Project Risks

A project risk register will be a key task for the Project Manager to establish and monitor. At this stage, the following risks have been identified.

While noted in general in the following table, currency fluctuation risk is considered to be the most pressing risk in the interim, and should be considered as soon as practicable. Experience from Shanghai 2010 was that this can lead to large variations in cost estimates – up or down.

Risk	Description	Likelihood	Impact	Mitigation	Likelihood/ Impact once mitigated	Owner
1. Location risk	There are a number of cultural, regulatory and operational differences between Dubai and NZ that may impact costs, design, operations etc.	MEDIUM	MEDIUM	Physical presence in Dubai and support from technical advisers familiar with operating in the region.	LOW/LOW	Project Manager
2. Cost escalation	There are a number of potential ways for costs to escalate including, but not limited to: 1. Optimism bias around total costs 2. The deferral of a decision to attend means best procurement options are closed 3. Currency risk 4. Design and construction costs 5. Inflationary pressures on materials and/or labour	MEDIUM	MEDIUM	• Undertake robust pre-preparation phase including testing of IBC with Treasury Officials • Build a strong strategic case, and explain risks and benefits to Ministers including minimum expenditure requirements, so that a decision can be best informed in advance of formal budget bids. • Look to undertake appropriate hedging through advice from commercial advisors. s9(2)(i)	LOW-MEDIUM/LOW-MEDIUM	Project Manager

					• Release ROI for design and construction contracts early to best understand the market.		
3.	Changing scope requirements	Organisers change requirements of participation (e.g. design standards; introduce new costs; change timeframes etc.). Changes would impose additional costs to meet timelines and may create risk to meeting deadlines.	MEDIUM	MEDIUM	Ongoing engagement with Expo organisers and other participant countries to get early warning of any changes.	MEDIUM/ LOW- MEDIUM	Project Director
4.	Political risk	Political implications s6(a)	[redacted]	MEDIUM	A decision to attend would minimise any political risk in the region. s6(a)	LOW (if decision to participate)/ LOW	MFAT
5.	On-site security	Any large-scale event brings risk of targeting, regardless of location. Concerns or an event would impact visitor numbers.	MEDIUM	[redacted]	Design standards and specification will support security monitoring Regular security briefings to participants UAE experience in dealing with large-scale events e.g. theme park openings; Race to Dubai/Desert Classic golf events; Dubai Cup; hosting inter-governmental summits	LOW-MEDIUM/ MEDIUM	Project Director/ MFAT
6.	Regional security	Ongoing security tensions within the Middle-East region and globally. More specific concerns could lead to cancellation of event	LOW	[redacted]	Continued engagement with existing regional security arrangements. Continued monitoring of security situation	[redacted]	MFAT

The risks identified here impact on the benefits in a range of ways. Where they increase the costs of participation for New Zealand, this will reduce the net level of benefits received. In other circumstances, the risk may directly threaten the achievement of the benefits.

	Benefit 1: Economic benefits derived from increased inbound investment	Benefit 2: Economic benefits derived from increased inbound international students	Benefit 3: Economic benefits derived from increased inbound tourism	Benefit 4: Economic benefits derived from increased exports of existing products to existing markets.	Benefit 5: Economic benefits derived from increased exports to new markets	Benefit 6: Securitisation of additional international flights into New Zealand	Benefit 7: Improved international relations with the UAE and other Gulf countries	Benefit 8: Improve opportunities to tell the New Zealand Story	Benefit 9: Improved business connections	Benefit 10: Access to the Dubai Innovation Fund
Location risk	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Direct impact	Direct impact	Direct impact	Direct impact
Cost escalation	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits
Changing scope requirements	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Reduced net benefits	Direct impact (could be positive or negative)	Reduced net benefits	Reduced net benefits
Political risk of non-participation	Direct impact	Direct impact	Direct impact	Direct impact	Indirect impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact
On-site security	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact
Regional security	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact	Direct impact

Appendices

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Appendix 1: Potential Expo Themes

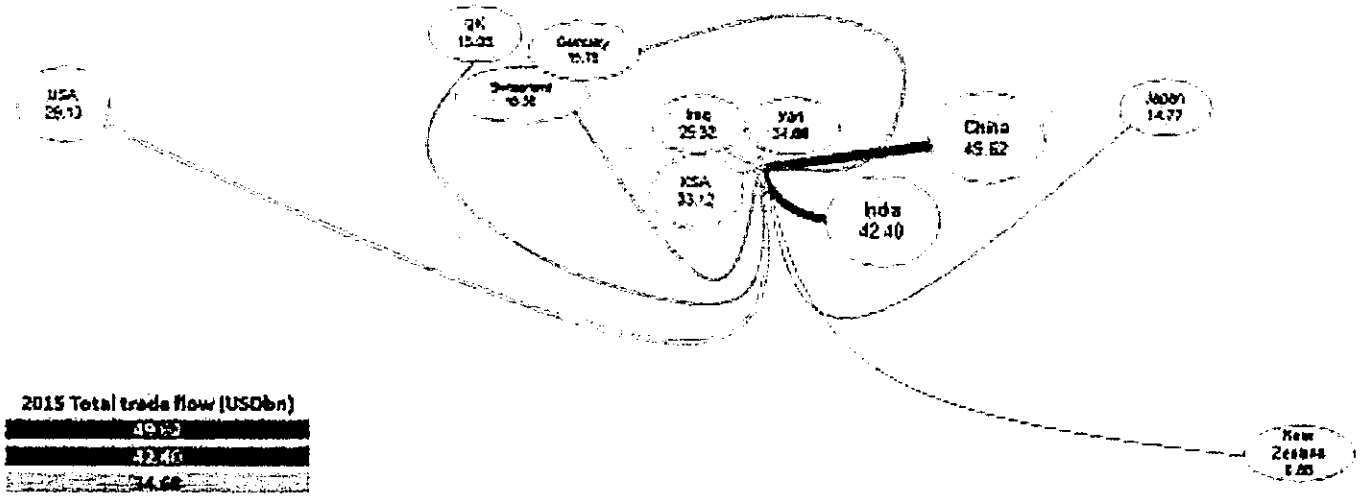
The following Expo themes have been suggested by the organisers.

OPPORTUNITY	SAMPLE TOPICS
Education	Access to education Quality Mentoring and support networks Online education and new tools for learning The school of the future
Employment	Access to employment Emerging skills and jobs Diversity in the workplace Workplaces of the future (physical and virtual environments) Automation of work (artificial intelligence, robotics)
New Industries	Job creation Entrepreneurship Small and medium enterprises Economic diversification New business models Emerging and pioneering sectors (innovation, social impacts, implications)
Financial Capital	Access to funding and financial services (banking) Payment and financial transactions Future of banking and financial services Currencies Access to global markets Global financial networks
Governance	Policies for safe, secure, and happy communities Systems to enhance transparency and competitiveness Innovation ecosystems Creative communities Smart government New global institutions

SUSTAINABILITY	SAMPLE TOPICS
Natural Ecosystem and Biodiversity	Understanding and learning from nature and traditional practices Biodiversity management, understanding, and conservation Future of eco-regions and biomes Closed loop systems and biomimicry
Resources	Access to natural resources Energy, water, and food nexus Resource efficiency and management Resource storage and distribution Food production and agriculture
Sustainable cities and Built Habitats	Sustainable materials Sustainable lifestyles (design and manufacturing) Urban infrastructure and planning Green building standards and practices
Climate Change	Understanding and managing the social impact of climate change Emission reduction Technologies for climate change mitigation Data collection, reporting, and analytics Education and advocacy
Green Economy	Natural capital Green investments Carbon trading New economic models and the circular economies

MOBILITY	SAMPLE TOPICS
Transportation	Vehicles and means of transport Infrastructure (seaports, airports, space stations) Sustainable, low carbon solutions Autonomous vehicles (drones, driverless cars)
Travel and exploration	Exploration (new frontiers, territories) Tourism Migration Safety and security Policies and regulations
Personal Mobility	Restoring personal mobility (wheelchairs, mobility aids) Prosthetics Robotics Universal accessibility Accessible cities
Logistics	Access to goods Supply chains Infrastructure Logistics corridors Maritime Hubs, routes, and corridors Humanitarian and vital goods logistics Packaging, containers, and storage Optimisation, tracking, and safety of goods
Digital Connectivity	Telecommunications Accessing remote services (internet, health, education) Big data and the Internet of things Virtual and augmented experiences Navigation and satellite applications

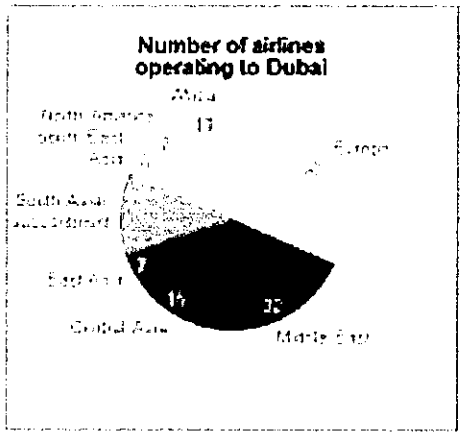
Appendix 2: Dubai trade and airline connectivity

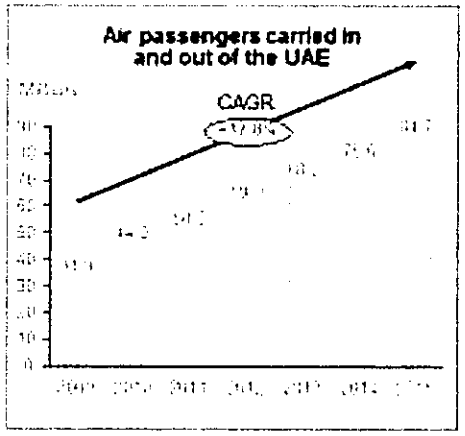


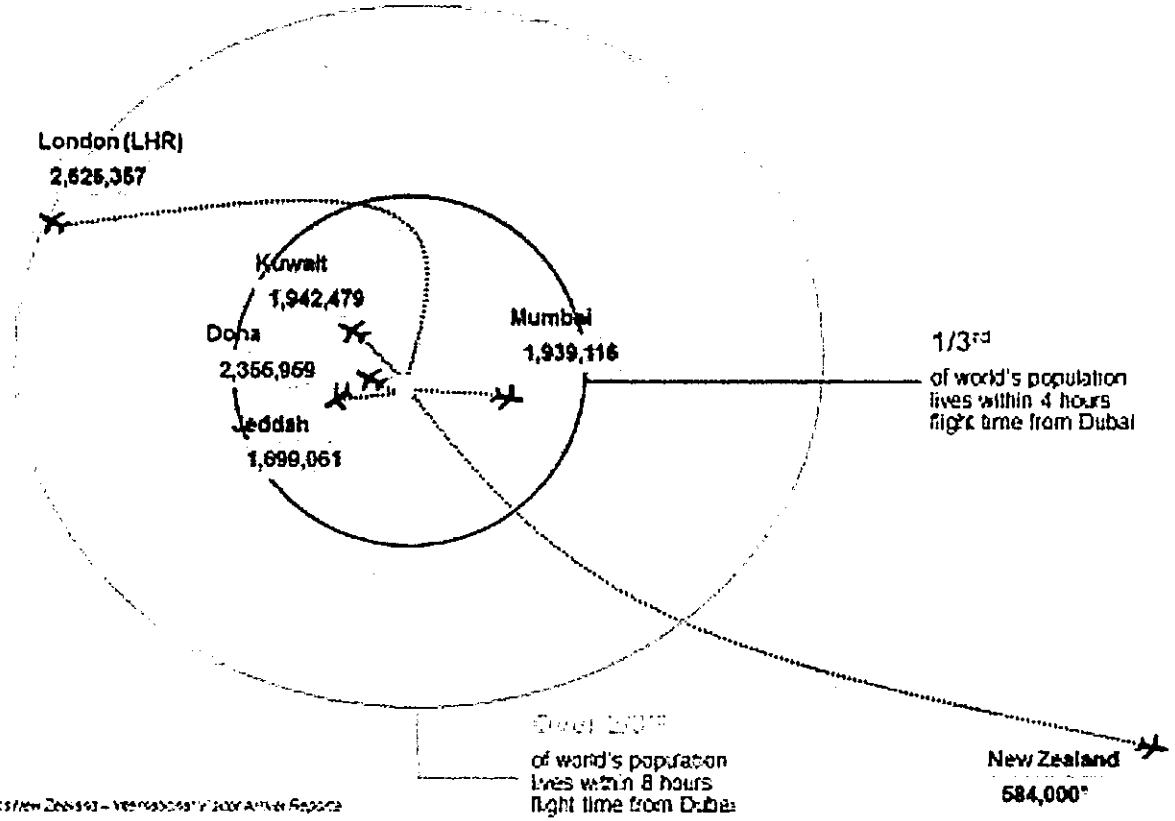
Partner	2015 Total trade flow (USDbn)
China	49.62
India	42.40
Iran	34.68
Saudi Arabia	33.12
USA	29.13
Iraq	25.32
Switzerland	16.38
Germany	15.78
United Kingdom	15.06
Japan	14.77
New Zealand	0.68

Above $40 USbn
Above $30 USbn
Above $20 USbn
Above $10 USbn
Under $1 USbn

Note: Thickness indicative of total trade flow value
Source: EY analysis of UN Comtrade database



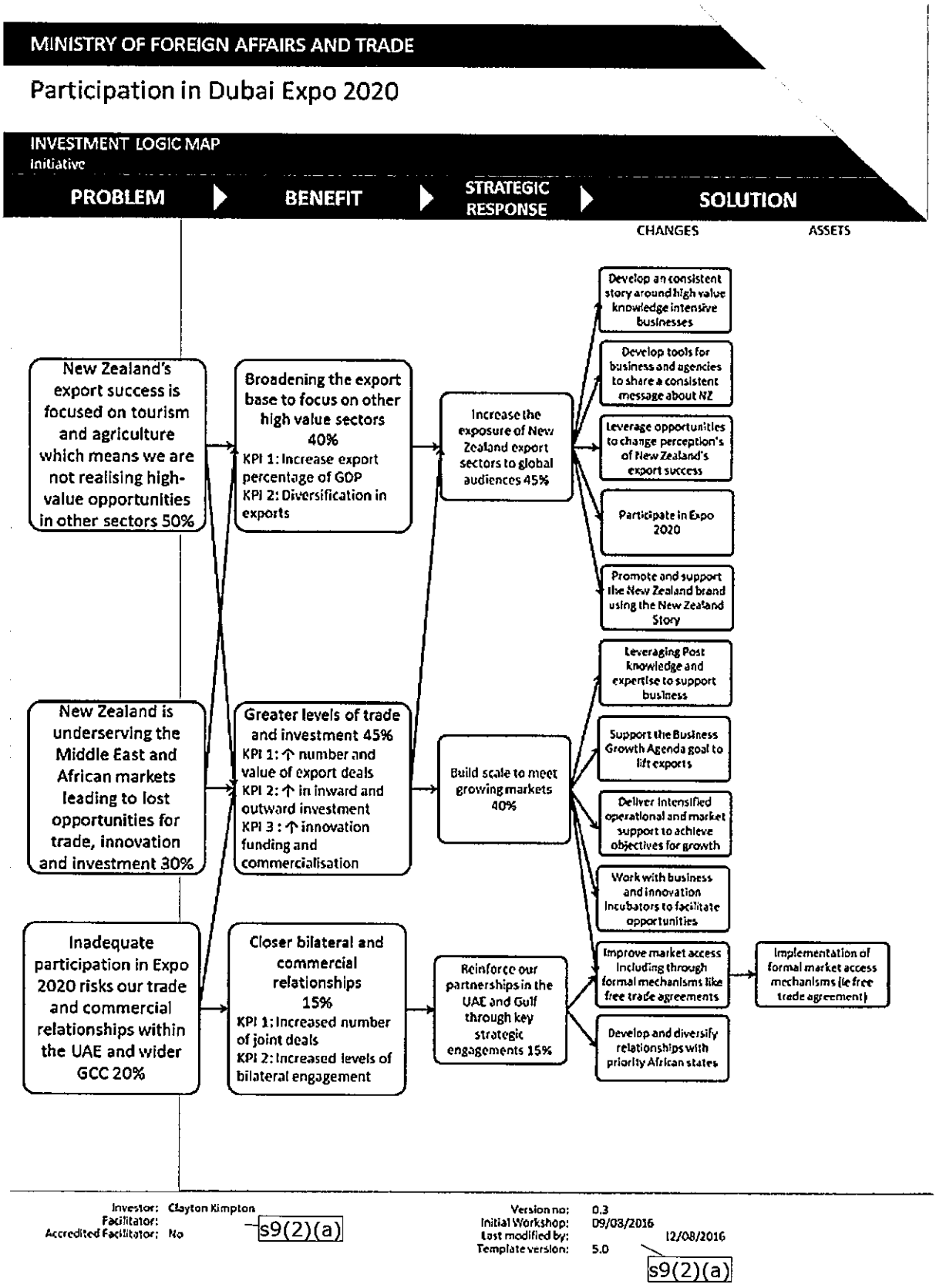




Sources: Dubai Airport, The Statistics Department of Emirates – June 13, Statistics New Zealand – International Visitor Arrival Report

(1) Estimate based on Emirates reports of daily seats from the New Zealand are assumed less here

Appendix 3: Investment Logic Map



Appendix 4: Assessment of investment objectives against SMART criteria

Investment Objective One	Increase the total value of exports for the New Zealand economy.
S - Specific	The 'total value of exports' is a stand-alone, specific objective.
M - Measurable	Increasing total value of exports is something that is measured as a tier one statistic by Statistics New Zealand.
A - Achievable **R - Realistic**	The New Zealand economy has gone through various periods where exports have increased and decreased (due to both domestic policy and macro-economic/geopolitical factors). There is realistic precedent for growth in exports on the back of improvements in international market access.
T - Time-bound	This Investment objective is explicitly NOT Time bound as it is designed to sustainably accrue over time. However, the extent to which exports are increasing over time can be explicitly tracked, and will be supported through the development of a benefits evaluation plan. The economic assessment of all of the benefits that contribute to this Investment Objective have been time-bound to between one and five years, depending on the nature of the benefit considered.

Investment Objective Two	Increase the diversity of exports to global audiences by further building into other high value sectors than agriculture and tourism.
S - Specific	This objective is very clearly focussed around diversifying New Zealand's export composition.
M - Measurable	The composition of exports in New Zealand is reported under a tier one statistic.
A - Achievable **R - Realistic**	The New Zealand economy has gone through various structural changes where export composition has increased and decreased (due to both domestic policy and macro-economic/geopolitical factors). There is realistic precedent for growth in exports on the back of improvements in international market access.
T - Time-bound	This Investment objective is explicitly NOT Time bound as it is designed to sustainably accrue over time. However, the extent to which exports are increasing over time can be explicitly tracked, and will be supported through the development of a benefits evaluation plan. The economic assessment of all of the benefits that contribute to this Investment Objective have been time-bound to between one and five years, depending on the nature of the benefit considered.

Investment Objective Three	Increase the levels of trade and investment between NZ and the MENA region.
S - Specific	This objective is related, but distinct, from investment objective one because of its specific geographic focus.
M - Measurable	Export and import figures are an official tier one New Zealand Statistic. Investment flows are less well reported – but can still be accurately and reliably measured. For example, MFAT is currently monitoring the levels of investment between the GCC and New Zealand.
A - Achievable **R - Realistic**	Improved political relationships between New Zealand and the GCC region will pave the way for stronger economic ties. With the GCC region being home to some of the biggest sovereign wealth funds in the world, it is both realistic and achievable to expect some of this investment to flow to New Zealand.
T - Time-bound	This Investment objective is explicitly NOT Time bound as it is designed to sustainably accrue over time. However, the extent to which trade and investment are increasing over time can be explicitly tracked, and will be supported through the development of a benefits evaluation plan. The economic assessment of all of the benefits that contribute to this Investment Objective have been time-bound to between one and five years, depending on the nature of the benefit considered.

Investment Objective Four	Maintain and increase bilateral engagements on trade and non-trade issues between NZ and the MENA region.
S - Specific	This investment objective is specifically focussing on improving relationships between New Zealand and the GCC region.
M - Measurable	It is possible to measure the number of Ministerial and Trade delegations that take place each year. MFAT and NZTE keep strong records of such activity.
A - Achievable **R - Realistic**	There is a clear correlation between the strength of political relationships and the levels of trade and Ministerial delegations. There is precedent for increased diplomatic and economic engagements between New Zealand the GCC as evidenced by our relatively recent focus on the Chinese economy.
T - Time-bound	This Investment objective is explicitly NOT Time bound as it is designed to sustainably accrue over time. However, this relationship, to the extent it can be explicitly tracked over time, should be included in the development of a benefits evaluation plan.

Investment Objective Five	Raise NZ's profile amongst new trading partners and broaden understanding of capabilities amongst all partners.
S - Specific	This objective is specifically about raising New Zealand's profile globally.
M - Measurable	A number of global attractiveness and brand surveys exist through which New Zealand could measure its emerging profile amongst global trading partners.
A - Achievable **R - Realistic**	100% Pure New Zealand brand campaign has been successful in improving the world's perception of New Zealand's natural beauty (Tourism) and our high quality food producing capabilities (agriculture). A similarly designed campaign could showcase wider aspects of the New Zealand economy that are not as well understood.
T - Time-bound	This Investment objective is explicitly NOT Time bound as it is designed to sustainably accrue over time. However, the extent to which this Investment Objective, to the extent it can be tracked over time, should be included in the development of a benefits evaluation plan.

Appendix 5: Short-list Summaries

Option 1: Do Nothing (Do not participate in the Expo 2020)

This option represents a scenario where New Zealand declines to attend Expo 2020 and continues to pursue existing policies initiatives and programmes to build and further develop commercial international relationships across the MENA region.

The Dubai Government, has invested considerable political and financial capital in ensuring that Expo 2020 is a success.

Therefore while the 'Do Nothing' option generally does not incur any unique direct costs, nor does it create any unique benefits, s6(a)

The benefits considered at risk from non-attendance include:

- the benefits of trade and investment including, including from early implementation of the GCC FTA
- s9(2)(d)
- s9(2)(ba)

These risks, s6(a) to the economy, are of course subjective with different parties placing different values on their likelihood. However, these have been included in the analysis of this option because

- they are material in size
- there is an incentive on organisers to do what is needed to make sure that this event is a success
- s9(2)(d)

Benefits	**0**
Negative Benefits	**-$243.49**
Probability weighted	
Net monetised benefit	**-$243.49**
Monetised BCR	**N/A**

Non-monetary benefits assessment

Benefit 5: Economic benefits derived from increased exports of new products to new markets.	Negative benefits possible
Benefit 7: Improved international relations with the UAE and other Gulf countries.	Negative benefits likely
Benefit 8: Improve opportunities to tell the New Zealand Story	No additional benefits expected
Benefit 9: Improved business connections	Negative benefits likely
Summary	**Negative Benefits Expected**

Investment Objectives

1. Increase the total value of exports for the New Zealand economy	[redacted]
2. Increase the diversity of exports to global audiences by further building into other high value sectors than agriculture and tourism	[redacted]
3. Increase the levels of trade and investment between NZ and the MENA region	[redacted]
4. Maintain and increase bilateral engagements on trade and non-trade issues between NZ and the MENA region	[redacted]
5. Raise NZ's profile amongst new trading partners and broaden understanding of capabilities amongst all partners	[redacted]

The Do Nothing option is considered the least viable of the shortlist.

[redacted]	[redacted]
Costs	**0**

Option 4: Attend Expo 2020, Small-sized Pavilion

The option considers an option that enables the New Zealand pavilion to attend Expo 2020 through the construction of a small-sized pavilion (<2,000 square meters). This options would enable New Zealand to demonstrate several different characteristics of the country's economy but would not have meeting rooms or significant entertainment facilities.

Generally, this option would not detract from our relationship with the GCC. It would also enable New Zealand, to some degree, showcase new industries and allow existing industries to break into new markets.

The estimated costs (nominal) of this option centre on the expected one off cost of attendance at Expo 2020 – which equates to roughly $34 million and $10 million of leveraging costs.

Crucially, this option would not be expected to raise the risk of us losing existing benefits that currently accrue to New Zealand such as:

- the benefits of early implementation of the GCC FTA
- s9(2)(d)

However, it does raise the potential for us to pursue such benefits as:

- increased FDI,
- increased export growth (in both existing and emerging markets)
- improved bilateral relationships
- increased student numbers
- an ability to showcase the New Zealand Story
- an ability to increase business connections
- s9(2)(ba)

Option 4 is considered the 2nd most viable option from the short-list

Cost benefit Analysis

[illegible]	[illegible]
Costs	**37.89**
Benefits	**31.44**
Negative Benefits Probability weighted	**N/A**
Net monetised benefit	**(6.45)**
Monetised BCR	**0.83**

Non-monetary benefits assessment

Benefit 5: Economic benefits derived from increased exports of new products to new markets.	Positive benefits possible
Benefit 7: Improved international relations with the UAE and other Gulf countries.	Positive benefits possible
Benefit 8: Improve opportunities to tell the New Zealand Story	Positive benefits possible
Benefit 9: Improved business connections	Positive benefits possible
Summary	**Positive Benefits possible**

Investment Objectives

1. Increase the total value of exports for the New Zealand economy	Partially meets
2. Increase the diversity of exports to global audiences by further building into other high value sectors than agriculture and tourism	Partially meets
3. Increase the levels of trade and investment between NZ and the MENA region	Partially meets
4. Maintain and increase bilateral engagements on trade and non-trade issues between NZ and the MENA region	Partially meets
5. Raise NZ's profile amongst new trading partners and broaden understanding of capabilities amongst all partners	Meets

Option 5: Attend Expo 2020, Modest-sized Pavilion

The option considers an option that enables the New Zealand pavilion to accommodate significant facilitation of in-house catering, business development areas and the ability to demonstrate a number of different characteristics of the country's economy.

Generally, this option would be the minimum level of involvement to progress our relationship with the GCC. It would also enable New Zealand to adequately showcase new industries and allow existing industries to break into new markets.

The estimated costs (nominal) of this option centre on the expected one off cost of attendance at Expo 2020 – which equates to roughly $48 million and $10 million of leveraging costs.

Crucially, this option would not be expected to raise the risk of us losing existing benefits that currently accrue to New Zealand such as:

- the benefits of early implementation of the GCC FTA
- s9(2)(d)

However, it does raise the potential for us to pursue such benefits as:

- increased FDI,
- increased export growth (in both existing and emerging markets)
- improved bilateral relationships
- increased student numbers
- an ability to showcase the New Zealand Story
- an ability to increase business connections
- s9(2)(ba)

Option 5 is the recommended option from the short-list

[illegible]	[illegible]
Costs	**49.91**
Benefits	**50.25**
Negative Benefits	**N/A**
Probability weighted	
Net monetised benefit	**0.34**
Monetised BCR	**1.01**

Non-monetary benefits assessment

Benefit 5: Economic benefits derived from increased exports of new products to new markets.	Positive benefits likely
Benefit 7: Improved international relations with the UAE and other Gulf countries.	Positive benefits likely
Benefit 8: Improve opportunities to tell the New Zealand Story	Positive benefits likely
Benefit 9: Improved business connections	Positive benefits likely
Summary	Positive Benefits Likely

Investment Objectives

1. Increase the total value of exports for the New Zealand economy	Meets
2. Increase the diversity of exports to global audiences by further building into other high value sectors than agriculture and tourism	Meets
3. Increase the levels of trade and investment between NZ and the MENA region	Meets
4. Maintain and increase bilateral engagements on trade and non-trade issues between NZ and the MENA region	Meets
5. Raise NZ's profile amongst new trading partners and broaden understanding of capabilities amongst all partners	Exceeds

Option 6: Attend Expo 2020, Mid-sized Pavilion

The option also considers an option that enables the New Zealand pavilion to accommodate significant facilitation of in-house catering, business development areas and the ability to demonstrate a number of different characteristics of the country's economy.

Generally, this option would be beyond the minimum level of involvement to progress our relationship with the GCC. It would enable New Zealand to more than adequately showcase new industries and allow existing industries to break into new markets.

The estimated costs (nominal) of this option centre on the expected one off cost of attendance at Expo 2020 – which equates to roughly $81 million and $10 million of leveraging costs.

Crucially, this option would not be expected to raise the risk of us losing existing benefits that currently accrue to New Zealand such as:

- the benefits of early implementation of the GCC FTA

s9(2)(d)

However, it does raise the potential for us to pursue such benefits as:

- increased FDI,
- increased export growth (in both existing and emerging markets)
- improved bilateral relationships
- increased student numbers
- an ability to showcase the New Zealand Story
- An ability to increase business connections

s9(2)(ba)

Option 6 is considered the 3rd most viable option from the short-list

Cost benefit Analysis

[illegible]	[illegible]
Costs	**78.36**
Benefits	**50.25**
Negative Benefits	**N/A**
Probability weighted	
Net monetised benefit	**(28.12)**
Monetised BCR	**0.64**

Non-monetary benefits assessment

Benefit 4: Economic benefits derived from increased exports of new products to new markets.	Positive benefits likely
Benefit 6: Improved international relations with the UAE and other Gulf countries.	Positive benefits likely
Benefit 7: Improve opportunities to tell the New Zealand Story	Positive benefits likely
Benefit 8: Improved business connections	Positive benefits likely
Summary	Positive Benefits likely

Investment Objectives

1. Increase the total value of exports for the New Zealand economy	Meets
2. Increase the diversity of exports to global audiences by further building into other high value sectors than agriculture and tourism	Meets
3. Increase the levels of trade and investment between NZ and the MENA region	Meets
4. Maintain and increase bilateral engagements on trade and non-trade issues between NZ and the MENA region	Meets
5. Raise NZ's profile amongst new trading partners and broaden understanding of capabilities amongst all partners	Exceeds

Appendix 6: Option 2: Do not attend Expo but apply mitigation strategy (CBA comparison)

	Monetised costs and benefits NPV ($)	Option 2 Do not attend Expo, but apply mitigation strategy			
		Impacts for 5 years	Impacts for 10 years	Impacts for 15 years	Impacts for 3 years
Costs	Personnel	N/A	N/A	N/A	N/A
	Travel	N/A	N/A	N/A	N/A
	Professional and outsourced	N/A	N/A	N/A	N/A
	Business Development	N/A	N/A	N/A	N/A
	Marketing	N/A	N/A	N/A	N/A
	ICT	N/A	N/A	N/A	N/A
	Insurance	N/A	N/A	N/A	N/A
	Other	N/A	N/A	N/A	N/A
	Contingency	N/A	N/A	N/A	N/A
	Foreign Exchange contingency	N/A	N/A	N/A	N/A
	Expo Project Management costs	**N/A**	**N/A**	**N/A**	**N/A**
	Occupancy costs	N/A	N/A	N/A	N/A
	Contingency	N/A	N/A	N/A	N/A
	Leveraging costs	N/A	N/A	N/A	N/A
	Current regional footprint costs	N/A	N/A	N/A	N/A
	Additional Regional footprint costs	52.32	52.32	52.32	52.32
	Total costs	**52.32**	**52.32**	**52.32**	**52.32**

Benefit 1: Economic benefits derived from increased inbound investment		2.99	5.84	8.54	1.81
Benefit 2: Economic benefits derived from increased inbound international students		1.82	3.18	4.20	1.15
Benefit 3: Economic benefits derived from increased inbound tourists		0.26	0.46	0.62	0.16
Benefit 4: Economic benefits derived from increased exports of existing exports to existing markets		22.53	41.70	58.01	13.95
Benefit 6: Securitisation of additional international flights into New Zealand		N/A	N/A	N/A	N/A
Benefit 10: Innovation Fund		N/A	N/A	N/A	N/A
Benefit 11: Reduction in economic benefits derived from inbound investment		N/A	N/A	N/A	N/A
Benefit 12: Reduction in economic benefits derived from increased exports of existing exports to existing markets		N/A	N/A	N/A	N/A
Benefit 13: Securitisation of existing international flights into New Zealand		(54.82)	(54.82)	(54.82)	(54.82)
s9(2)(j)	GCC's FTA	s9(2)(j)			
s9(2)(j)	GCC's FTA	s9(2)(j)			
s9(2)(j)	GCC's FTA	s9(2)(j)			
Total benefits		**(88.74)**	**(65.16)**	**(44.96)**	**(99.25)**
Net Monetised Benefit (Cost)		**(141.06)**	**(117.48)**	**(97.28)**	**(151.57)**
Monetised BCR		**(1.70)**	**(1.25)**	**(0.86)**	**(1.90)**

Appendix 7: Summary of options analysis

Attend Expo 2020 Dubai

Status Quo: Strong bilateral relationship with UAE and growing trade relationship. Invite to attend Expo 2020 Dubai

Do not attend Expo 2020 Dubai

Options Identification

Option	Cost ($m, 5 yr NPV)	Approx. Size (m²)	Staff (number)	Meeting facilities (rooms)	Kitchen and entertainment facilities	Comparison countries (using Shanghai Expo 2010 as a proxy)
Option 3: Pooled Pacific nations exhibition (minimal participation)	N/A	600	N/A	×	×	We would participate alongside other Pacific Nations such as Tonga, Fiji, Samoa and Kiribati.
Option 4: Attend Expo, small-sized pavilion	37.89	1,550	~50	×	×	Peru, Serbia and Brunei
Option 5: Attend Expo, modest-sized pavilion	49.91	2,000 - 3,000	~65	✓	✓	Ireland, Sweden, Israel, Romania, New Zealand, Turkey, the Philippines, Hong Kong, and Pakistan
Option 6: Attend Expo, mid-sized pavilion	78.36	4,000 – 6,000	~100	✓✓	✓	Australia, India, Mexico, Indonesia and Korea
Option 7: Attend Expo, G20 country size pavilion	N/A	8,000 +	N/A	✓✓	✓✓	G20 countries

Benefits (at risk)

Option	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Option 3	Not considered under CBA															
Option 4	$	$	$	$$$	☹	$	☹	☹	☹	$	×	×	×	×	×	×
Option 5	$	$	$	$$$$	☹☹	$$	☹☹	☹☹	☹☹	$	×	×	×	×	×	×
Option 6	$	$	$	$$$$	☹☹	$$	☹☹	☹☹	☹☹	$	×	×	×	×	×	×
Option 7	Not considered under CBA															

Option	Description
Option 1: Do Nothing (Do not participate in the Expo 2020)	This option represents a scenario where New Zealand does not participate in Expo 2020 Dubai and continues to pursue existing policies initiatives and programmes to build and further develop commercial international relationships across the MENA region.
Option 2: Do not attend Expo 2020, but apply mitigation strategy	This option would help mitigate the potential political and commercial risks of non-attendance. It would take the form of enhanced resourcing in the existing NZ Inc network in the region– with specific diplomatic activities directed at protecting bilateral trade and investment between GCC countries and New Zealand in the first instance. Estimated to cost $52m NPV.

Option	1	2	3	4	5	6	7	8	9	10	11	12	13
Option 1	×	×	×	×	☹	×	☹	☹	☹	×	($$)	($$$)	($$$$$)
Option 2	$	$	$	$$$	☹	×	☹	☹	☹	×	×	×	($$$$$)

s9(2)(j)

Key

Small – modest facilities expected	✓	Benefits (at risk) < $5m NPV	$	Benefits (at risk) $25m – $50m NPV	$$$$	Negative qualitative benefits possible	☹
Modest-large facilities expected	✓✓	Benefits (at risk) $5m – $10m NPV	$$	Benefits (at risk) $50m-$100m NPV	$$$$$	Positive qualitative benefits possible	☺
Not expected	×	Benefits (at risk) $10m – 25m NPV	$$$	Benefits (at risk) $100m + NPV	$$$$$$	Positive qualitative benefits likely	☺☺

Appendix 8: Cost Benefits Analysis Methodology

Methodology adopted for the CBA

The economic analysis technique used to assess the Project's short-listed options is Cost Benefit Analysis (CBA). CBA is a decision making tool that aims to assess the value of project options on a consistent basis. This is done by quantifying all costs and benefits in monetary terms, where possible, and discounting them to a common point in time to determine the net benefits of each option.

General Approach

This CBA relies on desktop research and insights provided by the representatives from MFAT and NZTE as well as additional market insights and research from EY. Past trends and experiences from similar events (such as Shanghai Expo 2010 and Aichi Expo 2005) have also been used to approximate the value of several project outcome being assessed.

There are a number of limitations with the above approach:

- Benefits of attendance are being forecasted to 2020 and beyond – which carry a range of inherent uncertainties. Where appropriate, probability weighted likelihoods have been applied to help mitigate against this limitation. These benefits have been peer reviewed.

- In some cases, benefits are being partially apportioned to Expo 2020, which is an imprecise science. Where appropriate, probability weighted likelihoods have been applied to help mitigate against this limitation. These benefits have been peer reviewed.

- Benefits (and benefits at risk) have been assumed to take place with no market response (i.e. no general equilibrium modelling has been undertaken). For an IBC this is considered appropriate, although for the DBC, it would be expected that a more detailed consideration of dynamic effects would be undertaken.

- Costs are largely based on experiences from Shanghai Expo 2010 and so will not be a perfect replica for expected costs in Dubai. In the absence of detailed design work, Shanghai 2010 cost figures represent the best benchmark and have been inflated to 2016 estimates alongside application of Dubai-specific benchmarks and assumptions. These costs have all then been similarly forecasted to 2020 (CPI adjusted) and have been peer reviewed.

While efforts have been made to mitigate these limitations where possible, it is expected that the Detailed Business Case (should it be required) will provide more certainty about both benefit and cost estimates.

Approach to identifying Costs and Benefits

The Project team and representatives from MFAT and NZTE jointly identified the full range of potential costs and benefits associated with the Project. Each of the potential costs and benefits were further identified as either monetary or non-monetary and whether or not they could be appropriately quantified based on the information available for this project.

Assumptions and sources of information

Information and assumptions used to estimate of the costs and benefits of the short list options were obtained through a combination of information provided by MFAT, NZTE and desktop research of publicly available data and guidance from similar events held previously.

When interpreting the CBA results for each Project option it is important to note the resulting NPVs and BCRs are suitable for comparison relative to the short list options and should not be considered as an absolute value to be assessed outside of this context.

Assumptions specific to each costs and benefit are presented throughout the remainder of this appendix.

Costs of attendance assumptions

In general, Shanghai Expo 2010 cost numbers have been used as the basis for the modest sized pavilion option for Dubai Expo 2020. While there is potential for the Shanghai event to 'look and feel' different to the Dubai event, in the absence of detailed design assessments and the development of specific themes Shanghai represents the best basis for an indicative assessment.

Factors applied to adjust the Shanghai cost numbers to make them relevant to Expo 2020 are listed below:

- In all cases, Shanghai cost numbers have been inflated for CPI inflation between 2012 and 2020.
- Individual line items have then been inflated/deflated depending on relevant factors (such as expectations around extra staff in Dubai, construction cost indexes and the need for higher operating costs).
- Additional line items have also been included owing to Dubai specific expectations. As an example, a line item for air conditioning is included.

Other options have then been derived based on escalating or reducing these costs based on the size and suitable requirements of the respective options in consideration.

Costs of attendance have been independently peer reviewed by a Dubai-based engineering consultancy familiar with the Better Business Case process.

Tables 22 and 23 below represent the costs incurred for the Shanghai Expo 2010 event which forms the cost base for our cost assumptions underlying the options for Expo 2020 Dubai. Note, these costs are values as per year 2012.

Table 22: Cost base (Shanghai Expo 2010 costs) - Onshore costs

Cost element	Description	ONSHORE[30]			
		2008	2009	2010	2011
Personnel	Costs for personnel required to manage New Zealand's participation at the Expo event	$158,841	$187,649	$1,143,417	$1,557,725
Travel	Costs associated to travel activities for the Expo event	$43,508	$73,607	$337,802	$27,455
Occupancy	Costs associated to occupancy at the Expo event.	$481,963	$3,871,611	$6,937,180	$546,317
Professional and Outsourced	Costs for various professionals brought in to manage activities at the Expo event	$5,825	$31,800	$161,428	$184,982
Business Development	Costs associated to the business development activities at the event	-	-	-	-
Marketing	Costs associated to the marketing activities at the event	-	-	-	$264,172
Other Marketing	Miscellaneous marketing activities	$31,132	$38,919	$166,416	-
Computer	Costs associated to the ICT activities at the event	$99	$249	$352,340	$266,678
Capital charge/ Insurance	Insurance costs	-	-	$1,121	$41,584
Other	Miscellaneous activities	$1,025	$3,392	$299,582	$63,092

[30] Onshore costs represent the costs incurred in New Zealand

Table 23: Cost base (Shanghai Expo 2010 costs) - Offshore costs

Cost element	Description	OFFSHORE[31]			
		2008	2009	2010	2011
Personnel	Costs for personnel required to manage New Zealand's participation at the Expo event	-	-	$294,592	$570,877
Travel	Costs associated to travel activities for the Expo event	-	-	$388,163	$514,727
Occupancy	Costs associated to occupancy at the Expo event.	-	-	$8,600,951	- $1,186,003
Professional and Outsourced	Costs for various professionals brought in to manage activities at the Expo event	-	$714,897	$9,217	$9,543
Business Development	Costs associated to the business development activities at the event	-	$25,623	-	-
Marketing	Costs associated to the marketing activities at the event	-	-	-	$174,720
Other Marketing	Miscellaneous marketing activities	-	-	$197,743	$29,553
Computer	Costs associated to the ICT activities at the event	-	-	$35,630	$34,588
Capital charge/ Insurance	Insurance costs	-	-	$20,228	$110,938
Other	Miscellaneous activities	-	-	$139,440	-

[31] Offshore costs represent the costs incurred outside New Zealand i.e. in Shanghai for this case

Specific adjustment factors were then applied to this cost base to determine Dubai Expo 2020 relevant costs are noted and described in table 24. These cost adjustments were then sense-checked against the Dubai Expo 2020 Pavilion Self-Build guide and are considered appropriate.

Table 24: Adjustment factors applied determine estimation of Dubai Expo 2020 costs

Adjustment Factor	Description	Measure
CPI Inflation Indexation	The CPI inflation indexation has been applied to all relevant Shanghai Expo 2010 numbers. The indexation applied was based on two components, both of which were sourced from Statistics New Zealand (http://www.stats.govt.nz/cpi). • The first component was an analysis of the actual inflation rate in New Zealand for the period 2012 to 2016. 2012 was used as the starting point as NZTE actual expenditure for Shanghai Expo was finalized in 2012. For the period 2012-2016 the average inflation rate in New Zealand was 1.33% per annum (but had a 3.2% movement over 5 years). For conservatism an index of 3.5% was used to bring the 2012 costs to 2016 dollars to derive a base costing point. • The second component of the indexation was estimating the indexation for the period 2017 to 2020. Based on the estimates stated by Statistics New Zealand, the project indexation for the period 2017 to 2020 is 1.7% per annum. Note that the 2016 base costs were inflated each year by an additional 1.7% for the year leading up to 2020 in which expenditure was likely to be incurred. Also note these indexations were only applied to costs incurred in New Zealand (excluding construction costs). The costs expected to take place in Dubai were inflated each year by additional 2.8% leading up to 2020 in the years in which expenditure was likely to be incurred. This indexation was sourced from the IMF World Economic Outlook.	New Zealand CPI Inflation Index (2012 to 2016) – **1.035** Projected New Zealand CPI Inflation Index (2017 to 2020) – **1.017** Projected Dubai CPI Inflation Index (2017 to 2020) – **1.028**
Construction Index	s9(2)(i)	

Exchange Rate Contingency	s9(2)(i)	
Staffing Factor	Expenditure under personnel covers the estimated costs to be incurred for Project management as well as the operational staff and ground team that will be required at the Expo 2020. Members of the Project Team are defined in the attached IBC, but are expected to include a Project Director, Project Manager, Office Manager, Policy Advisor, Creative Director and relationship management roles for commercial stakeholders and Expo 2020 organisers. Operational staffing numbers are difficult to forecast in advance of detailed pavilion design and theme choice. However, as an estimate, staffing numbers on the ground in Shanghai (and hence budget) have been doubled as the post analysis suggested the offshore staffing levels in Shanghai was inadequate. Anecdotal estimations of staffing numbers for a modest sized pavilion in Shanghai are outlined below. 12 Kapa haka performers were also present. Daily living costs are included in this calculation and have been doubled from that of Shanghai, (based on actual comparisons and research undertaken by EY Dubai about the cost of living in Dubai vis Shanghai). s9(2)(i)	2

Travel Factor	Travel expenditure has been based on the actual expenditure of Shanghai but increased on the basis that: • Airfares to Dubai are double that of Shanghai, (based on internet research of actual flight costs) • Accommodation costs are higher in Dubai (based on actual costing's obtained from EY Dubai office and guidance from the Expo 2020 Participant Guide). Additionally it is expected that there will be more NZ based staff involved in the Dubai Expo than Shanghai (Based on one of the findings from the Shanghai post evaluation). For these reason it was estimated to increase the travel costs by a factor of 2.5 and apply the applicable indexations.	**2.5**
Freight Contingency Factor	s9(2)(i)	
ICT Factor		
Salvage Rate		
Expo Dubai premium		
General Contingency		
Sponsorship	For the purpose of conservatism, revenues from sponsorship or private sector support have not been included here. Rather, it is assumed that any sponsorship receipts (either direct or in kind) will help the event to be more of a success.	-

Receipts	The development of a leveraging programme, and the associated DBC will hopefully provide more certainty over whether sponsorship receipts can be expected.	
Administration surcharge	s9(2)(i)	
Whole of Government Costs	A whole of government cost of $10m has been assumed. Of this $5m is expected to be new funding while $5m is expected to be reprioritised funding. Specific funding has not been apportioned to different agencies – rather it is meant to reflect the desire for all agencies to 'make the most' of attendance at Expo 2020 (should a decision to attend be made). The rationale behind the reprioritised figure of $5m is: • $1.4m of expenditure on leveraging from NZTE for Shanghai 2010 Expo. This number did not take into account expenditure up to four years in advance of the event, nor did it represent expenditure from other agencies (both of which are explicitly being advocated for Expo 2020). • We have proposed a roughly 3 times multiple of this figure to arrive at $5m of reprioritised funding. $5m of new funding then matches this expenditure. (This number is scaled up following discussions in the mid-point clinic about 'making the most of attendance'.)	**$10,000,000**
Operating Costs	There will be additional operating costs in Dubai due to closure over summer and Ramadan plus higher running costs due to climatic conditions. An estimate has been made based on reference to the Expo 2020 Participant Guide and research undertaken by the EY Dubai office.	**$200,000**
Adjustment for operational and construction costs for different sized options	A large proportion of costs involved in Trade shows or World Expos are fixed cost. Accordingly, it would be erroneous to therefore assume that the cost is directly correlated to the size of the pavilion at a ratio of 1. Shanghai Expo 2010 costs used as the cost base are equivalent to the modest sized pavilion option here and hence there is no adjustment factor (i.e. it is 1) for the modest sized pavilion option. The factors applied to both a larger pavilion and a smaller pavilion was based on the following elements: - A high level analysis of fixed and variable costs from the Shanghai Expo - Where these fixed and variable costs were not easily identified estimations were made based on experiences in project managing previous trade expos.	Operational adjustment factor: **0.8 (Small pavilion** **1.5 (mid-sized pavilion)** Construction adjustment factor: **0.65 (Small pavilion)** **1.8 (mid-sized pavilion)**

Indicative capital costs for building an embassy in the GCC region	s9(2)(i)	
Indicative operating cost associated with the new embassy in the GCC region	Operating costs for the embassy/consulate including the salary expenses for the FTEs is also included in the rough proxy for the potential cost of the mitigation option.	**$4,100,000 p.a.**

Cost assumptions have been independently peer reviewed and have been found to be sufficient. The total design, construct and dismantle cost estimated in this IBC is higher than the Peer Reviewed cost but is argued to be appropriate, given:

s9(2)(i)

- Many of the construction costs will occur in New Zealand – where costs of labour are higher.
- 30% of construction materials must be recyclable and must be environmentally friendly, which is not often the case for hotels and apartment builds (peer review benchmarks).
- The effective doubling of several cost items from Shanghai is also predicated on the expectation for the need to have a larger Gross Floor Area at Expo 2020 (i.e. modest in Shanghai is small in Dubai)

s9(2)(i) This cost estimate conforms to the general approach across this entire IBC to be conservative in all assumptions – the rationale is to minimise the possibility of requesting more funding from Cabinet (or over promising and over delivering). This approach is also preferable when the theme of the event, the size of the footprint/GFA and the detailed design work is unknown at this stage.

It is ultimately expected that this cost estimate will be scaled down (and benefits scaled up) once the detailed business case is confirmed.

Benefits Assumptions

The decision to attend Dubai Expo 2020, or not, carries with it a range of benefits that are categorised as risks and opportunities. This section outlines the various (often probability-weighted) assumptions that are considered to measure the benefits as a result of different options.

For this stage of analysis, there has been no consideration of elements such as: crowding out effects, supply and demand constraints or dynamic market responses. It is expected that the DBC will expand on this empirical framework and look to build in even more complexity.

In general, an approach has been taken where the gross benefits (or benefits at risk) have been developed, and then they have been 'de-weighted' to arrive at an assessment that more closely represents the 'net effect' (bearing in mind the caveats above about the lack of general equilibrium analysis).

Table 25: Overview of assumptions and data sources

Benefit (at risk)	Assumption	Measure	Source	Comments
Benefit 1: Economic benefits derived from increased inbound investment	Foreign investments received into New Zealand from the GCC region (Year 2015)	**$163** million	Statistics New Zealand (Infoshare)	Total foreign investments into New Zealand from the GCC region as reported by Statistics New Zealand for the full year 2015. This has been used as a base to calculate the forecasted investments using the growth rate mentioned below.
	Normal annual growth rate for inbound foreign investments in New Zealand from GCC	**4.95%** p.a.	Statistics New Zealand (Infoshare)	Compounded annual growth rate over the last five years and does not represent any incremental growth associated with attendance at Expo 2020.
	Additional growth rate in foreign investments to New Zealand from GCC	**1.00%** - Due to participation at Expo 2020	Estimate.	The observed compounded annual growth rate (last 5 years) for inbound foreign investments from GCC region is 5% (approx.) and we are assuming that Expo 2020 participation will generate one fifth additional growth to the current investments from the GCC region. This apportionment is slightly higher than the apportionment of growth attributable to a new embassy – which is what we have heard anecdotally can be expected.
		0.75% - Due to increased New Zealand's presence	Estimate	New Zealand currently has four embassies / consulates in the GCC region. Relating the compounded annual growth rate (for last 5 years) of inward foreign investments from the region

Benefit (at risk)	Assumption	Measure	Source	Comments
		in GCC region (mitigation strategy)		to the number of embassies / consulates gives a crude proxy for the growth attributable to these agencies. The proposed embassy / consulate in this option would not be as well-established (and well-resourced) as the existing embassies/consulates and hence we have proportioned roughly half of the growth observed.
	Net vs Gross impacts	Assumed 50% of all gross benefits accrue to NZ Inc.		Consideration of gross FDI numbers is not a true reflection of the likely impact on the New Zealand economy. Accordingly, we have discounted the expected gross impacts by 50% based on the following rationale: • The direct benefit to NZ is via employment. • The price of the asset can be assumed (for simplicity) to be equal to the present value of the discounted income stream to the owner. • Labour is assumed to be a cost from the owner's perspective and is not reflected in the value of the FDI. • If the capital to labour ratio is assumed to be 1 then you can assume that the labour (income) value is equal to the value of the FDI. • In NZ capital to income ratios tend to be over 2 (with a wide range depending on the industry eg retailing has high labour use and petroleum and minerals have high capital use). General clarifications on the above include that: • For simplicity all FDI is assumed to be additional: i.e. new investment (not just purchasing existing plant/forest/assets). • No crowding out is assumed. Even with some crowding out there is still likely to be some benefit e.g. higher competition and higher prices for assets being purchased There are potentially other benefits from FDI such as productivity growth if FDI enhances capital intensity and

Benefit (at risk)	Assumption	Measure	Source	Comments
				international connections and managerial expertise (but this would be expected to be picked up in any general equilibrium assessment).
Benefit 2: Economic Benefits derived from increased inbound international students	Average number of international students from the GCC region to New Zealand (last 5 years)	**5,500** (average for last five years)	The New Zealand INC Strategy report: *Opening Doors to the Gulf Region*	Base number for international students from the GCC region for all options under consideration.
	Economic contribution per international student	**$26,050**[32] p.a. (per student)	Education NZ Report - The Economic Impact of International Education 2014	Economic contribution per international student, per annum.
	Growth rate for increase in international students from the GCC region	**1.00%** p.a. – Due to participation at Expo 2020	Estimate.	Same growth rate assumed as what was calculated for foreign investments as noted in Benefit 1. This apportionment is slightly higher than the anecdotal apportionment of growth attributable to a new embassy. Expo 2020 participation is assumed to give Education NZ the biggest platform to promote the education sector of New Zealand to the GCC market and the other countries who will be visiting the Expo 2020.
		0.50% - Due to increased New Zealand's presence in GCC region (mitigation strategy)	Estimate	Same growth rate attributed to the foreign investments as noted in Benefit 1, but deflated (as attracting international students would likely not be the embassy's/consulates primary focus).
	Net vs Gross impacts	Assumed 80% of all gross benefits accrue to NZ Inc	Statistics New Zealand Input Output tables	Consideration of gross student numbers is not a true reflection of the likely impact on the New Zealand economy. Accordingly, we have discounted the expected gross impacts by 80% based on the following rationale:

[32] This is the value adjusted to year 2017 using the CPI adjustment factors provided in the cbax-model. Original value is $25,537 as per year 2014.

Benefit (at risk)	Assumption	Measure	Source	Comments
				Student expenses/spending has the same benefit value as for Tourism (across the whole economy the import input requirement is 0.15). Tuition expenditure has a 10% import component – according to Statistics NZ import output tables.
Benefit 3: Economic Benefits derived from increased inbound tourists	Average number of inbound tourists from the GCC region to New Zealand (last 6 years)	**11,270** (average for last six years)	Statistics New Zealand (Infoshare)	Base number for inbound tourists from the GCC region for all options under consideration.
	Normal annual growth rate for inbound tourists in New Zealand from GCC region	**1.04%** (compounded annual growth rate for last six years)	Statistics New Zealand (Infoshare)	Compounded annual growth rate over the last six years (chosen this duration to smooth an anomaly) and does not represent any incremental growth for our consideration. This rate is used to forecast the future inbound tourists numbers from the GCC region
	Additional growth rate in inbound tourists to New Zealand from GCC	**1.00%** p.a. – Due to participation at Expo 2020	Estimate.	Same growth rate assumed as what was calculated for foreign investments above. This apportionment is slightly higher than the anecdotal apportionment of growth attributable to a new embassy. Not only would benefits be expected to accrue from the GCC region, but the presence of Tourism NZ's strategic target markets like United Kingdom, India and United States. Attendees at Expo 2020 from these countries are also expected to be middle income earners with disposable income – i.e. a target market segment for Tourism New Zealand. Expected growth from these target markets is not included – which means assumption is likely to be conservative.
		0.25% - Due to increased New Zealand's presence	Estimate	Relating the compounded annual growth rate (for last 5 years) of tourist growth from the region to the number of embassies / consulates gives a crude proxy for the growth attributable to

Benefit (at risk)	Assumption	Measure	Source	Comments
		in GCC region (mitigation strategy)		these agencies.
	Average amount spent by an international tourist	**$3,481**[33] per tourist, per trip	MBIE: Tourism Statistics	Average amount a tourist would spend in New Zealand per trip.
	Net vs Gross impacts	Assumed 80% of all gross benefits accrue to NZ Inc	Statistics New Zealand Input Output tables	Consideration of gross Tourism numbers is not a true reflection of the likely impact on the New Zealand economy. Accordingly, we have discounted the expected gross impacts by 80% based on the following rationale: When service sectors of relevance to Tourism (Sport and recreation, accommodation, Food and beverage) expand, the import input requirement ranges from 0.10 to 0.20 (roughly – see the Stats NZ 2013 I-O table)
Benefit 4: Economic benefits derived from increased exports of existing products into existing markets	Value of total trade exports to GCC countries in 2015	**$1,729,960,004**	Statistics New Zealand	Trade exports value as in year 2015. This is used as the base to forecast the future trade exports value with the normal growth rate mentioned below.
	Estimate of annual growth rate for trade exports from New Zealand to GCC	**2.63% p.a.**	Statistics New Zealand	Normal annual growth rate used to forecast future trade values for New Zealand with GCC. Note, this does not represent any incremental growth rate for our consideration.
	Additional growth rate in exports	**0.60%** - Due to participation at Expo 2020	Estimate	The normal annual growth rate (CAGR) observed for the last 5 years with the GCC region has been 2.6%. In the foreign investment calculation above, we have assumed that an additional embassy will increase foreign investments by a fifth and we have roughly applied this same apportionment to the expected trade growth figures. This number has then been inflated slightly beyond the figure used for an increased physical presence as we have heard anecdotal evidence that attendance at Expo 2020 would reap higher benefits.

[33] This is the value adjusted to year 2017 using the CPI adjustment factors provided in the cbax-model. Original value is $3,430 as per year 2016.

Benefit (at risk)	Assumption	Measure	Source	Comments
		0.40% - Due to increased New Zealand's presence in GCC region (mitigation strategy)	Estimate	The normal annual growth rate (CAGR) observed for the last 5 years with the GCC region has been 2.6%. In the foreign investment calculation above, it is assumed that an additional embassy will increase foreign investments by 15% on current levels. Roughly applied this same apportionment to the expected trade growth figures.
	Net vs gross impacts	Assumed 85% of all gross benefits accrue to NZ Inc	Statistics New Zealand Input Output tables	Consideration of gross export numbers is not a true reflection of the likely impact on the New Zealand economy. Accordingly, we have discounted the expected gross impacts by 85% based on the following rationale: A discount of 0.15 (national average import requirement) has been used to account for changes to costs of imports.
Benefit 6: Securitisation of additional international flight into New Zealand	Economic benefit attached to an additional flight into New Zealand	**$44,000,000 p.a.**	Media release for Long-haul flight from Wellington Airport[34]	The potential economic benefit added due to an additional flight being added to New Zealand. It is unclear what these specific benefits are based on – and whether they accrue to NZ Inc or whether they are displaced benefits from other regions. Another approach to calculating gross benefits could be to investigate the competition effects from adding an additional flight. For example, the entry of JetStar into New Zealand will have led to price competition for both freight and consumers in New Zealand. Multiplying this competition impact ovet the total number of passengers/freight task is another way of assessing this gross benefit. For this stage of analysis we have relied on public figures to determine the gross benefits expected, and have then 'de-weighted' them based on attribution and potential for double counting.
	Current expectation	**2025**	Estimate	Assumed on the basis of a number of potential airlines

[34] The $44 million mentioned by Wellington deputy mayor Justin Lester is used as the base for economic benefit attached to an additional flight into New Zealand.

Benefit (at risk)	Assumption	Measure	Source	Comments
	year of additional flights coming into New Zealand			signalling potential interest in flying additional long-haul flights to New Zealand.
	Year that participation at the Expo brings forward an additional flight connection to	**2020**	Estimate	Assumption based on the potential development of the Wellington runway extension and the timing of the Expo event happening.
	Probability of securing additional flights	**20%**	Estimate	Assumption is a one fifth possibility of additional flights being secured due to participation at the Expo.
	Proportion of economic benefits from additional flights	**20%**	Estimate	Assumed one fifth of this benefit to be attributable to double counting of other monetised benefits.
Benefit 10: Innovation Fund	Innovation Fund for participants at the Expo 2020	**$1.5** million NZD (approx.)	Estimate	This assumption is roughly estimated on the basis of distributing the total available innovation fund ($150 m NZD) amongst all countries in attendance on a population basis. Apportionment is then scaled up to reflect the higher likelihood of New Zealand companies winning innovation funds.
Benefit at risk 11: Reduction in economic benefits derived from inbound investment	Normal annual growth rate for inbound foreign investments in New Zealand from GCC (as a result of non-participation at Expo 2020)	**2.48%** p.a.	Estimate	The observed compounded annual growth rate (last 5 years) for inbound foreign investments from GCC region is 4.95% and currently stands at $163m NZD. It is assumed that non-participation at Expo 2020 will affect the above mentioned observed annual growth rate thereby stunting the growth rate to 2.48%.
Benefit at risk 12: Reduction economic benefits derived from exports of existing products to existing markets.	Estimate of annual growth rate for trade exports from New Zealand to GCC (as a result of non-participation at Expo	**2.03%** p.a.	Estimate	Trade export value in 2015 was almost $1.8 b NZD, and it is assumed that future export growth will increase at 2.63% p.a. (based on an analysis of the past five years' growth in export values). It is assumed that non-participation at Expo 2020 will pull back the export growth from 2.63% by 0.60%.

Benefit (at risk)	Assumption	Measure	Source	Comments
	2020)			
Benefit at risk 13: Securitisation of existing international flights to New Zealand	s9(2)(d)			
	s9(2)(d)			
	s9(2)(d)			
	s9(2)(d)			

s9(2)(j)

Benefit (at risk)	Assumption	Measure	Source	Comments
s9(2)(j)				
	s9(2)(j)			
	s9(2)(j)			
s9(2)(j) GCC FTA s9(2)(j)	s9(2)(j)			
s9(2)(j) GCC FTA s9(2)(j)				

Benefit (at risk)	Assumption	Measure	Source	Comments
s9(2)(j) GCC FTA s9(2)(j)	s9(2)(j)			
	s9(2)(j)			
Option Two description	Decision making time period for increasing presence in GCC	**2017**	Estimate	An immediate decision would be made to increase New Zealand's physical presence in GCC as a mitigation move to non-attendance at Expo 2020.
	Go-Live date for embassy	**2020**	Estimate	Estimated that it would take 30 months to reach go-live date. Owing to considerations such as: buy vs build; staffing structures; consulate Vs embassy; geographic location etc. This timeframe also aligns with the opening of Expo 2020.
	Number of embassies / consulates	**1 embassy / consulate**	Estimate	The costing of an embassy/consulate is used as a proxy for the range of potential mitigation strategies possible.

Benefit assumptions have been independently peer reviewed and have been found to be sufficient for the purposes of an IBC.

Assumptions specific to each costs and benefit are presented throughout the remainder of this appendix.

Foreign investments in New Zealand from GCC

The table below summarises the key assumptions related to foreign investments in New Zealand from GCC.

Assumption	Option 1: Do Nothing (Do not participate in the Expo 2020)	Option 2: Do not attend Expo 2020, but apply mitigation strategy	Option 4: Attend Expo, Small-sized pavilion	Option 5: Attend Expo, modest-sized pavilion	Option 6: Attend Expo, mid-sized pavilion
Normal annual growth rate for foreign investments in New Zealand from GCC	2.48%	4.95%	4.95%	4.95%	4.95%
Additional growth rate in foreign investments to New Zealand from GCC due to Expo participation	N/A	0.75%	0.80% p.a.	1.00 % p.a.	1.00 % p.a.
Time lag for the additional growth in investments[35]	N/A	2 years	2 years	2 years	2 years

[35] This time lag represents the estimated time following Expo 2020 that potential investors could feasibly be expected to scope interests, establish business relationships and study the market before investing in New Zealand.

Inbound international students from GCC

The table below represents assumptions made regarding the international students from GCC.

Assumption	Option 1: Do Nothing (Do not participate in the Expo 2020)	Option 2: Do not attend Expo 2020, but apply mitigation strategy	Option 5: Attend Expo, Small-sized pavilion	Option 5: Attend Expo, modest-sized pavilion	Option 6: Attend Expo, mid-sized pavilion
Additional growth rate in international students from GCC	N/A	0.5 % p.a.	0.60% p.a.	1.00 % p.a.	1.00 % p.a.
Time lag for the additional growth in investments[36]	N/A	2 years	2 years	2 years	2 years
Economic contribution from international students	N/A	$28,171	$28,171	$28,171	$28,171

[36] This time lag represents the consideration of options taking effect after the Expo 2020, or having fully operational consulate/embassy in the GCC region.

Inbound tourists from GCC

The table below represents assumptions made regarding the tourists from GCC.

Assumption	Option 1: Do Nothing (Do not participate in the Expo 2020)	Option 2: Do not attend Expo 2020, but apply mitigation strategy	Option 5: Attend Expo, Small-sized pavilion	Option 5: Attend Expo, modest-sized pavilion	Option 6: Attend Expo, mid-sized pavilion
Normal annual growth rate for tourist numbers in New Zealand from GCC	N/A	1.04 % p.a.	1.04 % p.a.	1.04 % p.a.	1.04 % p.a.
Additional growth rate in tourist numbers from GCC	N/A	0.25 % p.a.	0.50% p.a.	1.00 % p.a.	1.00 % p.a.
Time lag for the additional growth in investments[37]	N/A	2 years	2 years	2 years	2 years
Average amount spent by an international tourist (per trip, $2016)	N/A	$3,555	$3,555	$3,555	$3,555

[37] This time lag represents the consideration of options taking effect after the Expo 2020 or having fully operational consulate/embassy in the GCC region.

Trade export to GCC

The table below outlines the assumptions made regarding the trade exports to GCC.

Assumption	Option 1: Do Nothing (Do not participate in the Expo 2020)	Option 2: Do not attend Expo 2020, but apply mitigation strategy	Option 5: Attend Expo, Small-sized pavilion	Option 5: Attend Expo, modest-sized pavilion	Option 6: Attend Expo, mid-sized pavilion
Normal annual growth rate for trade exports from New Zealand to GCC	2.03% p.a.	2.63 % p.a.	2.63 % p.a.	2.63 % p.a.	2.63 % p.a.
Additional growth rate for trade exports from New Zealand to GCC	N/A	0.05 % p.a.	0.40% p.a.	0. 60 % p.a.	0.60 % p.a.
Time lag for the additional growth in investments[38]	N/A	2 years	2 years	2 years	2 years

[38] This time lag represents the consideration of options taking effect after the Expo 2020 or having fully operational consulate/embassy in the GCC region.

International flight connections to New Zealand

The table below outlines the assumptions made regarding the securitisation of existing and additional international flights to New Zealand from GCC region.

Assumption	Option 1: Do Nothing (Do not participate in the Expo 2020)	Option 2: Do not attend Expo 2020, but apply mitigation strategy	Option 5: Attend Expo, Small-sized pavilion	Option 5: Attend Expo, modest-sized pavilion	Option 6: Attend Expo, mid-sized pavilion
s9(2)(d)					
Probability of securing additional flight connections	N/A	N/A	5 %	20 %	20 %

between GCC and New Zealand					
Estimated economic benefits to New Zealand from an additional flight connection being secured	N/A	N/A	$44,000,000	$44,000,000	$44,000,000
Proportion of economic benefits from an additional flight being allocated to New Zealand to discount for double counting of economic benefits	N/A	N/A	20%	20 %	20 %
Year the additional flight set to come to New Zealand	N/A	N/A	2025	2025	2025
Year the additional flight set to come to New Zealand after participation in Expo 2020	N/A	N/A	2020	2020	2020

Pages 132 and 133 are withheld in full under s9(2)(j)

Appendix 9: CBA Scenario Analysis

BCR Summary for different tenures

Monetised costs and benefits in different tenures NPV ($m)	Option 1 Do Nothing	Option 4 Attend Expo 2020, small-sized pavilion	Option 5 Attend Expo, modest pavilion	Option 6 Attend Expo, mid-sized pavilion
Total costs	0	37.89	49.91	78.36
Impacts for 5 years – Total benefits	(243.49)	31.44	50.25	50.25
Impacts for 10 years – Total benefits	(286.69)	55.65	86.28	86.28
Impacts for 15 years – Total benefits	(324.40)	76.37	116.99	116.99
Impacts for 3 years – Total benefits	(224.47)	20.63	34.12	34.12
BCR (Impacts for 5 years)	-	**0.83**	**1.01**	**0.64**
BCR (Impacts for 10 years)	-	**1.47**	**1.73**	**1.10**
BCR (Impacts for 15 years)	-	**2.02**	**2.34**	**1.49**
BCR (Impacts for 3 years)	-	**0.54**	**0.68**	**0.44**

Cost Benefit Analysis of short-list options (Impacts for 5 years)

	Monetised costs and benefits NPV ($m)	Option 1 Do Nothing	Option 4 Attend Expo 2020, small-sized pavilion	Option 5 Attend Expo, modest pavilion	Option 6 Attend Expo, mid-sized pavilion
Costs	Personnel	s9(2)(i)			
	Travel				
	Professional and outsourced				
	Business Development				
	Marketing				
	ICT				
	Insurance				
	Other				
	Contingency				
	Foreign Exchange contingency				
	Expo Project Management costs				
	Occupancy costs				
	Contingency				
	Leveraging costs				
	Pavilion design, build and manage costs				
	Additional Regional footprint costs				
	Regional footprint costs				
	[redacted]				
	Total costs	**0**	**37.89**	**49.91**	**78.36**
Benefits	Benefit 1: Economic benefits derived from increased inbound investment	N/A	3.19	3.99	3.99
	Benefit 2: Economic benefits derived from increased inbound International students	N/A	2.15	3.58	3.58
	Benefit 3: Economic benefits derived from increased inbound tourists	N/A	0.51	1.02	1.02

Benefit 4: Economic benefits derived from increased exports of existing exports to existing markets		N/A	22.53	33.79	33.79
Benefit 6: Securitisation of additional international flights into New Zealand		0.00	1.60	6.41	6.41
Benefit 10: Innovation Fund		0.00	1.46	1.46	1.46
Benefit at risk 11: Reduction in economic benefits derived from inbound investment		(9.89)	N/A	N/A	N/A
Benefit at risk 12: Reduction economic benefits derived from exports of existing products to existing markets.		(39.71)	N/A	N/A	N/A
Benefit 13: Securitisation of existing international flights into New Zealand		(91.36)	N/A	0.00	0.00
s9(2)(j)	GCC's FTA	s9(2)(j)	N/A	0.00	0.00
s9(2)(j)	GCC's FTA		N/A	0.00	0.00
s9(2)(j)	GCC's FTA		N/A	0.00	0.00
Total Benefits		**(243.49)**	**31.44**	**50.25**	**50.25**
Net Monetised Benefit (Cost)		**(243.49)**	**(6.45)**	**0.34**	**(28.12)**
Monetised BCR		**-**	**0.83**	**1.01**	**0.64**
Ranking *(based on BCR – higher the better)*		**4**	**2**	**1**	**3**

Cost Benefit Analysis of short-list options (impacts for 10 years)

	Monetised costs and benefits NPV ($m)	Option 1 Do Nothing	Option 4 Attend Expo 2020, small-sized pavilion	Option 5 Attend Expo, modest pavilion	Option 6 Attend Expo, mid-sized pavilion
Costs	**Personnel**	**N/A**	s9(2)(i)		
	Travel	N/A			
	Professional and outsourced	N/A			
	Business Development	N/A			
	Marketing	N/A			
	ICT	N/A			
	Insurance	N/A			
	Other	N/A			
	Contingency	N/A			
	Foreign Exchange contingency	N/A			
	Expo Project Management costs	**N/A**			
	Occupancy costs	N/A			
	Contingency	N/A			
	Leveraging costs	N/A			
	Pavilion design, build and manage costs	**N/A**			
	Additional Regional footprint costs	N/A			
	Regional footprint costs	**N/A**			
	Total costs	**0**	**37.89**	**49.91**	**78.36**
Benefits	Benefit 1: Economic benefits derived from increased inbound investment	N/A	6.23	7.78	7.78
	Benefit 2: Economic benefits derived from increased inbound international students	N/A	3.75	6.25	6.25
	Benefit 3: Economic benefits derived from increased inbound tourists	N/A	0.92	1.83	1.83

	Benefit 4: Economic benefits derived from increased exports of existing exports to existing markets	N/A	41.70	62.55	62.55
	Benefit 6: Securitisation of additional international flights into New Zealand	0.00	1.60	6.41	6.41
	Benefit 10: Innovation Fund	0.00	1.46	1.46	1.46
	Benefit at risk 11: Reduction in economic benefits derived from inbound investment	(19.30)	N/A	N/A	N/A
	Benefit at risk 12: Reduction economic benefits derived from exports of existing products to existing markets.	(73.50)	N/A	N/A	N/A
	Benefit 13: Securitisation of existing international flights into New Zealand	(91.36)	N/A	N/A	N/A
	s9(2)(j) GCC's FTA	s9(2)(j)	N/A	N/A	N/A
	s9(2)(j) GCC's FTA		N/A	N/A	N/A
	s9(2)(j) GCC's FTA		N/A	N/A	N/A
	Total Benefits	**(286.69)**	**55.65**	**86.28**	**86.28**
	Net Monetised Benefit (Cost)	**(286.69)**	**17.76**	**36.67**	**7.91**
	Monetised BCR	**-**	**1.47**	**1.73**	**1.10**
	Ranking *(based on BCR – higher the better)*	**4**	**2**	**1**	**3**

Cost Benefit Analysis of short-list options (Impacts for 15 years)

	Monetised costs and benefits NPV ($m)	Option 1 Do Nothing	Option 4 Attend Expo 2020, small-sized pavilion	Option 5 Attend Expo, modest pavilion	Option 6 Attend Expo, mid-sized pavilion
Costs	Personnel	N/A	s9(2)(i)		
	Travel	N/A			
	Professional and outsourced	N/A			
	Business Development	N/A			
	Marketing	N/A			
	ICT	N/A			
	Insurance	N/A			
	Other	N/A			
	Contingency	N/A			
	Foreign Exchange contingency	N/A			
	Expo Project Management costs	**N/A**			
	Occupancy costs	N/A			
	Contingency	N/A			
	Leveraging costs	N/A			
	Pavilion design, build and manage costs	**N/A**			
	Additional Regional footprint costs	N/A			
	Regional footprint costs	**N/A**			
	[redacted]				
	Total costs	**0**	**37.89**	**49.91**	**78.36**
Benefits	Benefit 1: Economic benefits derived from increased inbound investment	N/A	9.11	11.39	11.39
	Benefit 2: Economic benefits derived from increased inbound international students	N/A	4.95	8.24	8.24
	Benefit 3: Economic benefits derived from increased inbound tourists	N/A	1.23	2.46	2.46

	Benefit 4: Economic benefits derived from increased exports of existing exports to existing markets	N/A	58.01	87.02	87.02
	Benefit 6: Securitisation of additional international flights into New Zealand	0.00	1.60	6.41	6.41
	Benefit 10: Innovation Fund	0.00	1.46	1.46	1.46
	Benefit at risk 11: Reduction in economic benefits derived from inbound investment	(28.25)	N/A	N/A	N/A
	Benefit at risk 12: Reduction economic benefits derived from exports of existing products to existing markets.	(102.26)	N/A	N/A	N/A
	Benefit 13: Securitisation of existing international flights into New Zealand	(91.36)	N/A	N/A	N/A
	s9(2)(j) GCC's FTA	s9(2)(j)	N/A	N/A	N/A
	s9(2)(j) GCC's FTA		N/A	N/A	N/A
	s9(2)(j) GCC's FTA		N/A	N/A	N/A
	Total Benefits	**(324.40)**	**76.37**	**116.99**	**116.99**
	Net Monetised Benefit (Cost)	**(324.40)**	**38.48**	**67.08**	**38.62**
	Monetised BCR	**-**	**2.02**	**2.34**	**1.49**
	Ranking *(based on BCR – higher the better)*	**4**	**2**	**1**	**3**

Cost Benefit Analysis of short-list options (Impacts for 3 years)

	Monetised costs and benefits NPV ($m)	Option 1 Do Nothing	Option 4 Attend Expo 2020, small-sized pavilion	Option 5 Attend Expo, modest pavilion	Option 6 Attend Expo, mid-sized pavilion
Costs	Personnel	N/A	s9(2)(i)		
	Travel	N/A			
	Professional and outsourced	N/A			
	Business Development	N/A			
	Marketing	N/A			
	ICT	N/A			
	Insurance	N/A			
	Other	N/A			
	Contingency	N/A			
	Foreign Exchange contingency	N/A			
	Expo Project Management costs	**N/A**			
	Occupancy costs	N/A			
	Contingency	N/A			
	Leveraging costs	N/A			
	Pavilion design, build and manage costs	**N/A**			
	Additional Regional footprint costs	N/A			
	Regional footprint costs	**N/A**			
	Total costs	**0**	**37.89**	**49.91**	**78.36**
Benefits	Benefit 1: Economic benefits derived from increased inbound investment	N/A	1.93	2.42	2.42
	Benefit 2: Economic benefits derived from increased inbound international students	N/A	1.36	2.27	2.27
	Benefit 3: Economic benefits derived from increased inbound tourists	N/A	0.32	0.64	0.64

Benefit 4: Economic benefits derived from increased exports of existing exports to existing markets		N/A	13.95	20.93	20.93
Benefit 6: Securitisation of additional international flights into New Zealand		0.00	1.60	6.41	6.41
Benefit 10: Innovation Fund		0.00	1.46	1.46	1.46
Benefit at risk 11: Reduction in economic benefits derived from inbound investment		(5.99)	N/A	N/A	N/A
Benefit at risk 12: Reduction economic benefits derived from exports of existing products to existing markets.		(24.59)	N/A	N/A	N/A
Benefit 11: Securitisation of existing international flights into New Zealand		(91.36)	N/A	0.00	0.00
s9(2)(j)	GCC's FTA	s9(2)(j)	N/A	0.00	0.00
s9(2)(j)	GCC's FTA		N/A	0.00	0.00
s9(2)(j)	GCC's FTA		N/A	0.00	0.00
Total Benefits		**(224.47)**	**20.63**	**34.12**	**34.12**
Net Monetised Benefit (Cost)		**(224.47)**	**(17.26)**	**(15.78)**	**(44.24)**
Monetised BCR		**-**	**0.54**	**0.68**	**0.44**
Ranking *(based on BCR – higher the better)*		**4**	**2**	**1**	**3**

Appendix 10: Incremental BCR concept and calculation

Due to the nature of this project, all possible options considered will have impacts indicating a change in 'status quo'. All of the options are mutually exclusive of each other. Where this is the case, it is suggested that an incremental cost-benefit analysis alongside the traditional BCR approach.

Incremental cost-benefit analysis is one of the procedures outlined in the Economic Evaluation Manual (EEM) published by NZTA. The manual provides procedures to help evaluate the economic efficiency of the investment proposals.[39]

Incremental cost-benefit analysis is used to identify the optimal economic solution. The incremental BCR indicates whether the incremental cost of the higher cost option is justified by the incremental benefits gained (all factors being equal). Conversely, this analysis will also identify whether a lower cost option is a more optimal solution if it realises proportionally more benefits. Determination equation for incremental BCR is defined below as per the EEM:

$$\text{Incremental BCR} = \frac{\text{Incremental benefits}}{\text{Incremental costs}}$$

Undertaking incremental analysis for our preferred option (Option 5 – Modest sized pavilion) compared to Option 1 (Do Nothing), gives us an incremental BCR of **5.89**. This symbolises that our preferred option realises significantly higher proportional benefits.

[39] https://www.nzta.govt.nz/assets/resources/economic-evaluation-manual/economic-evaluation-manual/docs/eem-manual-2013.pdf

Appendix 11: Detailed Design Requirements

Component	Requirement	Information source
Regulatory standards	UAE Fire and Life Safety Code of Practice must be adhered to, e.g. • Occupancy loads • Fire services access requirements • Emergency egress • Fire detection and alarm systems • Emergency command centres	Self-Build Pavilions Guide, Section 3.1, **C-01**, page 33 **UAE Fire and Life Safety Code of Practice:** http://www.dcd.gov.ae/eng/images/pdf/uaefirecodeeng.pdf
	Adhere to UAE building codes, local and national standards, including: • Dubai Municipality Building Code Regulations and Construction Specifications • Dubai South Planning Regulations and Development Guidelines	Self-Build Pavilions Guide, Section 3.1, **C-02**, page 33 **Dubai Municipality Building Code Regulations and Construction Specifications:** https://www.dm.gov.ae/wps/portal/businessinner?urile=wcm:path: /DMContentEnglish/Home/Business /Planning+and+Construction /Building+Publications1&mapping=businessinner **Dubai South Planning Regulations and Development Guidelines:** http://dubaisouth.ae/
	Permits must be provided when importing plants and seeds and approved by the UAE Federal Customs Authority and the Ministry of Environment and Water	Self-Build Pavilions Guide, Section 3.6.5 Page 41 **UAE Federal Customs Authority:** https://www.fca.gov.ae/Ar/home/Pages/default.aspx **Ministry of Environment and Water:** http://www.moccae.gov.ae/en/home.aspx
Sustainability Compliance Requirements and Drivers	Compliance with environmental laws and regulation will be required. Strategic alignment with the following UAE national and sub-national initiatives will also be required, where applicable: • UAE Vision 2021 • UAE Green Growth Strategy • UNEP's Sustainable Public Procurement Programme • Dubai Green Economy Partnership • 2030 Dubai Integrated Energy Strategy • Green Building Regulations and Specifications in the Emirate of Dubai	**UAE Vision 2021:** https://www.vision2021.ae/en **Green Growth Strategy:** http://www.moew.gov.ae/assets/e3bd136a/uae-state-of-green-economy-report-2014.aspx **UNEP Sustainable Public Procurement Programme:** http://www.unep.org/10yfp/Programmes /ProgrammeConsultationandCurrentStatus /Sustainablepublicprocurement/tabid/106267/ **Dubai Green Economy Partnership:** http://greeneconomy.ae/ **2030 Dubai Integrated Energy Strategy:** http://www.dubaisce.gov.ae/images /EB_newsletter_book_forewards_final

		spreadss.pdf **Green Building Regulations and Specifications:** https://www.dewa.gov.ae/en/consultants-and-contractors/policies-and-regulations/circulars-and-forms/green-building
Design standards	Adhere to predetermined plot gradients, plot limits and setbacks	Self-Build Pavilions Guide, Section 3.2.1-3.2.4, **C-03 – C11**, page 33 and 34
	Self-Build Pavilions must adhere to the maximum development areas for their respective sizes; Extra-large, large, medium and small	Self-Build Pavilions Guide, Section 3.2.5, C-12, page 34
	Maximum height limits must be adhered to. If participant wishes to exceed the limit the design must be proportional to the setback (outlined in section 3.2.2 and 3.2.3) and given approval by Organiser	Self-Build Pavilions Guide, Section 3.2.6, **C-13 – C-14** and **G-02 – G-03**, page 34
	Pavilions can have multiple levels, terraces, semi-covered spaces and atria	Self-Build Pavilions Guide, Section 3.2.7, **G-05** Page 35
	The design must allow for easy access to clean and service the structure. No scaffolding should be required to clean the structure	Self-Build Pavilions Guide, Section 3.2.7, **C-15** Page 35
	Level sound attenuation and sound baffling should be incorporated into the design.	Self-Build Pavilions Guide, Section 3.2.7, **G-06** and Section 3.6 page 35
	Roof facilities must comply with plot parameters and design as outlined in the guide	Self-Build Pavilions Guide, Section 3.2.8 page 35
	All pavilions should provide a dedicated area for photovoltaics or similar renewable energy technology	Self-Build Pavilions Guide, Section 3.2.8, **G-07** page 35
	Entrance and exit guidelines should be followed as stated within the guide. Pavilions should consider including a separate access for VIPs and VVIPs	Self-Build Pavilions Guide, Section 3.3.1 – 3.3.3 page 36
Utility Provision	The Organiser will provide potable water, power, sewer, telecommunications, gas and irrigation connection points but participants are required to connect these services to meet their individual and regulatory demands	Self-Build Pavilions Guide, Section 3.4.2 page 37
	All utility and services installations must be adequately concealed and participants must adhere to GFA (gross floor area) permitted per plot	Self-Build Pavilions Guide, Section 3.4.2 page 37
Landscape	All participants should develop landscape designs in keeping with the Self-Build Pavilions position in the relevant Thematic District	Self-Build Pavilions Guide, Section 3.4.3 page 37
Shading and Comfort	All participants should consider the need to provide shade in open areas and queuing zones either through trees or structures	Self-Build Pavilions Guide, Section 3.4.4 page 37
Queuing	Queuing guidelines should be followed as stated within the guide. A ticketing or booking service should be	Self-Build Pavilions Guide, Section 3.5.1 page 37 and 38

	provided to reduce long queues.	
Servicing	Servicing guidelines should be followed as stated within the guide.	Self-Build Pavilions Guide, Section 3.5.2 page 38
Emergency Response Plan	It is the responsibility of the plot designer to prepare an Emergency Response plan specific for the pavilion. The Organiser must approve the plan, which should then be fully integrated into the overall site	Self-Build Pavilions Guide, Section 3.5.3 page 38
Pavilion Security	Participants must take full responsibility for the security of their own pavilions. Security details must be submitted to Organiser for review and for integration	Self-Build Pavilions Guide, Section 3.5.4 page 38
Sustainability	All pavilions, buildings and structures must consider sustainability as an integral components of their exhibition development. There are seven sustainability themes in the Expo; Energy, water, materials, waste, emissions, public realm and ecology and sustainability awareness.	Self-Build Pavilions Guide, Section 3.6.1 page 39
	Participants are not required to achieve sustainability certification however it is encouraged that they should target for it.	Self-Build Pavilions Guide, Section 3.6.2 page 39
Energy	Energy sufficiency measures must be implemented to meet event's sustainability principles	Self-Build Pavilions Guide, Section 3.6.3, **G-27 – G-28** page 39
Renewable Energy Production	Onsite renewable energy generation should be adopted and participants should consider generating 25% of their energy demand for Expo from renewable sources. For guidance it is recommended to refer to: • Standards for Distributed Renewable Resources Generators Connected to the Distribution Network (DEWA) and • Connection Guidelines for Distributed Renewable Resources Generation Connected to the Distribution Network (DEWA)	Self-Build Pavilions Guide, Section 3.6.3, **G-29 – G-32** page 39 **Standards for Distributed Renewable Resources Generators Connected to the Distribution Network (DEWA) and** **Connection Guidelines for Distributed Renewable Resources Generation Connected to the Distribution Network (DEWA) :** https://www.dewa.gov.ae/
Natural Ventilation	Ventilation guidelines should be followed as stated within the guide.	Self-Build Pavilions Guide, Section 3.6.3, **G-33 – G-34** page 39
Solar shading	Solar guidelines should be followed as stated within the guide	Self-Build Pavilions Guide, Section 3.6.3, **G-35 – G-38** page 40
Artificial Cooling Systems	All artificial cooling systems must comply with the minimum standards outlined in the Green Building Regulations and Specifications in the Emirate of Dubai, Section 502.01	Self-Build Pavilions Guide, Section 3.6.3, **C-52** page 40 **Green Building Regulations and Specifications in the Emirate of Dubai:** https://www.dewa.gov.ae/en/consultants-and-contractors/policies-and-regulations/circulars-and-forms/green-building
Energy Consumption	Reduce pavilion energy consumption by 20% compared to ASHRAE 90.1 Baseline, or Demonstrate that the predicted energy consumption during Expo 2020 Dubai is less than 90 kWh/m2	Self-Build Pavilions Guide, Section 3.6.3, **C-53** page 40 **ASHRAE 90.1 Baseline:** https://www.ashrae.org/resources--publications/bookstore/standard-90-1

Metering and Controls	Energy and water consumption within the pavilion must be captured through smart metering.	Self-Build Pavilions Guide, Section 3.6.3, **C-54 – G-40** page 40
Lighting	Lighting must comply with the Illuminating Engineering Society (IES) Guidelines Reduce external lighting power density by 20% and landscape feature lighting by 50% as compared to IEC 2009, Section 505.6 Incandescent light bulbs must not be used	Self-Build Pavilions Guide, Section 3.6.4 Page 40 and 41 IES Guidelines: http://www.ies.org/
Irrigation	Public realm water consumption must not exceed 7L/m2/day in streetscape areas and 4L/m2/day in the remaining landscape or open space areas 100% of irrigation demand must be met from non-potable sources Watering/irrigation systems must not impact public realm and any overspills or damage must be rectified by participants	Self-Build Pavilions Guide, Section 3.6.5 Page 41
Condensate Capture	Pavilions must reuse at least 80% of condensate collected with cooling loads over 350kW	Self-Build Pavilions Guide, Section 3.6.5, **C-71**, Page 41
Indoor Water Consumption	Water demand must be reduced by 25% compared to Dubai Electricity and Water Authority Guidelines	Self-Build Pavilions Guide, Section 3.6.5, **C-71** and **C-73**, Page 41 **Dubai Electricity and Water Authority Guidelines:** https://www.dewa.gov.ae/en/consultants-and-contractors/policies-and-regulations/circulars-and-forms/dewa-circulars
Materials	When choosing materials the materials strategy guideline should be followed as stated within the guide	Self-Build Pavilions Guide, Section 3.6.6, Page 41-43
Waste	Participants must achieve 85% segregation of all waste streams (by weight) Recycling must cover at least paper, corrugated cardboard, glass, plastics and metals The waste strategy guideline should be followed as stated within the guide	Self-Build Pavilions Guide, Section 3.6.7, Page 43
Emissions	The emissions guideline should be followed as stated within the guide. It is recommended that seeds, plants and landscaping furniture and procured from local suppliers	

Appendix 12: Potential Procurement Models

Table 26 provides an overview of a range of procurement options. These procurement options are traditionally focussed on major capital expenditure, like infrastructure projects. However there are instances when some of these models can be applied to operating expenditure.

In general, attendance at Expo 2020 Dubai has characteristics of both capital expenditure and operating expenditure contracts. Accordingly, a full suite of potential procurement options have been canvassed.

Table 26: Potential Procurement Options

s9(2)(i)

Page 149 is withheld under s9(2)(i)

s9(2)(i)

PPP and bundled models
N/A

Appendix 13: Appropriation Options