

Guidance on Technology Action Plans - TAP

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Process of preparing updated TAP guidance

- Guidance on enhanced implementation of TNA results
 - interim report by the Technology Executive Committee
- Updated guidance on technology action plans
 - Round of comments
 - Tested at TNA regional training workshops
- Contributors:
 - UNEP DTU Partnership
 - CTCN
 - TEC TNA Force
 - Members of the TEC
 - UNFCCC secretariat

Overview TNA process

TNA step 1

- **Identification and prioritisation of technologies for mitigation and adaptation**
 - Identify national priority sectors and technologies
 - Assess technologies through multi criteria analysis against national development priorities, potential for GHG reduction or vulnerability reduction, costs and benefits, etc.

TNA step 2

- **Barrier analysis and enabling framework (BAEF)**
 - Identification and analysis of legal, institutional, financial, social, economic and other barriers
 - Identification and analysis of policies and other measures for improving enabling frameworks
 - Economic assessment of measures to transfer and diffuse prioritized technologies

TNA step 3

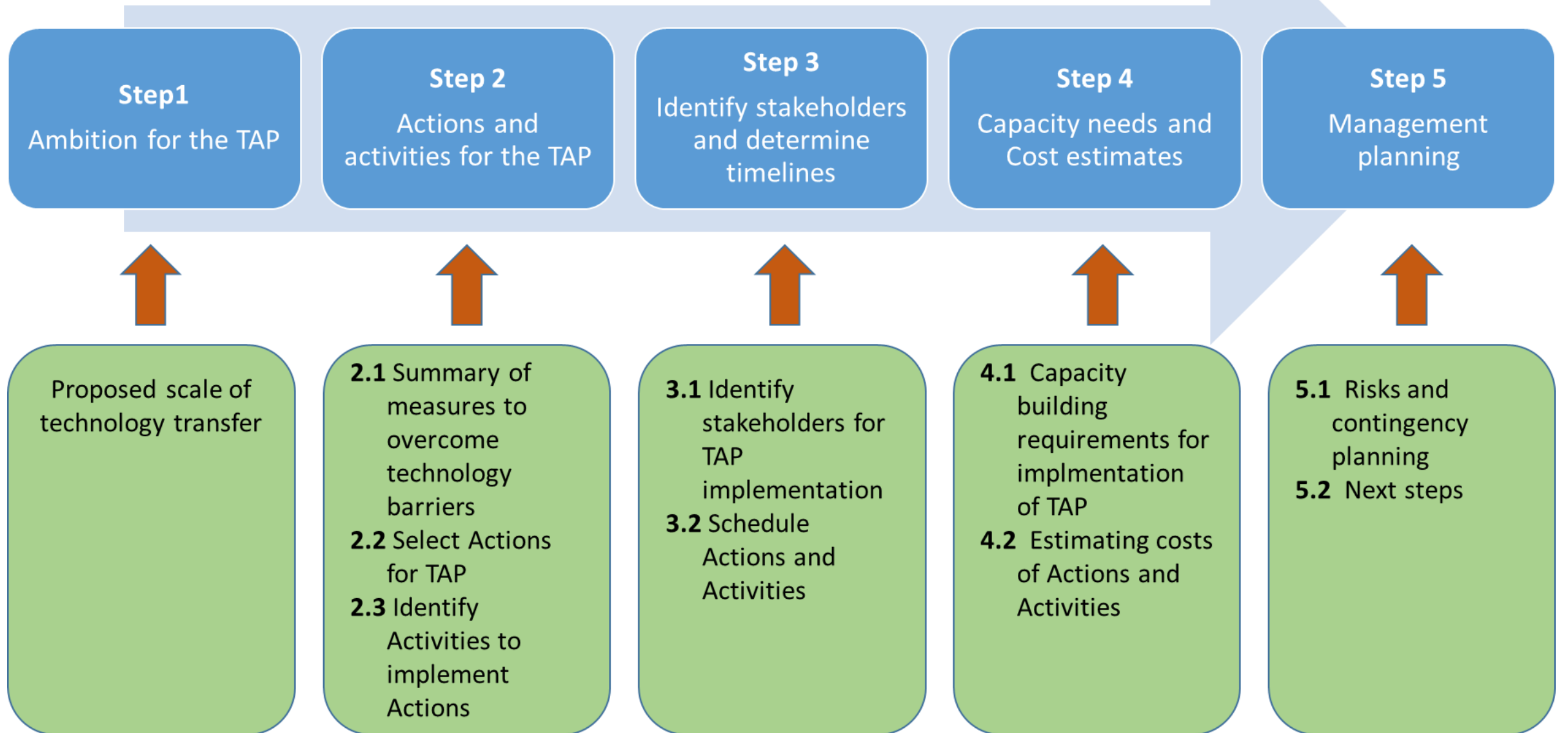
- **Technology Action Plan (TAP)**
 - Identification and description of required actions for inclusion in TAP
 - Identification of activities needed to make implementation of actions work
 - Elaboration of activities: timing, resources, responsible parties, etc.

Steps for preparing a Technology Action Plan

Purpose of revised TAP guidance:

Identify a reasonable set of Actions and Activities for implementation of prioritised technologies for mitigation and adaptation

- Step 1 – Ambition for the TAP
- Step 2 – Identify Actions and detailed Activities to include in the TAP
- Step 3 – Identify stakeholders and determine timelines
- Step 4 – Determine capacity needs and estimate costs and funding needs
- Step 5 – Management planning (risk and contingency planning)



Step 1 - Ambition

- This step covers: a determination of the scale and context for technology deployment and diffusion (“ambition”).
- Proposed **scale** of technology implementation in country to deliver the socio-economic and environmental **benefits** in the country sector or area (as identified during technology prioritization stage of TNA)
 - ***For example:*** “Priority technology involving small-scale hydroelectricity will be implemented on a scale of up to 20 projects of various sizes totalling 120 MW and producing ___ MW-hours of renewable energy yearly.”

Step 2 – Identify Actions and Activities for TAP

- Summarise **barriers and measures** from earlier TNA steps
- Select measures to be included as **Actions** in TAP
 - Including too many actions may complicate TAP implementation
- Identify **Activities** for implementation of selected actions
 - *things that need to be done to make an Action work*

	Action 3: Improve Policy and Enabling Environment
Activity 3.1	Draft and adopt legislation including appliance labeling and regulatory fitness and performance
Activity 3.2	Adopt fast-track, one-stop approval process
Activity 3.3	Host high level: "market opening workshop"
Activity 3.4	Other identified policy and enabling environment activities...

Step 3 – Stakeholders and Timelines

- Identification of **stakeholders** for the implementation of the TAP
 - Institution with primary responsibility for an Action and Activities
 - ‘Secondary’ responsibility
 - Organise activities among stakeholders in the public and private sector, including technology suppliers, finance practitioners and governmental institutions responsible for creating an enabling investment environment
- **Scheduling and sequencing** of specific activities
 - Sequence of activities
 - Availability of technology
 - Nature of actions and activities (e.g. infrastructure support, supply line for market good)
 - Programme or project

Step 4 – Capacity needs, costs and funding needs

- **Capacity building** needs for implementation of Actions and Activities
 - Awareness of work that needs to be accomplished in the time ahead
 - Skill needs
- **Cost** estimates
 - Sufficiently informative, but reasonably pragmatic
 - Differentiate cost items for finding suitable ways of funding
 - **2 types** of cost items
 1. Costs related to **preparation** activities
 2. Costs related to **implementation** of products and infrastructure
- Support for determining **funding needs**

Step 4 *cont.* – Estimating Costs - example

- Prioritised technology for which TAP is made:
 - Solar Home Systems
- Identified Action:
 - Infrastructure improvement
- Identified Activities:
 - Preparation of Action by in-house staff and consultants (Type 1 cost)
 - Construction of infrastructure for diffusion of SHS (Type 2 cost)

Step 4 *cont.* – Estimating Costs - example

- **Type 1 costs – Preparation activity**
 - Persons working on it * No. hours at work * Hourly rate + meetings & logistics + Contingency %
- **Type 2 costs – Activity for implementation**
 1. Activities involving delivery of market-based goods/services:
 - Cost and revenue estimates from Barriers & Measures TNA step
 2. Activities involving infrastructure and non-market goods/services:
 - Scale of activity
 - Construction costs (to be based on generally available (online) data)
 - Development costs and interest rates
 - Potential revenues -> [Internal Rate of Return or Ability to Pay](#)

Resume: Type 1 and 2 Costs

TYPE 1 costs (Preparation)

- Preparation Activities generally near-term
- Involving people (time) and costs to bring people together to accomplish something
- Usually requiring donors or government

TYPE 2 costs (Implementation)

- Involving long-term projects, programs and enterprises that may or may not have a revenue component
- Step by step estimating of costs (different types) and, perhaps, revenues
- Year by year review of cash flow needs.

Specification of different cost types/needs helps identify suitable funding: grants, loans, investment, cost-sharing, revenues from goods/services provided

Step 5 – Management planning

- **Risks and contingency** planning, e.g.,
 - Cost risks → contingency action if cost over-runs occur
 - Scheduling risks → contingency action if time schedule is disrupted
 - Performance risks → contingency action if inputs or outputs are different than planned
- Next steps
 - Identify immediate and critical requirements

Reporting – the TAP

- Templates in Spreadsheet “TAP Reporting Tables”
 - “Preparation (Steps 1-2)”
 - “TAP (Steps 3-4)”
 - “Management (Step 5)”
- These templates together form the TAP
- Tables and support for calculating:
 - Type 1 and Type 2 costs, and
 - Internal rates of return and “Ability to pay”
- Executive summary

Table 7. TAP Summary overview

Sector	Water							
Sub-sector	Rain water harvesting (RWH)							
Technology	The household rooftop rainwater harvester referred to in this project is a 600 litres capacity tank, with a complete piping system from collection from the roof, to the outflow from the tank. The system will also have to provide for an absorption pit to channel unused or excess rainwater collected into it, in order to promote groundwater recharge.							
Ambition	The total number of housing units is about 250,000. Since the rainwater harvesting is a simple technology, with the appropriate incentives and legislation, some 25,000 housing units can be installed every year, over a period of 10 years.							
Benefits	Domestic rainwater harvesting systems can reduce mains-water consumption by around 50%. The rainwater harvesting technology requires relatively very low investments, low skilled labour and low operational costs, but provides high benefits. Many countries are realizing that in the future surface and groundwater supplies will not be able to meet future water demand. Therefore, water conservation and development of alternative water supplies, including rainwater harvesting, will become a necessity in the near future in order to meet our growing demand for fresh water.							
Action	Activities to be implemented	Sources of funding	Responsible body and focal point	Time frame	Risks	Success criteria	Indicators for Monitoring of implementation	Budget per activity
Remove economic and financial barriers	Financial incentives should be provided to consumers in the form of a soft loan to cover at least 50% of the purchase total cost.	Government, African Development Bank	Ministry of Finance and Economic Development	0-10 years	Demand becomes dependent on subsidies, therefore subsidies have to be slowly phased out after the first 5 years	After 10 years, at least 70 % of target group should be using the technology, as intended.	Number of sold RWH systems, changes in households' consumption of piped water; Budget allocation for RWHR within the annual budget	USD 3.5 million per year with full subsidy
	Government expand access to finance for manufacturers to establish industries	Government, The National Bank Loan Scheme	Ministry of Finance and Economic Development	0-5 years	Suppliers will not be attracted	After 10 years, number of suppliers is increased with 50 %	No of suppliers of RWH units	USD 100 000