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STEP 6 Template guidance ‘Testing actions’

Purpose

The purpose of this step is to test sustainable energy strategies and actions with a view to producing a more robust SEAP. This can be done by the modelling and investigation of 3 (maximum) different scenarios showing changes to the city’s socio-economic structure and assessment of the impact of this on planned energy actions. For example, how will the city respond to a large increase in population, or a large increase in economic activity?

The objective of using the template is to investigate the sensitivity of meeting the city’s CO₂ reduction target in the light of external/internal factors that are not currently in city projections. Thus the robustness of city’s CO₂ reduction policy and measures may be evaluated.

NB: Please consider that it requires an element of creative thinking to develop scenarios. It may be new territory and require new research that will stretch capabilities – large multi-national businesses employ teams of people of long periods to complete this kind of activity!

Outcome

- Description of the scenarios and their impact on planned energy actions and targets.

At the very least try to create a spreadsheet and explanation per scenario to show high level impacts on energy targets and current actions. Beyond this, you may also want to consider conducting a more in-depth analysis, for example trying to quantify what the potential impacts of the scenarios might be.

What is a scenario?

Used as part of a vision creation process, scenario planning can provide a view of how different forces can manipulate the future in a different direction. It has been used by many organisations across the globe for a number of years. For example, Shell has developed a number of future energy scenarios, available at: www.shell.com/global/future-energy/scenarios.html

Scenario planning is:

- A method for learning about the future by understanding the nature and impact of the most uncertain and important driving forces affecting our future;
- The goal is to craft a number of diverging stories by extrapolating uncertain and heavily influencing driving forces;
- A way of developing/testing strategies/policies in a range of possible futures;
- A creative yet structured approach;
- Not a target;
- Not a vision of a desired future.

Method /Framework



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- The suggested time horizon for this scenario modeling should be 15-20 years (2030 or 2035) – however, it is worth considering aligning the analysis with the time horizon of your city’s targets so if these go as far as 2020 you may want to use a shorter time horizon.
- Use **PEST** analysis which stands for:
 - P** - political
 - E** - economic
 - S** - socio-cultural
 - T** - technological

The items in the table below should be used as a checklist to consider and prompt analysis of the different influences. However, they are of limited value if they are merely seen as a list of influences and it is important that the implications of the factors are understood. For example, it will be the combined effect of some of these separate factors that will be important, rather than the factors separately.

Political	Economic	Socio-cultural	Technological
P1. Government type and stability	E1. Current and projected economic growth, inflation and interest rates	SC1. Population demographics and change	TE1. Uptake of emerging technologies
P2. Freedom of press, rule of law and levels of bureaucracy and corruption	E2. Unemployment and labour supply	SC2. Income distribution	TE2. ICT developments
P3. Regulation and de-regulation trends	E3. Labour costs	SC3. Social mobility	TE3. Research and development activity
P4. Social and employment legislation	E4. Levels of disposable income and income distribution	SC4. Lifestyle changes	TE4. Speed of technology transfer
P5. Tax policy, and trade and tariff controls	E5. Openness to globalisation	SC5. Attitudes to work and leisure	
P6. International relations (IR)	E6. Market uptake of new technologies	SC6. Consumerism	
		SC7. Levels of education and training	

Brief Instructions

The anticipated length of time required to complete this template is difficult to predict, however, for the main part of this exercise it is suggested that it is completed by way of a group workshop between those working on the SEAP in the city. You may also find it helpful to invite selected stakeholders who could offer insights into potential scenarios and their impacts on key sectors.



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It is advised to conduct 1 workshop per scenario. Each should last about 2 hours, plus an initial 30 minute explanation of the PEST framework. Assuming 3 scenarios, then 1.5/ 2 days of total time is probably needed for some good results (this will realistically be split over several weeks).

The more unknown part of the time requirement is the deeper analysis on specific energy actions and also the write up of the approach, scenarios and results for your city.

A. Existing Scenarios

- Understand what your existing visions and targets are in terms of energy consumption and CO₂ emissions.
- Define what **Political, Economic, Social, Technological** contexts these sit in.
- Fill in the 'Existing Scenario' tab on the spreadsheet to show this.

B. Build Scenarios (below is for 1 scenario only and should be repeated for each additional scenario)

- Choose and agree 1 different and diverging **major** (i.e. critical and uncertain) economic or socio-cultural factor to change. This must be clearly different to the context of the scenarios under which your city expects to meet its existing visions and targets.
- Understand and define which other factors this 1 major change is likely to affect and how. Storytelling is important here – you are attempting to tell the story of how the city will look with this major change. Think what else could have caused this change?
- For example, if you consider an increase in population beyond current projection, you also need to think about what other things in PEST will change, and the corresponding effect this will have on energy actions and targets. For instance, what would then happen to economic growth in the city? What kinds of people are likely to move into the city, and where are they going to live? How does this impact current energy related plans?
- Use the 'Scenario' tabs on the spreadsheet to do this (they should be easy to follow).

C. Test Impacts on energy and CO₂

- Identify and discuss potential implications & impacts of scenarios on:
 - Overall targets for the city;
 - Covenant of Mayors sectors; and
 - Where applicable, your city's identified energy actions.
- For each of the above, define the effect and whether it is more challenging/less challenging/or the same to achieve the city's targets or implement actions.
- Use the 5 point scale below for a deeper analysis:
 - Positive & high impact = ++
 - Positive & low impact = +
 - No impact = 0
 - Negative a low impact = -
 - Negative and high impact = --
- Further/deeper analysis may then be required to quantify the impact on specific actions if possible.