural productivity and improved water availability. Land management and forestry activities also improve and protect biodiversity and can improve livelihoods by providing improved economic opportunities for the indigenous populations that may be dependent on the natural resources within the area.

95. Carbon taxes, such as those highlighted in paragraph 18 above, can also contribute to sustainable development and adaptation priorities if the money accrued from the tax is redirected to national development or adaptation projects. This is demonstrated in the carbon tax of Costa Rica, where the revenue raised from the tax goes into a national forest fund that pays indigenous communities to protect their surrounding forests.

96. Revenue from pricing carbon has also made it possible in some countries to reduce or eliminate other taxes. It has also been seen that countries that moved early to price emissions experienced a surge of investment in climate-friendly technologies, thus creating a green industrial revolution, which increased economic activity and facilitated job creation.

97. Action on short-lived pollutants as highlighted in paragraph 81 above delivers important positive co-benefits in the areas of air quality, human health and agricultural productivity. The recently adopted EU legislation on F-gases, scheduled to be implemented from 1 January 2015, strengthens the previous legislation of 2006 and is expected to stimulate innovation, green growth and jobs by encouraging the use of green technologies.

98. The projects of the Global Methane Initiative referred to in paragraph 82 above reduce GHG emissions in the near term and provide a number of important environmental and economic co-benefits, such as: stimulating local economic growth; creating new sources of affordable alternative energy; improving local air and water quality, with associated public-health benefits; and increasing industrial worker safety.

99. The Climate Technology Initiative as highlighted in paragraph 83 above promotes short- and long-term global economic and social stability through the creation of jobs and the associated strengthening of local and regional infrastructure.

100. Two new international NMAs have recently been proposed which highlight the co-benefits, synergies and trade-offs that exist between mitigation and adaptation: a mechanism for climate resilience and sustainable development[61] and a joint mitigation and adaptation mechanism for the integral and sustainable management of forests.

101. The proposed mechanism for climate resilience and sustainable development addresses the need to create effective linkages between mitigation, adaptation, sustainable development and poverty eradication. It has the objective of achieving the decoupling of economic growth from carbon emissions while enforcing sustainable patterns of consumption and production. It also proposes that any action related to the mitigation of and adaptation to climate change must achieve not only reduction of poverty but also reduction of gender and income inequalities, including fully protecting the collective rights of indigenous peoples. The mechanism also aims to assist developing countries in achieving an effective and successful transition towards holistic and resilient low-carbon sustainable development patterns, trajectories and pathways in the context of the principles and provisions of the Convention.

102. The proposed joint mitigation and adaptation mechanism for the integral and sustainable management of forests is intended to be used in conjunction with the mechanism for climate resilience and sustainable development to fulfil the integrated targets in the context of forest and ecosystem conservation and management. It is intended to foster the achievement of sustainable development pathways with lower carbon emissions in the forestry sector and ecosystems, with a view to joint mitigation and adaptation outcomes being reached as a result of the support and strengthening of the sustainable management of forests. Therefore, mitigation and adaptation cannot be considered only as ends in themselves but also as means to achieve sustainable development.

[61] See <https://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp2-5_submission_by_bolivia_20140609.pdf>.

D. Information on the extent to which approaches address the elements referred to in decision 1/CP.18, paragraph 2

1. Overview

103. Decision 1/CP.18, paragraph 2, states that Parties' efforts should be undertaken on the basis of equity and common but differentiated responsibilities and respective capabilities, and the provision of finance, technology transfer and capacity-building to developing countries in order to support their mitigation and adaption actions under the Convention, and take into account the imperatives of equitable access to sustainable development, the survival of countries and protecting the integrity of Mother Earth. This section seeks to provide information on the extent to which NMAs address the elements of decision 1/CP.18, paragraph 2.

2. Examples of how non-market-based approaches address the elements of decision 1/CP.18, paragraph 2

104. NAMAs are an example of efforts undertaken on the basis of equity and common but differentiated responsibilities and respective capabilities. When NAMAs were conceptualized it was recognized that different countries may take different nationally appropriate actions on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.

105. The Convention encourages developed countries to provide finance, technology transfer and capacity-building to developing countries in order to support their mitigation and adaption actions. While there is still a need for enhanced provision of support to developing countries, several initiatives highlighted in chapter III.B above demonstrate that support has been and continues to be provided to developing countries to assist them in undertaking action. Developed countries are also required to provide financial support to assist developing countries in developing and implementing their NAMAs.

106. In their sixth national communications, several developed countries highlighted initiatives in which they provide support to developing countries to assist them in addressing climate change. For example, Sweden outlined its Special Climate Change Initiative, which channels resources through multilateral climate funds and initiatives and bilaterally to countries that are exposed to a high level of climate risk combined with high vulnerability, and several government agencies and institutions are involved in technology transfer to developing countries and countries with economies in transition.

107. Australia noted that its cooperation in adaptation, mitigation, capacity-building and technology cooperation programmes is administered through bilateral partnerships, but also through multilateral organizations, such as the Global Environment Facility and the Green Climate Fund. In addition, Finland has specific programmes and financial arrangements for transferring environmentally sound technologies to developing countries, including both 'soft' technologies, such as capacity-building, creating information networks and enhancing training and research, and 'hard' technologies, to control GHG emissions and for adaptation measures.

108. The Green Climate Fund and the Technology Mechanism can both facilitate the enhanced provision of support to enable action in developing countries. The provision of support is being reported through national communications, the biennial reports of developed countries and the biennial update reports of developing countries and reviewed through the processes for international assessment and review and international consultation and analysis.

109. With regard to "equitable access to sustainable development", many of the initiatives identified in chapter III.B above highlight the promotion of the sustainable development of the host country, in accordance with its own priorities and national circumstances, as an objective.

IV. Possible implications for the work programme

110. A number of possible implications for the SBSTA work programme on NMAs can be identified as arising from this document and the submissions from Parties and admitted observer organizations, as well as other relevant materials, considered during the course of its preparation. The following should not be seen as a fully comprehensive set of possible implications, but may be seen as an attempt to highlight key issues that may be of importance to the future work of the SBSTA.

111. It should be said that it may not be possible for Parties to take a final decision on the nature of NMAs in advance of more clarity emerging from the discussions under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) on the 2015 agreement. It may therefore be worth exploring how, in that context, Parties might be able to provide more clarity on the focus and priority of the SBSTA work programme on NMAs in 2015.

112. There is a need to **determine more clearly the overall concept of NMAs**, as this would enable further steps in the work programme to be taken. From the material and analysis considered in the preparation of this document, it would appear that several options may benefit from more consideration:

(a) An information-sharing process for the development and implementation of NMAs at the national, regional and international levels. This could be in the form of an information portal, including as a repository of guidelines or a registry of emission reductions, or a forum for exchanging information. Such an approach could facilitate information-sharing on best practices and lessons learned;[62]

(b) An international programme under the Convention, be it a specific programme, with accompanying processes and governance under the Convention, such as the proposed mechanism for climate resilience and sustainable development or the proposed joint mitigation and adaptation mechanism for the integral and sustainable management of forests, as referred to in paragraph 100 above, or alternatively a programme that could develop tools for specific purposes, such as the measurement of co-benefits or contributions to sustainable development;

(c) International cooperation on national NMAs (an example being the Brazilian Amazon Fund), whereby information could be shared to assist other developing countries in developing national monitoring systems and reference levels, with a view to increasing the number of Parties implementing results-based actions.

113. There is also a need to **define the relationship between NMAs and other initiatives** (e.g. NAMAs and the Technology Mechanism, including the Climate Technology Centre and Network), in particular to identify how an initiative on NMAs at

[62] Currently, information on NMAs can be found on several pages of the UNFCCC website, including, but not limited to, the pages on national communications, available at <http://unfccc.int/national_reports/items/1408.php>, the REDD-plus information-sharing web platform, available at <http://unfccc.int/methods/redd/redd_web_platform/items/4531.php>, the technology portal, available at <http://unfccc.int/ttclear/pages/tech_portal.html>, and the portal on cooperative initiatives under ADP workstream 2, available at <http://unfccc.int/focus/mitigation/items/7785.php>.

the international level would add value to and complement other programmes. There may also be value in facilitating the coordination of NMAs with other approaches, such as REDD-plus, inter alia to build on lessons learned and best practices identified.