



Support to the C40 Cities Finance Facility on developing its city support strategy

Deliverable 3: Project Evaluation

2nd February 2018

Introduction

Selected Projects & Approach

The Cities Finance Facility (CFF) appointed Arup to support the development of its city support strategy.

This report has been drafted in response to the third deliverable of the project and is to be read in continuation with the Deliverable 1 Project Identification Methodology and Deliverable 2. It aims to evaluate the list of projects that were short listed using the selection criteria developed in Deliverable 2. The list of selected projects and their sub-categories can be seen in Table 1 opposite. In order to create the holistic evaluation criteria that meets the particular requirements and priorities of the CFF, we have adapted elements of the UK HM Treasury's Green Book. The criteria we have defined are:

| | |
|-----------------------|-----------|
| Scalability | 10 Points |
| Environmental benefit | 10 Points |
| Co-benefits potential | 10 Points |
| Funding potential | 10 Points |
| Delivery potential | 10 Points |
| Challenges | 10 Points |
| | 60 Points |

These criteria and their scoring methodology are described in more detail overleaf. We have developed and issued a companion Excel sheet that calculates the score of each criterion based on the responses entered into the sheet by the evaluator. Each project is scored out of a total of 60 points and the output of the evaluation is in the form of a spider diagram, accompanied by an explanation for the selected scores for each project.

| Project Type | Project category | Project sub-category/description | Cities implementing |
|-------------------------------------|---------------------------------------|--|---------------------|
| Energy Efficiency | Energy efficiency in buildings | Energy efficiency retrofits: Building Energy Management Systems in schools | Rio de Janeiro |
| | Energy efficiency in outdoor lighting | Conversion of street lights to LEDs | Amman |
| | Community energy generation | Photo-Voltaic distributed energy systems | Porto Alegre |
| Low Carbon Energy Generation | Medium-scale energy generation | New energy from waste plants to power the city | Lagos |
| | | New hydro power plants to power the city | Quito |
| | Clean vehicle fleet | Conversion of city vehicle fleet to low emission vehicles | Johannesburg |
| | | Conversion of city bus fleet to electric buses | Bangalore |
| Low Carbon Transport | Public transport | New or expansion of Bus Rapid Transit Network (BRT) | Colombo |
| | | New or expansion of Mass Rapid Transit Network (MRT) | Ho Chi Minh City |
| | Non-motorised transport | New or expansion of cycling lanes | Lima |

Table 1: Short list of projects

Methodology

Evaluation Criteria: Scalability

The scalability criterion scores the project based on its scalability potential. Scalability in this context means the ability to apply the learning from a pilot or limited scale project to expand the intervention city-wide; or, to apply the learning in one city to a similar project in another city.

Key questions asked to select an appropriate score for delivery were:

1. Have there been similar projects within the city or other cities around the globe? How easily can the project be scaled in the region?
2. What is the scale of delivery? Is it a small pilot project or a large-scale citywide roll-out? How is the scale related to the socio-economic or environmental impact? In order to have a larger impact, the CFF should look to help cities that are trying to roll out large-scale transformational programme as opposed to a one-off pilot project.
3. Does the city have wider plans for the project? How clearly has the city defined the deliverables of their plan?

| Score Range | Scoring Reference |
|-------------|--|
| ≤1 | <ul style="list-style-type: none"> • There have been a large number of similar projects that have been implemented in the city at considerable scale. • The project is small scale and maintains the status quo. The project does not bring about any transformational or operational change to the sector • The roll out of the project in the city is poorly defined with uncertain deliverables. |
| 2-3 | <ul style="list-style-type: none"> • There have been multiple similar projects being implemented in the city at considerable scale. • The project is small scale but may be a pilot project that brings about some transformational or operational changes to the sector. • The roll out of the project in the city may not have defined deliverables. |
| 4-5 | <ul style="list-style-type: none"> • There have been multiple similar projects being implemented in the city. • The project is a pilot project that brings about transformational or operational changes to the sector. • The roll out of the project in the city may have some defined deliverables although the city may be unsure of its final output. |
| 6-7 | <ul style="list-style-type: none"> • The project is not unique, but has some potential to be rolled out at scale within the city. • Medium scale project that brings about transformational or operational changes to the sector. • The roll out of the project in the city has clearly defined deliverables. |
| 8-9 | <ul style="list-style-type: none"> • The project is unique and has some potential to be rolled out at scale within the city and other global south cities. • Large scale project that brings about significant transformational or operational changes to the sector. • The roll out of the project has clearly defined deliverables across the short and medium term. |
| 10 | <ul style="list-style-type: none"> • The project is unique and has high potential to be rolled out at scale within the city and other global south cities. • Large scale project that brings about significant transformational or operational changes to the sector. • The roll out of the project has clearly defined deliverables across the short, medium and long term. |

Table 2: Scalability scoring criteria

Methodology

Evaluation Criteria: Environmental

The environmental criterion scores the project based on its environmental benefit. All projects that have been investigated have some positive environmental benefits. Therefore, it is vital to evaluate the relative environmental benefits, especially as the impact of one project in one city would vary from the impact of a similar project in another city. There are a number of reasons for this to occur, such as difference in grid decarbonisation rates of cities and their current environmental conditions.

Key questions asked to select an appropriate score for environmental were:

4. What is the projected volume of GHG emissions reduced (tonnes of CO₂) by implementing the project in the city?
5. Does the project help to reduce environmental degradation such as improvement to the quality of water in the city or quality of green spaces?
6. Does the project have any additional climate change benefits, such as improving the city's adaptability to extreme climate change events or making it resilient?

| Score Range | Scoring Reference |
|-------------|--|
| ≤1 | <ul style="list-style-type: none"> • GHG emission savings are significantly below average for this project compared with other projects considered • Project makes a little or no impact upon emission output for that sector, • No other environmental benefits, • No contribution to climate change adaptation or resilience. |
| 2-3 | <ul style="list-style-type: none"> • GHG emission savings are below average for this project compared with other projects considered. • Project makes small impact upon emission output for that sector. • Environmental improvements minimal • Little contribution to climate change adaptation or resilience of the city. |
| 4-5 | <ul style="list-style-type: none"> • GHG emission savings are average for this project compared with other projects considered • Project has a noticeable impact on emission output for that sector • Some environmental improvements • Some contribution to climate change adaptation or resilience of the city, not necessarily measurable |
| 6-7 | <ul style="list-style-type: none"> • GHG emission reductions are above average for this project compared with other projects considered • Project had a considerable impact upon the emission output for that sector within the city, and begin to impact upon national targets . • Measurable impacts across one or more areas of the local environment. • Project likely to contribute to the city's climate change resilience. |
| 8-9 | <ul style="list-style-type: none"> • GHG emission savings are significantly above average for this project compared with other projects considered • Project has a significant impact upon the emission output for that sector within the city • Multiple measurable impacts to the local and city-wide environment. • Contributes to the climate change resilience of the city/ built in to city-wide climate change programme. • Noticeable contribution to climate change adaptation or resilience of the city |
| 10 | <ul style="list-style-type: none"> • GHG emission savings are pioneering and in the top 10% of considered projects. • Project has a significant impact upon the emission output for the city total and the sector nationally. • Project has a variety of other environmental benefits • Significant contributions to the climate change resilience of the city/ built in to city-wide climate change programme. |

Table 2: Environmental scoring criteria

Methodology

Evaluation Criteria: Co-Benefits

The co-benefit criterion scores the project based on its co-benefits. This includes both qualitative and quantitative benefits of the project. Key questions asked to select an appropriate score for co-benefits were:

7. Does the project improve accessibility or inclusivity?
8. Does the project aim to improve gender equality?
9. Does the project promote improved health of citizens, e.g. through improvements to air quality or increased physical activity?
10. What is the total number of long-term jobs that are being created as a result of undertaking the project?
11. How will the project aid in the economic development of the city?

| Score Range | Scoring Reference |
|-------------|--|
| ≤1 | <ul style="list-style-type: none"> No identified social benefits as a result of project implementation, with no attempts to target gender inclusivity and accessibility, (0 for projects that have a negative impact), No measurable improvement to citizen health or any other co-benefits. Economic benefits such as the number of jobs created or economic value added is minimal. |
| 2-3 | <ul style="list-style-type: none"> Low potential for social benefits to be realised. Minimal impact or improvement to citizen health or any other co-benefits Low potential for economic benefits. |
| 4-5 | <ul style="list-style-type: none"> Few social benefits identified or improvements seen in other similar projects for those that are directly involved in the project. Some improvement to citizen health may be achieved through project implementation. Project translates into some economic benefits that impact the vicinity of the project. |
| 6-7 | <ul style="list-style-type: none"> Significant social benefits identified for the surrounding communities in the medium term. Project makes distinct attempts to implement measures to improve gender equality and widen inclusivity through project implementation. Project helps realise above average improvements to citizen health in comparison to other projects that are being considered. Economic benefits such as the economic value added are above average in comparison to the other projects that are being considered. |
| 8-9 | <ul style="list-style-type: none"> Significant long term social benefits could result from the implementation of the project at scale. Project has a number of other co benefits covering multiple priority sectors for the city, such as community engagement, inclusivity, new industries or businesses. Significant air quality improvements within the city. Economic benefits are significantly above average in comparison to the other projects that are being considered. |
| 10 | <ul style="list-style-type: none"> The resultant social benefits extend to a regional/national scale, covering multiple areas including health, community engagement and inclusivity. Significant air quality improvements within the city. Project may help define procedures to improve air quality at national level. Project brings about long term economic benefits and contributes to sustained city wide GDP growth over the coming decade. |

Table 3: Co-benefits scoring criteria

Methodology

Evaluation Criteria: Funding

The funding criterion scores the project based on its financial implications. All values would be reported in USD. The scoring of projects is closely related to both the socio-economic and environmental impact of the project. Key questions asked to select an appropriate score for funding were:

12. What is the total amount of funding required to implement the project How is it related to the socio-economic and environmental impact of the project? (i.e. cost-benefit). For example, for the specific project what is the ratio of the amount of money invested to the amount of carbon saved?
13. How is the city funding the project? Or does the city/country have a well-defined financial market? Cities that are accessing external finance for existing climate change adaptation or mitigation projects display positive signals as are likely to be able to raise construction capital for future projects relatively faster.

We have been able to assess a \$/kgCO₂ metric on most projects (as seen in Appendix A) but it is recommended that going forward a \$/kgCO₂ metric is requested of all applicants to judge question 13.

| Score Range | Scoring Reference |
|-------------|--|
| ≤1 | <ul style="list-style-type: none"> The project delivers little environmental and socio-economic benefits for the funding required or no measurable socio-economic impact at all. Very low kgCO₂ saved per \$ spent when compared with other projects The financial market is already well defined with international recognition, with continuous and significant international and regional investors for city-led and national projects. |
| 2-3 | <ul style="list-style-type: none"> The project delivers a low environmental and socio-economic impact for the funding required, compared with projects of similar type and scale. Low kgCO₂ saved per \$ spent. The financial market is already well defined, with recent significant investment from a diverse range of international and regional sources nationally. |
| 4-5 | <ul style="list-style-type: none"> The project is delivering an some environmental and socio-economic impact for the funding required, compared with projects of similar type and scale. Approaching average kgCO₂ saved per \$ spent when compared with other projects. The financial market is defined with significant investment from international partners at least at the national level. |
| 6-7 | <ul style="list-style-type: none"> The project is delivering some environmental and socio-economic impacts for the funding required, compared with projects of similar type and scale. Average kgCO₂ saved per \$ spent when compared with other projects. The financial market is defined with investment at the national level from a few partners. |
| 8-9 | <ul style="list-style-type: none"> The project is delivering above average environmental and socio-economic impacts for the funding required compared with all project types. Above average kgCO₂ saved per \$ spent when compared with other projects. The country has a developing financial market, with inconsistent investment within projects both at a city-wide and national scale (reliant on internal sources). |
| 10 | <ul style="list-style-type: none"> The project is delivering significant and leading environmental and socio-economic impacts for the funding required compared with all project types. The country has a developing financial market, with little investment at the city-scale and poor connections to international and regional investors. |

Table 4: Funding scoring criteria

Methodology

Evaluation Criteria: Delivery

The delivery criterion scores the project based on the practicalities of its delivery process and potential for innovation. It is also closely related to both the co-benefit and environmental impact of the project. Key questions asked to select an appropriate score for scalability were:

14. How stable is the country’s political climate? Have there been any strategic sovereign defaults in the past such as nationalisation of assets? Or, has the rank of the country on Transparency International’s Corruption Perception Index (TICPI) improved?
15. What are the characteristics of the cities that are implementing or have planned to implement projects in the future? For example, what is the growth rate per capita of the GDP of the city/country?*
16. How ambitious are its carbon targets in relation to other cities with similar characteristics? Or has the city taken any actions to demonstrate commitment towards tackling climate change? Or does the project provide an opportunity for the city to expedite its transition to a low carbon economy?
17. Is there any innovation in the development process, such as new financing mechanisms, technological innovation, or commercial innovation like Public Private Partnerships?

We have been able to assess a GDP/capita growth rate for the country on all projects (as seen in Appendix A) but it is recommended that going forward GDP/capita growth rate for the country is requested of all applicants to judge question 2.

| Score Range | Scoring Reference |
|-------------|--|
| ≤1 | <ul style="list-style-type: none"> The city/country has shown no improvement to its rank on TICPI over the last 4 years, or significant strategic sovereign defaults have been reported in the recent past. The GDP growth rate of the country is negative and has been declining over the last 5 years. The GHG emission reduction targets of the city have not been sufficiently developed or defined. No innovation identified in the execution of the project. |
| 2-3 | <ul style="list-style-type: none"> The country is working to improve its rank on TICPI over the last 4 years, or some strategic sovereign defaults have been reported in the recent past. The GDP growth rate of the country is negative but marginally improving over the last 5 years.. The GHG emission reduction targets of the city are currently being defined. No identified innovation in approach however further development of the project may be innovative for the particular city. |
| 4-5 | <ul style="list-style-type: none"> The country has shown some improvement in its rank on TICPI over the last 4 years or strategic sovereign defaults are reducing. The GDP growth rate is positive but may have fluctuated over the preceding 5 years Emission reductions have been set, but below average for the region or countries of similar GDP growth rate. The project displays some innovation in approach across at least one area such as commercial, technological or financial. |
| 6-7 | <ul style="list-style-type: none"> The country has shown average improvement in its rank on TICPI over the last 4 years. or strategic sovereign defaults are improving. The GDP has seen a positive growth rate over the preceding 5 years. The emissions targets are in line with those in the region or for countries of similar GDP growth rate. There is clear innovation in the approach across one or more areas such as commercial, technological or financial. |
| 8-9 | <ul style="list-style-type: none"> The country has above average improvements to its rank on TICPI over the last 4 years or comparably few sovereign defaults when compared to other countries that are being evaluated.. The GDP growth rate is positive and on an uptrend over the last 5 years. The emissions reduction targets are above average for the region, and as a result of the project or other policies are on target to achieve them. There is innovation in the approach for this sector across multiple areas such as commercial, technological or financial. |
| 10 | <ul style="list-style-type: none"> The country has significant improvements to its rank of the country on TICPI over the last 4 years or negligible sovereign defaults in the recent past. The GDP growth rate is positive and has significantly increased over the last 5 years. The city has clearly developed targets and policies for the development of projects that reduce GHG emissions. There is significant innovation in the approach for this sector across multiple areas such as commercial, technological or financial. |

* The growth rate of the GDP is vital when the project in question is seeking to raise construction capital as long-term investors look to invest in economies that are stable and growing where their project returns can be realised.

Methodology

Evaluation Criteria: Challenges

The challenges criterion scores the project based on the scale of the common challenges that the cities face in the execution of the project and the ability of the CFF to intervene and help solve those challenges in a resource efficient manner.

Key questions asked to select an appropriate score for challenges were:

18. What are the challenges for the city for the execution of the project, such as access to finance, or difficulties in building collaborations between the city and the private sector, etc.?
19. Have other cities faced similar difficulties in executing the project? Were they resolved?
20. What is the scale of the challenge? Can a qualitative decision be made on whether the CFF can use its resources efficiently to aid the execution of the project?

| Score Range | Scoring Reference |
|-------------|--|
| ≤1 | <ul style="list-style-type: none"> Projects with significant challenges across multiple areas that have not been solved in the past by other international case studies (may have led to the abandoning of projects), without significant financial burdens or time delays. CFF is very unlikely to have the resources to solve these problems of the resource efficient execution of the project. |
| 2-3 | <ul style="list-style-type: none"> Projects with challenges across multiple areas that have not been solved in the past by the region, without significant financial burdens or time delays. CFF is unlikely to have the resources to solve these problems of the resource efficient execution of the project. |
| 4-5 | <ul style="list-style-type: none"> Projects with a significant challenge to its execution that may have been solved regionally but with a financial burden or time delays to the project. CFF will have some resources to solve the challenge faced |
| 6-7 | <ul style="list-style-type: none"> Projects that face large challenges to their execution that have been solved in the past with minor financial burdens or time delays. CFF has the resources to mitigate the largest impacts or delay to execution High chance of CFF involvement |
| 8-9 | <ul style="list-style-type: none"> Projects that face challenges but have been solved in the past with no additional financial burden or time delays. CFF has the resources necessary to achieve completion of the project |
| 10 | <ul style="list-style-type: none"> Project types with challenges (can be large) that have been solved in the past in a resource efficient manner CFF has the capacity to resolve challenges effectively. |

Table 6: Challenges scoring criteria

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