

Transformational Change Assessment

Introduction

VI Regional LEDS LAC Workshop | Hilton Reforma Hotel, Mexico City
Block 5, Training session C, October 17th 2017



Agenda

- Transformational Change Assessment - introduction (15 min)
- Q&A (5 min)

Transformational Change Guidance

Guidance for assessing the transformational impacts of policies and actions

Definition of transformational change

- Transformational change is defined in this guidance as:

A fundamental, sustained change of a system that disrupts established high-carbon practices and contributes to a zero-carbon society in line with the Paris Agreement's 1.5 - 2 °C temperature goal and the UN Sustainable Development Goals.

Characteristics of transformational change

Transformational impact

Outcomes - GHGs and SDGs

Scale of outcome

Sustained nature of outcome

Processes

Technology

Incentives

Agents

Norms

Examples of transformational change

Developing country examples:

- *Brazil*: The drivers of deforestation - a 75% drop over a decade (2005-2014)
- *Columbia*: Sustainable transport in Bogotá – the role of political will & technical solutions at city level
- *South Africa*: The role of state-owned companies to lead an incremental transition away from high-carbon lock-in to a low-carbon future

Developed country examples:

- *Germany*: Energy system transformation - the role of laws and regulatory frameworks for renewable energy
- *Denmark*: The role of wind power towards 100% renewable energy in electricity production by 2050

Source: Olsen and Fenhann (2015): *Transformational change for low carbon and sustainable development*. UNEP DTU Partnership, Copenhagen. Available at: www.transparency-partnership.net/unep-dtu-2015-transformational-change-low-carbon-and-sustainable-development

Purpose of the guidance

The guidance is developed to help a wide range of users, including governments, donor agencies and financial institutions, businesses, research institutions and non-governmental organisations (NGOs), with the following objectives in mind :

- To help users assess the extent of transformation expected or achieved by policies or actions
- To help decision makers develop effective strategies for transformational change through better understanding of how policies or actions can set in motion processes that lead to transformational outcomes
- To support transparent and consistent reporting of transformational impacts

Scope and applicability of the guidance

- General guidance including principles, concepts and procedures that users can follow when assessing the transformational impacts of a policy or action.
- Applicable to all types of policies or actions in all sectors.
- Flexible guidance, users should apply it considering their own objectives and circumstances.
- Qualitative approach with the option to quantitatively assess indicators of transformational change as the basis for qualitative assessment.
- A limitation of the generic approach is that it does not provide a comprehensive list of indicators for transformational change covering the specifics of all sectors.

Guidance development process

- First draft developed through a multi-stakeholder process between July 2017 and July 2018:
 - Secretariat: UNEP DTU Partnership and World Resources Institute
 - Technical Working Group: 23 members
 - Drafting Team (part of TWG): 8+ members
- First draft out for a 60 day public comment period through September 25
- The draft guidance will be applied in several countries to test how it works in practice and produce case studies to include in the final version

Guidance structure

Part I: Introduction, objectives and steps

Understand the purpose, applicability and limitations of the guidance (Chapter 1)
Determine the objectives of the assessment (Chapter 2)
Understand what is meant by transformational change (Chapter 3)
Understand key concepts, steps and assessment principles (Chapter 4)



Part II: Defining the assessment

Describe the policy or action to be assessed and the vision for transformational change (Chapter 5)
Choose which transformational change characteristics to assess (Chapter 6)



Part III: Impact assessment

Assess the starting situation (Chapter 7)
Estimate transformational impacts ex-ante (Chapter 8)
Estimate transformational impacts ex-post (Chapter 9)



Part IV: Monitoring and reporting

Monitor the performance of the policy or action over time (Chapter 10)
Report the results and methodology used (Chapter 11)



Part V: Decision-making and using results

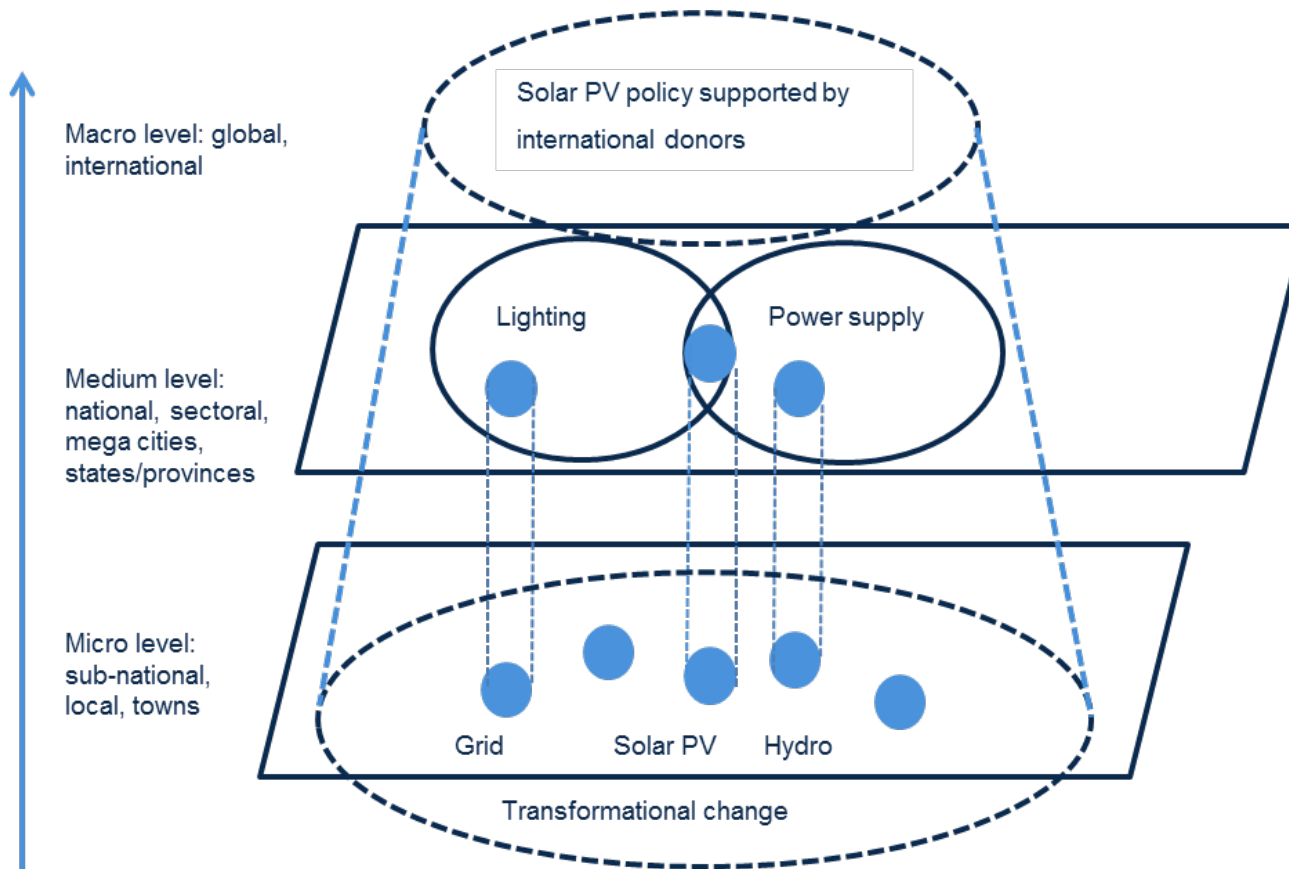
Learning, decision-making and interpreting results (Chapter 12)

Chapter 5: Describe the policy or action

Information	<i>Example - hypothetical solar PV policy</i>
Title of the policy or action	Grid-Connected Solar Rooftop Programme. Throughout this guidance, it is referred to as the “Solar PV policy”
Type of policy or action	Financial incentive policy
Description of specific interventions	The policy includes two specific interventions: 1) <u>A financial subsidy</u> up to 30% of project/benchmark cost for rooftop solar projects in the residential/institutional and social sectors. It also provides concessional loans to solar rooftop project developers. 2) <u>A feed-in tariff</u> for all new grid-connected solar rooftop and small solar power plants
Status of the policy or action	The policy has been implemented (currently in effect)
Date of implementation	1 January 2016
Date of completion (if relevant)	The provision of financial incentives and feed-in tariff ends on 31 December 2022
Implementing entity or entities	Government funds are disbursed by the ministry to state agencies, financial institutions, implementing agencies and other government approved channel partners that includes renewable energy service providers, system integrators, manufacturers, vendors and NGOs.
Objectives and intended impacts or benefits of the policy or action	The policy has set the following goals: <ol style="list-style-type: none"> 1) Annual emission reductions of 200,000 tCO₂e 2) 2,000 new green jobs (e.g., in solar PV installation and maintenance sectors) created by 2022
Level of the policy or action	National
Geographic coverage	Country wide
Sectors targeted	Energy supply, grid-connected solar PV
Other related policies or actions	The Government targets installation of 100,000 MW of solar power by 2022 of which 40,000 MW is to be achieved through rooftop solar power plants through the solar PV policy.

Chapter 5: Describe the vision of transformational change

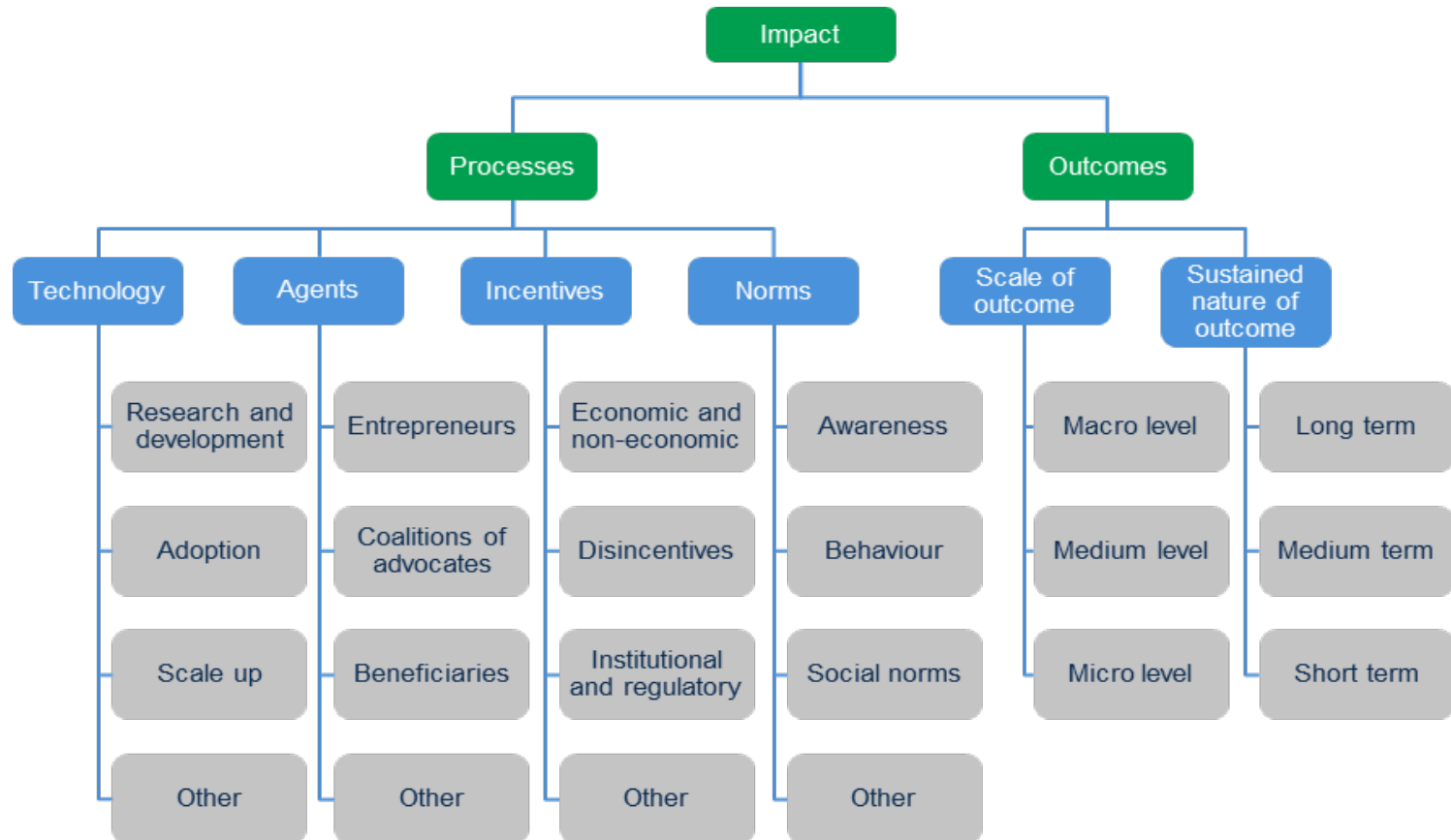
Identify levels of change:



Chapter 5: Describe the vision of transformational change

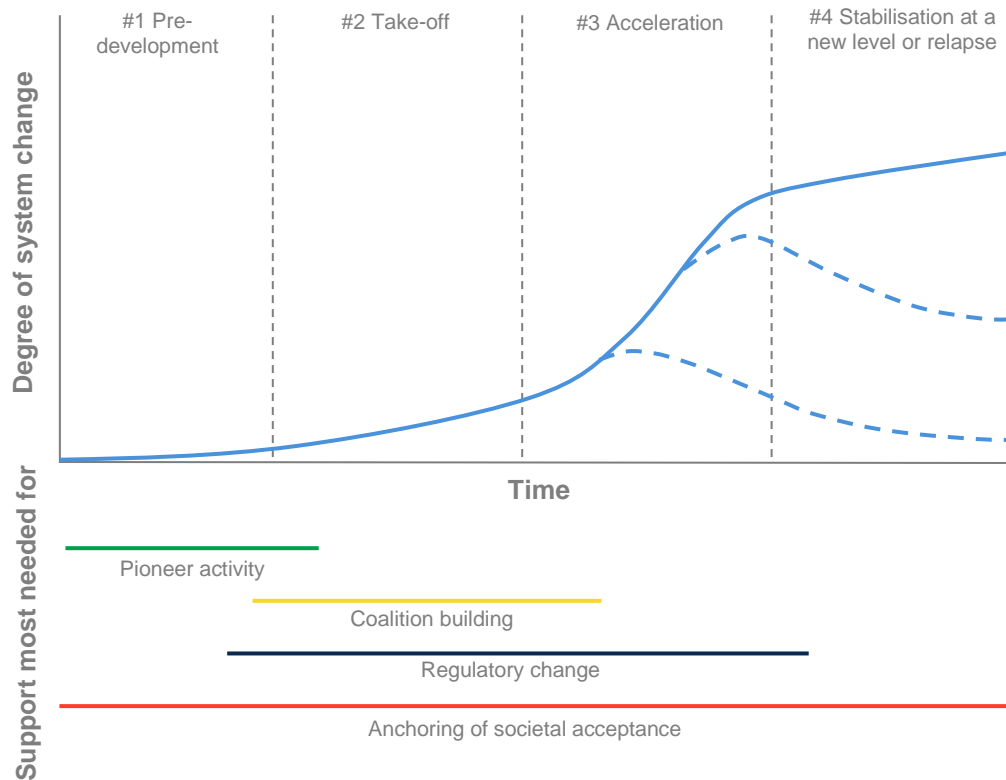
Levels of society and time periods	Description of the vision for desired societal and technical changes at each level and time period	Example: Solar PV policy
Global or international level (macro level)	Describe the vision for desired changes at this level	Contributing to the global vision of zero-carbon and sustainable development, the desired future change is to achieve zero carbon electricity production with international support. The policy does not result in a change at the global level.
National or sectoral level (medium level)	Describe the vision for desired changes at this level	The policy has set the following goals at the national/sectoral level: Annual emission reductions of 200,000 tCO ₂ e 2000 new green jobs (e.g., in solar PV installation and maintenance sectors)
Subnational level (micro level)	Describe the vision for desired changes at this level	The solar PV policy is implemented at subnational levels supported by incentives for private sector involvement and knowledge development. In rural districts and towns solar PV mini-grids enable economic growth, poverty reduction and new jobs
Long-term change (≥15 years)	Describe the long-term vision for transformational change	The long-term vision by 2050 is to achieve 60% solar PV in the national electricity mix and create 10,000 new green jobs
Medium-term change (≥5 years and <15 years)	Describe the medium-term vision for transformational change	The mid-term vision by 2030 is to achieve 30% solar PV in the national electricity mix and create 5,000 new green jobs
Short-term change (<5 years)	Describe the short-term vision for transformational change	The short-term vision by 2022 is to install 40,000 MW of rooftop solar PV and create 2000 new green jobs in doing so

Chapter 6: Choosing which transformational change characteristics to assess



Chapters 7-9: Impact assessment

- Identify the phase of transformation:



Chapters 7-9: Impact assessment

Identify barriers for transformation:

Barriers	Explanation	Characteristics affected
Institutional and political		
Lack of a strategy or political will to discourage fossil fuel energy	Existing or foreseeable energy strategy dominantly envisages expansion of coal-fired generation capacity and only limited expansion of solar PV. This barrier makes it difficult to introduce regulatory changes promoting a feed-in tariff high enough to make solar PV power attractive to private sector investments.	Institutional and regulatory changes Behaviour
Technology barriers		
Limited availability of technology	There is very little manufacturing of solar PV components in the country so components need to be imported. This barrier hampers adoption and scale-up of new PV technology.	Adoption Scale up
Capacity constraints		
Lack of technical personnel for installation and maintenance	Lack of trained technicians for solar PV installation slows down a potential scale-up of PV technology.	Scale up
Financial constraints		
High upfront financial investment needed for solar PV	Lack of financial instruments to support customers in financing solar PV weaken the economic incentive and the enabling environment for entrepreneurs to develop new business models for solar PV solutions.	Economic incentive Entrepreneurs

Chapters 7-9: Impact assessment

Identify the starting situation of characteristics - example

Process category	Process characteristic	Description of the starting situation	Indicators
Technology	Research and development	Not relevant	
	Adoption	Relevant. High capital cost of rooftop systems and longer pay back periods have discouraged its widespread adoption by small consumers in residential and commercial sectors.	<ul style="list-style-type: none"> • Number of innovative business models (e.g., to overcome cost barriers of solar PV rooftop) • Number of new demonstration projects for solar rooftop PV initiated • Number of government programs and measures (including at subnational level) to support adoption of solar rooftop PV
	Scale-up	Relevant. Solar rooftop has a negligible share in the solar energy sector. There is a huge amount of untapped potential in the solar rich country. Several barriers exist to large scale deployment of rooftop PV (e.g., lack of manufacturing facilities and high skilled workforce, high upfront cost)	<ul style="list-style-type: none"> • Share of installed PV rooftop in the solar sector (nationwide or statewide) • Number of training workshops/certifications for solar workforce • Number of manufacturing facilities for solar PV
	Other		

Chapters 7-9: Impact assessment

Scale for scoring barriers

Scale	Description
High impact	The barrier has the potential to completely counteract the envisaged effect of the characteristic
Medium impact	The barrier is expected to have a moderate impact on the achievement of a characteristic
Low impact	The barrier is expected to have a very limited impact on the achievement of a characteristic

Chapters 7-9: Impact assessment

Scale for scoring characteristics

Scale	Description of scale
Process characteristics	
3	If a characteristic represents <u>a key element</u> of the policy or action design, and there are no or only low impact barriers to implementation, it can <u>realistically be expected that the policy or action will impact this characteristic over the assessment period</u>
2	If a characteristic is <u>an important part</u> of the policy or action design but not the main focus and there are medium impact barriers to implementation, it can realistically be expected that <u>the policy of action will directly or indirectly impact this characteristic over the assessment period</u>
1	If a characteristic is not an important part of the policy or action design and there are <u>high impact barriers to implementation</u> , it is <i>less likely that the policy or action will directly or indirectly impact this characteristic over the assessment period</i>
0	If a characteristic is not at all a part of the policy or action design, <u>it is unlikely that the policy or action will impact this characteristic over the assessment period</u>
Outcome characteristics – scale	
3	The policy or action results in GHG and sustainable development impacts that <u>relative to the starting situation represent large emission reductions and significant, positive sustainable development impacts at the level of assessment targeted</u>
2	The policy or action results in GHG and sustainable development impacts that relative to the starting situation represent moderate emissions reductions and moderate, positive sustainable development impacts at the level of assessment targeted
1	The policy or action results in GHG and sustainable development impacts that relative to the starting situation represent minor emission reductions and minor, positive sustainable development impacts at the level of assessment targeted
0	The policy or action does not result in GHG and sustainable development impacts relative to the starting situation at the level of assessment targeted
-1	The policy or action results in GHG and sustainable development impacts that relative to the starting situation represent a net increase in emissions or negative sustainable development impacts at the level of assessment targeted
Outcome characteristics – time	
3	The policy or action results in GHG and sustainable development impacts that are very <u>likely to be sustained</u> over the assessment period
2	The policy or action results in GHG and sustainable development impacts that are likely to be sustained within the assessment period
1	The policy or action results in GHG and sustainable development impacts that are less likely to be sustained within the assessment period
0	The policy or action results in GHG and sustainable development impacts that are not expected to be sustained over the assessment period

Chapters 7-9: Impact assessment

Aggregate results of the assessment - process

Category	Score	Rationale for scoring	Relative importance	Rationale for importance
Technology	3	The policy or action will positively influence the penetration of solar in the country. Since the technology is known, adoption and scale up are important to focus on over the assessment period.	30%	The country is still in the pre-development phase, which emphasises the importance of introducing new solar PV technology.
Agents	2	Overall the policy is likely to engage entrepreneurs in bringing transformation. A greater emphasis is needed to tap into the beneficiaries and others who can potentially play a key role in preventing policy reversal.	30%	Entrepreneurs who can introduce and lead technology penetration is equally important to technology change.
Incentives	2	The policy is likely to fully utilise financial incentives and institutions and regulations; however it is not likely to utilise disincentives to discourage the use of fossil fuels.	30%	In a developing country context the role of financial incentives is crucial to support technology and agents of change.
Norms	1	The policy is less likely to bring significant shifts in this category.	10%	Demonstrating the benefits of solar PV technology is more important than changing norms in society at this early stage of transition.

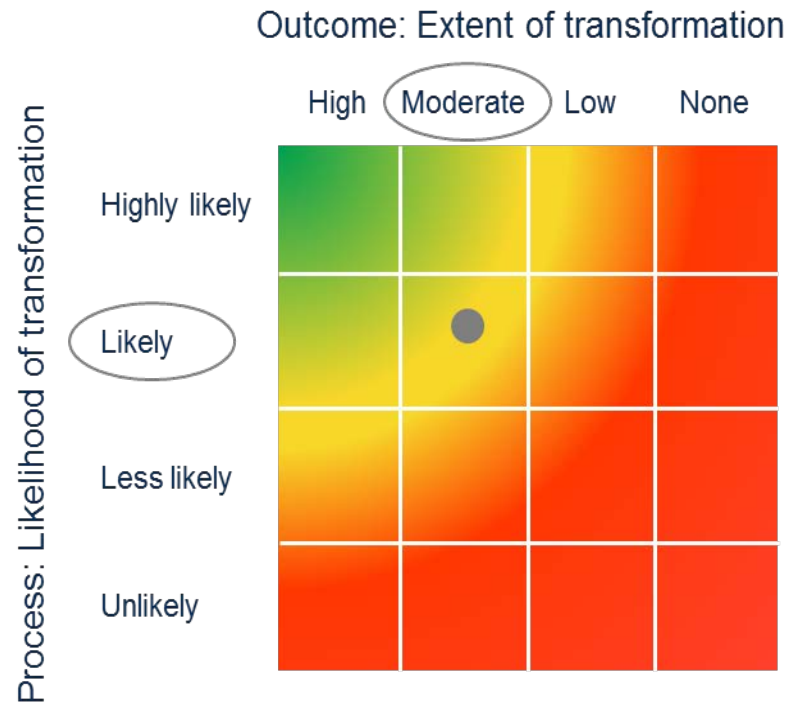
Chapters 7-9: Impact assessment

Aggregate results of the assessment - outcomes

Category	Score	Rationale for scoring
Scale of outcome	2	The policy is expected to result in GHG and sustainable development impacts that relative to the starting situation represent <i>moderate</i> impacts at national and subnational levels
Outcome sustained over time	3	Based on the policy's expected impact on adoption and scale up, it is <i>highly likely</i> that the policy or action will sustain the penetration of solar in the country over the assessment period.

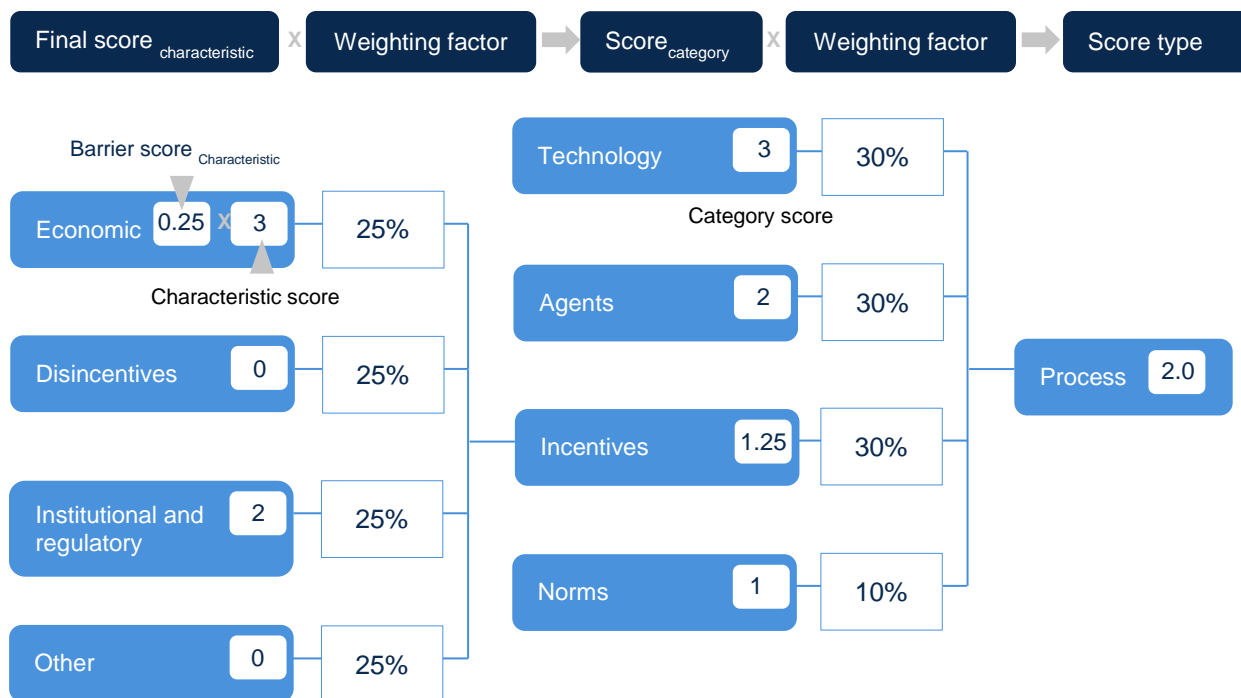
Chapters 7-9: Impact assessment

Transformational impact:



Mathematical approach

Appendix C describes the option of using a mathematical approach: - *example*



Chapter 10: Monitoring performance over time

Template for data collection – *illustrated for the solar PV policy example*

Indicator	Type of data (quantitative/qualitative)	Monitoring frequency and date of collection	Data source/ collection method	Responsible entity	Observed data (unit)
Number of new solar PV installation businesses	Quantitative	Annual (January 2015)	Business license application	Department of Commerce or Energy	8 businesses /year
Number of trainings on solar PV installation	Quantitative	Monthly	Training workshop reports	Department of Energy	1 training /month
% share of solar PV in electricity mix	Quantitative	Annual (January 2015)	Electricity generation data	Department of Energy	5%

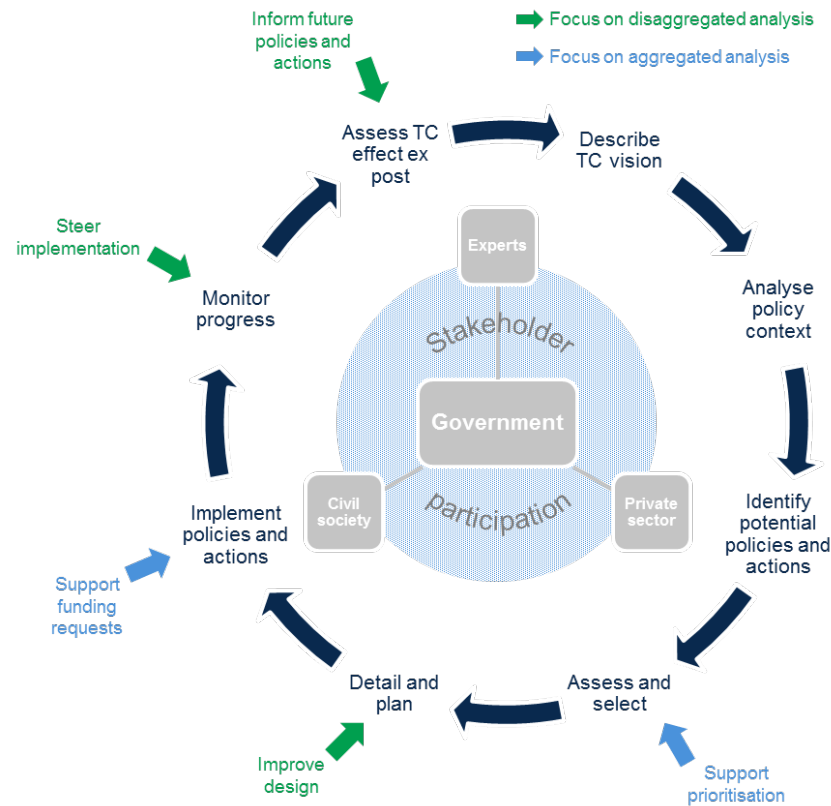
Chapter 11: Reporting

Provides recommended information to report, including:

- Information about the policy or action and vision of transformational change
- The results: estimated impact of the policy or action on the transformational characteristics of society that are included in the assessment
- Methodology and assumptions used

Chapter 12: Learning, decision making and using results

The usefulness of transformational change assessment at different stages of policy planning and implementation



Questions?



Thank You



ICAT is actively seeking to apply and test the guidance in countries. Please contact the ICAT team if you are interested.

Karen Olsen, UNEP DTU Partnership
kaol@dtu.org

www.climateactiontransparency.org