



BRIEFING

700 MHz Auction: Combinatorial Assignment Round Options – Additional Information and Recommendations

Date:	2 May 2014	Priority:	Urgent
Security Classification:	Commercial In Confidence	Tracking number:	2836 13-14

ACTION SOUGHT		
	Action sought	Deadline
Hon Amy Adams Minister for Communications and Information Technology	Agree to the recommendations in this report Forward this report to Ministers English and Joyce	6 May 2014
Hon Bill English Minister of Finance	Agree to the recommendations in this report	9 May 2014
Hon Steven Joyce Minister of Economic Development	Agree to the recommendations in this report	9 May 2014

CONTACT FOR TELEPHONE DISCUSSION (IF REQUIRED)				
Name	Position	Telephone		1st contact
Len Starling	Manager: Policy & Planning, Radio Spectrum Management	██████████	██████████	✓
██████████	Policy Advisor	██████████		

MINISTER'S OFFICE ACTIONS
Office of the Minister for CIT: forward to Ministers English and Joyce

THE FOLLOWING DEPARTMENTS/AGENCIES HAVE BEEN CONSULTED

<input type="checkbox"/> MSD	<input type="checkbox"/> NZTE	<input type="checkbox"/> Treasury	<input type="checkbox"/> COMU	<input type="checkbox"/> TEC	<input type="checkbox"/> MoE
<input type="checkbox"/> MFAT	<input type="checkbox"/> DOC	<input type="checkbox"/> MfE	<input type="checkbox"/> MoH	<input type="checkbox"/> TPK	<input type="checkbox"/> Other

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Minister's Office to Complete:

Approved

Noted

Seen

See Minister's Notes

Declined

Needs change

Overtaken by Events

Withdrawn

COMMENTS

EXECUTIVE SUMMARY

This report updates and adds to our briefing of 11 March 2014, titled “700 MHz Auction: Combinatorial Assignment Round Options”. This new report presents options for the placement location of any unsold spectrum that might result from Telecom’s Commerce Commission clearance application being declined, and seeks a decision on the placement of unsold spectrum should this eventuate. A decision on this issue now could assist the Commerce Commission in its thinking about the likely counterfactual in the event that clearance is not granted to Telecom. This report doesn’t repeat the detail of the earlier report but, for ease of reference, includes a summary of that material and a consolidated set of recommendations covering both reports.

The Combinatorial Assignment Round of the 700 MHz auction is scheduled to be held shortly, following a decision from the Commerce Commission on Telecom’s application for clearance to acquire 2x20 MHz (four lots). In the Combinatorial Assignment Round, bidders may tender for particular placements (frequencies) within the 700 MHz band; in prior rounds they bid for generic amounts of spectrum, rather than specific frequencies. The provisional results are that 2degrees has purchased 2x10 MHz (two generic lots), Vodafone 2x15 MHz (three generic lots), and Telecom 2x20 MHz (four generic lots) subject to Commerce Commission clearance. Table 1 (below) shows placement options if these provisional results are finalised by Telecom being granted clearance.

The Commission has recently advised us that it expects to make a decision on 30 May. We expect to hold the Assignment Round within weeks of the Commission’s decision. This briefing covers two scenarios:

1. Clearance is granted to Telecom. In which case, we recommend excluding placement options that separate 2degrees and Vodafone.
2. Clearance is not granted. In which case, we recommend placing the unsold spectrum block between Telecom and Vodafone.

If Telecom’s clearance application is granted

We seek a decision on whether to offer all placement options or whether to withhold some options, which is permitted under the auction rules. Placement options are shown in Table 1 (below).

Table 1: Full list of placement options given the provisional allocation results (with clearance granted to Telecom)

Lower MHz	703-708	708-713	713-718	718-723	723-728	728-733	733-738	738-743	743-748
Upper MHz	758-763	763-768	768-773	773-778	778-783	783-788	788-793	793-798	798-803
Option A	2x20 MHz (TC)				2x15 MHz (VF)			2x10 MHz (2D)	
Option B	2x20 MHz (TC)				2x10 MHz (2D)		2x15 MHz (VF)		
Option C	2x10 MHz (2D)		2x20 MHz (TC)				2x15 MHz (VF)		
Option D	2x15 MHz (VF)			2x20 MHz (TC)				2x10 MHz (2D)	
Option E	2x10 MHz (2D)		2x15 MHz (VF)			2x20 MHz (TC)			
Option F	2x15 MHz (VF)			2x10 MHz (2D)		2x20 MHz (TC)			

If clearance is granted to Telecom, we recommend that options C and D (with Telecom in the middle of the band) be excluded for the following reasons:

1. This will allow the possibility of future secondary market activity, i.e. trading between 2degrees and Vodafone.
2. This will ensure that 2degrees is not prevented from extending its current 2G/3G roaming agreement with Vodafone to cover 4G services.
3. This will safeguard the government’s future options.

4. If announced before the Commerce Commission has made a decision on Telecom’s clearance application, this could assist the Commission in determining the likely competitive landscape over the eighteen-year period of the 700 MHz management rights.

We have consulted with bidders about the options that should be offered if clearance is granted, and 2degrees and Vodafone agree with the options that this briefing recommends.

If Telecom’s clearance application is declined

In the event that Telecom’s clearance application is declined, there could be lengthy appeal processes. [REDACTED]

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(ba)(i)

[REDACTED] This process could take a year. As the next-highest bidder, Vodafone may wish to reactivate its clearance application and seek to acquire the final spectrum block. Alternatively, Vodafone may feel that clearance is unlikely (given the denial of clearance to Telecom) and be satisfied that its main competitor (Telecom) will also be prevented from acquiring 2x20 MHz.

To provide certainty and avoid delaying network operators from commissioning their networks, we would prefer to run the assignment round immediately. This means choosing where the unsold block is placed. Table 2A (below) shows the recommended options. Table 2B on page 11 shows all placement options, not just those recommended by MBIE.

Table 2A: Simplified assignment placement options with unsold spectrum block (recommended options only)

Lower MHz	703-708	708-713	713-718	718-723	723-728	728-733	733-738	738-743	743-748
Upper MHz	758-763	763-768	768-773	773-778	778-783	783-788	788-793	793-798	798-803
Option A1	2x15 MHz (TC)			2x5 MHz (Crown)	2x15 MHz (VF)			2x10 MHz (2D)	
Option C1	2x10 MHz (2D)		2x15 MHz (TC)			2x5 MHz (Crown)	2x15 MHz (VF)		
Option D1	2x15 MHz (VF)			2x5 MHz (Crown)	2x15 MHz (TC)			2x10 MHz (2D)	
Option E1	2x10 MHz (2D)		2x15 MHz (VF)			2x5 MHz (Crown)	2x15 MHz (TC)		

If neither Telecom nor Vodafone acquire 2x20 MHz (4 blocks), the commercial incentives for either Telecom or Vodafone to negotiate a spectrum sharing agreement with 2degrees are greatly reduced as they would not need spectrum sharing to claim network equality with their closest competitor. Technically, 2degrees could share with either Telecom or Vodafone, without the acquisition limit (2x25 MHz) being breached. Our recommendation for the scenario where Telecom’s clearance is granted therefore does not apply.

We recommend that the unsold block be placed between Telecom and Vodafone, for the following reasons:

1. Telecom and Vodafone both have a legitimate claim to this spectrum block under the auction rules (until such time as clearance appeal processes are completed, or statutory timeframes for appeal are spent), and not placing it between them would significantly decrease its utility to the party that was not neighbouring the block.
2. If neither Telecom nor Vodafone end up acquiring the final spectrum block, the Crown may revisit the option of assigning it to emergency services. Alignment with Australia is desirable and Australian emergency services have reactivated their attempts to be assigned 700 MHz spectrum after the Australian 700 MHz auction resulted in unsold spectrum. If emergency services was judged to be the best use for the unsold block in New Zealand, placing the block between Telecom and Vodafone would give emergency services organisations options about who to partner with, if they wished to partner with a commercial network operator. The Police currently partner with Vodafone for mobile broadband services. As 2degrees’ network does not provide the same level of near-nationwide coverage as Telecom’s and Vodafone’s networks, it is unlikely that 2degrees would be the best partner for emergency services.

3. Placing the unsold block between Telecom and Vodafone would not significantly affect the viability of any of the Crown's other options for unsold spectrum, which include leaving the spectrum fallow, allocating it for use by "smart" electricity networks, allocating it to a smaller operator (such as TeamTalk, Woosh, CallPlus, or another smaller operator) for private or bespoke networks, or allocating it to Māori (although MBIE continues to believe that if Māori ICT-based economic development is a policy goal, spectrum allocation is not the best way to achieve this).

Placing the unsold block between Telecom and Vodafone is likely to significantly decrease its future utility to 2degrees.

If you agree to this recommendation we propose that we inform the Commerce Commission, in confidence, of that decision as soon as practicable. This may assist the Commission in making a decision on Telecom's clearance application as it should reduce the number of counterfactuals that the Commission needs to consider. We do not intend to inform the bidders of the placement options decision(s) until the Commerce Commission decision has been made.

Risks

Consultation on assignment options isn't a part of the formal auction rules. However, in February 2014, when MBIE consulted bidders on placement options under the scenario that clearance was granted to Telecom, we informed bidders that they would be consulted again on placement options if clearance is declined. This briefing now seeks decisions from you, without this consultation having taken place.

RECOMMENDED ACTION

The Ministry of Business, Innovation and Employment recommends that you:

- a **Discuss** the contents of this report with the Ministers of Finance and Economic Development.
Agree/disagree
- b **Agree** that in the event that Telecom's Commerce Commission clearance is **granted**, placement options C and D will be excluded.
Agree/disagree
- c **Agree** that in the event that Telecom's clearance is **declined**, only placements options A1, C1, D1, and E1 will be offered.
Agree/Disagree
- c **Refer** this report to the Ministers of Finance and Economic Development, for their confirmation of the decisions made above.
Agree/disagree

Len Starling
Manager: Policy & Planning
Radio Spectrum Management
Ministry of Business, Innovation and Employment

..... / /

Hon Minister Amy Adams
Minister for Communications and
Information Technology

/ /

Decisions as noted above by Minister Adams confirmed by:

Hon Minister Bill English
Minister of Finance

..... / /

Hon Minister Steven Joyce
Minister of Economic Development

..... / /

Minister's feedback on quality of report:					1 Not satisfactory; 2 Fell short of expectations in some respects; 3 Met expectations; 4 Met and sometimes exceeded expectations; 5 Greatly exceeded expectations
1	2	3	4	5	

Introduction

1. This report updates and adds to our briefing of 11 March 2014, titled “700 MHz Auction: Combinatorial Assignment Round Options”. This new report presents options for the placement location of any unsold spectrum that might result from Telecom’s Commerce Commission clearance application being declined, and seeks a decision on the placement of unsold spectrum should this eventuate. A decision on this issue now could assist the Commerce Commission in its thinking about the likely counterfactual. This report doesn’t repeat the detail of the earlier report but, for ease of reference, includes a summary of that material and a consolidated set of recommendations covering both reports.
2. The Ministry of Business, Innovation and Employment (MBIE) is auctioning management rights to radio spectrum in the 700 MHz band, to be used for the deployment of fourth generation long term evolution (4G-LTE) cellular broadband networks. The initial allocation rounds of the auction have been completed. In those rounds, bidders bid for generic amounts of spectrum in the 700 MHz band, i.e. not specific frequencies. The provisional results, subject to Commerce Commission clearance, are that 2degrees has purchased 2x10 MHz (two generic lots), Vodafone 2x15 MHz (three generic lots), and Telecom 2x20 MHz (four generic lots).
3. A final round, the Combinatorial Assignment Round (‘CA round’), is yet to be held. In the CA round, bidders have the opportunity to each submit a single tender for particular placements (frequencies) within the 700 MHz band i.e. the bottom, middle, or top of the band. This round is a one-shot tender. The auction rules state that outcome is decided by the combination of tenders that achieves the highest revenue for the Crown.
4. Telecom’s purchase of four lots is subject to Commerce Commission clearance. A decision from the Commission is expected on 30 May 2014. This first part of this briefing assumes that clearance is granted¹; if it is not, and Vodafone (the next highest bidder) does not reactivate its withdrawn clearance application, there will be an unsold spectrum block and the Crown will have a substantial interest in choosing the location of this block. The second, new, part of this briefing (paragraph 9 onwards) seeks a decision on the placement of any spectrum that might remain unsold because Telecom’s clearance application is declined (in either the short term, while the appeal process plays out, or the long term).

Timing of Combinatorial Assignment Round

5. It is our intention to hold the Assignment Round as soon as practicable.
6. If Telecom’s clearance is granted, we would expect to hold the round within weeks of the decision.
7. If Telecom’s clearance is declined, we would also expect to hold the round within weeks of the decision, only offering options that place the unsold block between Telecom and Vodafone. This would allow for any outcome of the appeals process and/or allocation to Vodafone (the next highest bidder) to be accommodated.

Technical issues potentially affecting preferred placements

8. The 11 March briefing provided detailed information about the technical issues likely to influence bidders’ valuations of particular placements. This information is not repeated in detail here. MBIE’s view is that the

¹ 2degrees may have the right to appeal clearance if the Commerce Commission holds a conference involving 2degrees to discuss a draft decision prior to the final decision being issued. Any party attending the conference has the right to appeal the final decision.

bottom and middle of the band are likely to be of higher value than the top.

Options if Telecom’s clearance is granted

9. If Telecom is granted clearance, possible placement options are shown in the table below.

Table 1: Full list of placement options given the provisional allocation results (with clearance granted to Telecom)

Lower MHz	703-708	708-713	713-718	718-723	723-728	728-733	733-738	738-743	743-748
Upper MHz	758-763	763-768	768-773	773-778	778-783	783-788	788-793	793-798	798-803
Option A	2x20 MHz (TC)				2x15 MHz (VF)			2x10 MHz (2D)	
Option B	2x20 MHz (TC)				2x10 MHz (2D)		2x15 MHz (VF)		
Option C	2x10 MHz (2D)		2x20 MHz (TC)				2x15 MHz (VF)		
Option D	2x15 MHz (VF)			2x20 MHz (TC)				2x10 MHz (2D)	
Option E	2x10 MHz (2D)		2x15 MHz (VF)			2x20 MHz (TC)			
Option F	2x15 MHz (VF)			2x10 MHz (2D)		2x20 MHz (TC)			

10. The auction rules allow us to exclude one or more options. This rule could now be used to facilitate pro-competitive policy outcomes. We seek a decision from you as to whether to rule out one or more placement options. We recommend that options C and D, which place Telecom in the middle of the band, are ruled out for the following reasons:

- To allow future secondary market trading between 2degrees and Vodafone, the only parties that could increase their holdings and remain within the current acquisition limit. This could include spectrum sharing.
- To ensure that the current 2degrees/Vodafone 2G/3G roaming agreement can be extended to cover 4G services.
- To protect the Crown’s options in case 2degrees does not meet the five-year payment terms or implementation requirement deadline and its spectrum returns to Crown ownership/control.
- To assist the Commerce Commission in determining the likely competitive landscape over the eighteen-year period of the management rights, and narrow the range of options and variables it must consider in assessing Telecom’s clearance application.

11. This reasoning is described in more detail in our briefing of 11 March 2014.

Options if Telecom’s clearance is declined

12. It is possible that Telecom’s clearance application for 2x20 MHz will be declined. This clearance application is effectively for the final spectrum block only – no matter the outcome, Telecom’s bid for 2x15 MHz will stand. The decision date is expected to be 30 May 2014. If clearance is declined, Telecom would have a right of appeal. [REDACTED]

[REDACTED] Telecom would have 20 working days following release of the Commission’s reasoning to appeal. An appeal would be likely take about a year.

9(2)(ba)(i)

13. If Telecom did not successfully appeal, Vodafone would, as the next highest bidder, have the option to reactivate its clearance application and seek to acquire the final spectrum block. This process could also take many months.
14. Given the prospect of lengthy delays, we now seek decisions from you about the placement of any unsold spectrum if Telecom's clearance application is declined, so that we can hold the Assignment Round and the network operators are not delayed in the commissioning of their 700 MHz networks.
15. We also propose that we inform the Commerce Commission, in confidence, of your decisions arising from this briefing as soon as practicable, to assist them in making a decision on Telecom's clearance application. Advising the Commerce Commission of this decision may assist the Commission as it should reduce the number of counterfactuals that the Commission has to consider. We do not intend to inform the bidders of the placement options decision(s) until the Commerce Commission decision has been made.
16. Our recommendation is that the unsold block should be placed between Telecom and Vodafone. The reasons for this are outlined below. In practice, this means only offering options A1, C1, D1, and E1 (see table on page 11). We have not consulted bidders on the placement of any unsold spectrum, and are not required to under the auction rules. Bidders may prefer the opportunity to provide input into this decision, but ultimately it is the Crown's decision as the vendor and, given an opportunity, bidders are likely to simply express their own commercial preferences.
17. Telecom and Vodafone, as parties that have submitted legitimate bids for the final spectrum block in the auction, both have a potential claim to the spectrum block. Their claims depend on how the Commerce Commission decision goes, whether appeal processes are instigated, and what the appeal outcome(s) are. The Crown should not foreclose on the possibility of allocating the final block to Telecom or Vodafone while the issue is still live.

9(2)(ba)(i)
& 9(2)(b)(ii)

18.

9(2)(f)(iv)
& 9(2)(g)(i)

[REDACTED] 2degrees has yet to deploy 4G using any of the 2x25 MHz of spectrum it owns in the 1800 MHz band and acquiring more spectrum is only one of several ways to increase network capacity. 2degrees had the opportunity to bid for the unsold 700 MHz block in late 2013, at a reasonable price and with favourable payment terms. It has turned down this option, whereas Telecom and Vodafone have both shown that they are prepared to pay at least \$82 million for the block. Placing the unsold block between Telecom and Vodafone protects the potential for fiscal return to the Crown.

19. If neither Telecom nor Vodafone acquire 2x20 MHz (4 blocks), because Commerce Commission clearance is declined, the commercial incentives for either Telecom or Vodafone to negotiate a spectrum sharing agreement with 2degrees are greatly reduced. In this scenario, Telecom and Vodafone will have equal 4G spectrum holdings in all bands, so will not be able to use their greater spectrum holdings to claim a better network than their closest competitor. Technically, 2degrees could share with either Telecom or Vodafone, without the acquisition limit (~~2x25 MHz~~) being breached. Our recommendation for the scenario where Telecom's clearance is granted therefore does not apply.

**NOTE
ERROR:
"2x25 MHz"
should read
"2x20 MHz"**

20. However, for technical reasons 2degrees may still only have one option for 4G roaming: whichever network operator it is placed next to.
21. If neither Telecom nor Vodafone end up acquiring the final spectrum block, the Government may wish to reconsider other allocation options, such as allocating the spectrum for use by emergency services or electricity networks. There may be both commercial demand and economic and social benefits from such an allocation, however we have not yet done the analysis necessary to confirm this. Our initial analysis at the beginning of the 700 MHz allocation process concluded that commercial mobile networks were likely to be the highest value users of this spectrum band (resulting in economy-wide benefits of up to \$2.4 billion). However, if the three network operators are either unwilling to purchase all the spectrum (2degrees) or unable to get Commerce Commission clearance (Telecom and Vodafone), then it may be beneficial to reconsider other high value uses.

22. At the time of the initial Cabinet decisions on 700 MHz allocation, we argued that the 800 MHz band was more appropriate for emergency services use, particularly as this would align with Australia. Since then, the Australian 700 MHz auction has resulted in unsold spectrum (Vodafone-Hutchison/VHA, the third-place market operator, did not bid) and Australian emergency services organisations have reignited their efforts to acquire 700 MHz spectrum. There is considerable uncertainty about what band(s) Australian emergency services may end up with.
23. If it was deemed appropriate in the future to allocate 700 MHz spectrum to emergency services in New Zealand, one option is that emergency services may seek to share some network infrastructure with a commercial operator. Placing the emergency services' spectrum between Vodafone and Telecom would mean that emergency services could negotiate with both network operators to reach a satisfactory arrangement (it would give emergency services more options and greater negotiating power). The Policy currently partner with Vodafone for broadband services. It seems likely that emergency services would prefer to partner with Telecom or Vodafone as their networks cover significantly more population and geography than 2degrees' network.
24. Placement between Telecom and Vodafone would not foreclose other commercial allocation options, such as to electricity networks (for "smart grids") or to niche operator(s) seeking to build private or bespoke 4G-LTE cellular or fixed wireless networks.
25. However, placement between Telecom and Vodafone is likely to result in less demand from 2degrees for the final spectrum block in the future. While carrier aggregation technology is being developed that would allow the efficient use of non-neighbouring spectrum by the same network, commercial deployment in New Zealand is likely some years away and may be costly. [REDACTED]
- [REDACTED] MBIE's longstanding position is that, as a general rule, acquiring more spectrum is not the only way that network operators can increase the capacity on their networks (building more cell towers is another good option to increase capacity).
26. The Government has maintained a clear and consistent position that Māori groups will not be allocated any 700 MHz spectrum on special terms. It remains MBIE's opinion that if Māori ICT-based economic development is a policy goal, spectrum allocation is not the best way to achieve this. The placement of the unsold spectrum block is unlikely to have a significant effect if the government, in the future, revisits the decision not to allocate Māori 700 MHz spectrum. While it is the case that Te Huarahi Tika Trust (THTT) and its commercial arm Hautaki Ltd were established to hold spectrum for Māori and now have commercial arrangements with 2degrees, any future allocation of cellular spectrum to Māori would not necessarily have to go to THTT or Hautaki Ltd. Even if it was allocated to THTT or Hautaki Ltd, these organisations would be free to seek future commercial arrangements with any and all commercial network operators that they so choose.
27. Table 2B (next page) shows the full range of placement options with an unsold spectrum block.

9(2)(ba)(i)
& 9(2)(b)

Table 2B: Assignment placement options with unsold spectrum block

Lower MHz	703-708	708-713	713-718	718-723	723-728	728-733	733-738	738-743	743-748
Upper MHz	758-763	763-768	768-773	773-778	778-783	783-788	788-793	793-798	798-803
Option A1 (recommended)	2x15 MHz (TC)			2x5 MHz (Crown)	2x15 MHz (VF)			2x10 MHz (2D)	
Option A2	2x5 MHz (Crown)	2x15 MHz (TC)			2x15 MHz (VF)			2x10 MHz (2D)	
Option B1	2x15 MHz (TC)			2x5 MHz (Crown)	2x10 MHz (2D)		2x15 MHz (VF)		
Option B2	2x5 MHz (Crown)	2x15 MHz (TC)			2x10 MHz (2D)		2x15 MHz (VF)		
Option C1	2x10 MHz (2D)		2x5 MHz (Crown)	2x15 MHz (TC)			2x15 MHz (VF)		
Option C2 (recommended)	2x10 MHz (2D)		2x15 MHz (TC)			2x5 MHz (Crown)	2x15 MHz (VF)		
Option D1 (recommended)	2x15 MHz (VF)			2x5 MHz (Crown)	2x15 MHz (TC)			2x10 MHz (2D)	
Option D2	2x15 MHz (VF)			2x15 MHz (TC)			2x5 MHz (Crown)	2x10 MHz (2D)	
Option E1 (recommended)	2x10 MHz (2D)		2x15 MHz (VF)			2x5 MHz (Crown)	2x15 MHz (TC)		
Option E2	2x10 MHz (2D)		2x15 MHz (VF)			2x15 MHz (TC)			2x5 MHz (Crown)
Option F1	2x15 MHz (VF)			2x10 MHz (2D)		2x5 MHz (Crown)	2x15 MHz (TC)		
Option F2	2x15 MHz (VF)			2x10 MHz (2D)		2x15 MHz (TC)			2x5 MHz (Crown)

Fiscal issues – if clearance is granted to Telecom

28. Auction revenues to date have surpassed budget baseline forecasts. Limiting the placement options offered to bidders will have an impact on the amount they need to bid to obtain their preferred placement. Any loss in revenue due to limiting the placement options is difficult to quantify, as we do not know the value that bidders place on particular assignment options. For example, Telecom may have an interest in preventing 2degrees and Vodafone from arranging roaming or spectrum sharing, and may therefore be prepared to bid higher for the middle placement. However, under this situation the consumer benefits arising from market competition (through roaming or spectrum sharing) may outweigh any direct loss of revenue to the government.
29. Fierce competition between Telecom and Vodafone during the supplementary allocation rounds suggests that both are prepared to bid aggressively for their preferred outcome. On the other hand, Telecom may have now exhausted much of its “war chest”.

Fiscal issues – if clearance is declined

30. In a situation where clearance is not granted, it is not clear to us the value that Telecom and Vodafone might place on bordering the unsold block. Bidders may believe that there is value being next to the unsold block because they may seek to acquire it in the future. They may also see value in the option to cooperate or partner with emergency services, should the unsold block be allocated to emergency services in the future.
31. 2degrees is theoretically likely to value being placed next to the unsold block very highly (to protect an option of future purchase), and/or being placed next to Vodafone so that its current 2G/3G roaming agreement can be extended to cover 4G services. However, 2degrees may not have the ability to bid at the level of its theoretical value.
32. If clearance is not granted to Telecom and Vodafone either does not seek or is declined clearance, the final spectrum block would remain unsold and the total auction revenues from the Allocation Rounds would be \$176 million rather than \$259 million. Some additional revenue can be expected from the final Combinatorial Assignment Round.

Risks – if clearance is granted to Telecom

33. If options C and D are allowed and the bidding results in one of these options being the outcome, it may be difficult to extend the current 2degrees/Vodafone 2G and 3G roaming agreement to cover 4G services, because of issues to do with handset compatibility.
34. If options C and D are allowed and the bidding results in one of these options being the outcome, future opportunities for secondary market trading would also be limited, as would the Crown's options in the event that 2degrees is unable to complete the payment terms or implementation requirements.

Risks – if clearance is declined

35. If the government decides on placement options now, bidders (particularly 2degrees) are likely to complain that they were not consulted on the placement of the unsold block. In February 2014, when MBIE consulted bidders on placement options under the scenario that clearance was granted to Telecom, we informed bidders that they would be consulted again on placement options if clearance is declined. However, consultation is not required under the auction rules.
36. If 2degrees is not assigned a placement next to Vodafone, it is likely to complain that its current roaming agreement cannot be extended to cover 4G services. However, there may be technical solutions, and it may be able to negotiate 4G roaming with Telecom instead.