

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT HĪKINA WHAKATUTUKI



COVERSHEET

Minister	Hon Dr Megan Woods	Portfolio	Research, Science and Innovation
Title of Cabinet paper	Extending Refundability for the Research and Development Tax Incentive	Date to be published	12 July 2019

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YES / NO (please select)

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POLICY AND STRATEGY

			EEV	
Date:	13 February 2019	Priority:	Medium	
Security level:	In Confidence	Report number:	IR2019/005	
			2296 18-19	
Action sought				
	Action sought	2	Deadline	
Minister of Research, Science and Innovation	Agree that officials commence stakeholder engagement on phase two of the R&D tax incentive including on the issues of refundability, tax exempt organisations, and options for the future of the tax loss cash out.		22 February 2019	
Minister of Revenue	Agree that officials commence stakeholder engagement on phase two of the R&D tax incentive including on the issues of refundability, tax exempt organisations, and options for the future of the tax loss cash out.		22 February 2019	
	Agree to forward this report to Minister of Finance.			

Contact for telephone discussion (if required)

Name	Position	Telephone
Keith Taylor	Manager, Policy	04 890 2808
	Internal Revenue	Privacy of natural persons
Kirsty Hutchison	Manager, Innovation Policy	04 901 4131
	Ministry of Business, Innovation and Employment	Privacy of natural persons

13 February 2019

Minister of Research, Science and Innovation Minister of Revenue

R&D Tax Incentive: Phase 2 Policy Proposals

Executive summary

- 1. With legislation to introduce the Government's R&D tax incentive progressing through Parliament, officials are now considering the following policy issues that had been deferred to a secondary phase:
 - A comprehensive policy on refundability (the Bill currently provides for limited refundability to loss-making and pre-profit ousinesses)
 - Treatment of tax-exempt organisations (the first-year policy on refundability excludes entities that receive tax exempt income)
 - Options for the future of the R&D tax loss cash out (this policy was introduced in 2015 to address the effect of distortions in the tax system on R&D intensive start-ups)
- 2. A key aim of the Government's R&D tax incentive is to expand access to R&D support to a wider and more diverse range of firms and to provide firms with the certainty and confidence to increase their investment in R&D. The policy intent is to create a regime that is accessible, internationally competitive and sustainable.
- 3. These objectives have guided our thinking on the following proposals which we propose form the basis of stakeholder engagement. The stakeholder engagement will be used to seek feedback on and test the implications of the options described below (noung that Ministers have not yet taken final policy decisions).

Refundability and treatment of tax-exempt organisations

We propose that refundability of the R&D tax credit for firms in loss or with Insufficient profit should be widely available. This is consistent with the objective of providing broad-based support for R&D. However, in order to manage the risks that refundability creates to the sustainability of the scheme, officials propose that the amount paid to an organisation in a single year would be limited by:

- the amount of PAYE paid (this ensures a firm has a tangible economic presence and that what firms receive from the tax system does not exceed what they have contributed); and
- a cap on refunds of \$5 million (this will ensure that Growth Grant recipients are not worse off by moving to the tax incentive).
- 5. We are aware that some firms legitimately do not pay PAYE and we will use the stakeholder engagement to explore the extent of this issue and the appropriateness of using alternative taxes paid as a constraint on refundability.
- 6. The quality of, and positive externalities from, R&D undertaken by tax-exempt organisations is likely to be similar to that of taxable entities. Therefore, from the perspective of growing New Zealand-based R&D, it makes sense for the tax incentive to be refundable for tax-exempt organisations with no further restrictions than those that apply to taxable entities. However, we intend to use

the stakeholder engagement as an opportunity to build a better understanding of the type and amount of R&D that is undertaken by tax-exempt organisations.

The R&D tax loss cash out

- 7. The tax loss cash out is intended to mitigate distortions in the tax system that particularly affect R&D intensive start-up companies. The policy allows qualifying firms to receive cash for their losses that relate to R&D rather than waiting until the firm is profitable to obtain the benefit of a tax deduction. About 350 firms have registered for the scheme. The introduction of the R&D tax incentive provides an opportunity to consider options for the future of the tax loss cash out including:
 - Retaining it as a separate instrument but with some amendments such as aligning the definition of R&D with the tax incentive and tightening its eligibility criteria, or
 - incorporating it as an additional support for start-up firms delivered via an extension to the tax incentive, or
 - ceasing the tax loss cash out.
- 8. The engagement with stakeholders provides an opportunity to test our understanding of the impact that the tax loss cash out has had on firms, to seek insights into administrative issues such as the value of aligning the R&D definition with the tax incentive, and to explore whether it would create confusion to retain the two separate instruments.
- 9. If Ministers agree to these proposals, officials will commence a process of stakeholder engagement. We anticipate providing you advice in April so that Cabinet approval and egislation can follow later in the year.

Recommended action

10. The Ministry of Business, Innovation and Employment and Inland Revenue recommend that you:

- **Agree** that officials commence stakeholder engagement on phase 2 of the R&D tax incentive
- 10.2 **Agree** that the proposals that will form the basis of this engagement are:
 - 10.2.1 Refundability of the tax credit for firms in loss or with insufficient profit should be widely available, with the only constraints being that the amount paid to an organisation in a single year would be limited by the amount of PAYE paid and capped at \$5 million.
 - 10.2.2 No further restrictions would apply to tax-exempt organisations.
 - 10.2.3 Options for the future of the R&D tax loss cash out could include:
 - aligning it with the tax incentive and tightening its eligibility,
 - incorporating it as an additional support for start-up firms delivered via an extension to the tax incentive, or
 - ceasing the tax loss cash out.
- 10.3 **Agree** to refer this report to the Minister of Finance

10.4 **Note** that officials will report back to you following the stakeholder engagement.

Kirsty Hutchison Manager, Innovation Policy MBIE Keith Taylor Policy Manager Policy and Strategy, Inland Revenue

Hon Dr Megan Woods Minister of Finance

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Hon Stuart Nash Minister of Revenue

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Purpose

- 11. This report seeks joint Ministers' agreement to proposals that are to be the subject of stakeholder engagement. The proposals relate to:
 - How refundability of the tax credit could apply from 1 April 2020
 - Whether there should be limits on refundability for non-tax paying organisations
 - Options for the future of the R&D Tax Loss Cash Out
- 12. Your agreement to these proposals does not represent final Government decisions. The proposals will form the basis of officials' engagement with stakeholders. Officials will brief you following this engagement and recommend proposals you can take to Cabinet for final decisions.

Context and background

- 13. The R&D tax incentive was developed under tight timeframes. Consequently, there was not time to resolve some complex issues before the legislation was drafted.
- 14. Cabinet agreed to provide limited refuncability for firms in loss for the first year of the tax incentive and you committed to review the policy that would apply from the second year. The two-year transition for Growth Grant recipients meant firms were not disadvantaged, relative to their current situation, in this delay to establishing the longer-term policy.
- 15. The R&D tax loss cash out is a separate policy from the R&D tax incentive. But the advent of the tax incentive and the high overlap between recipients under each policy means it is timely to review it.
- 16. You have previously agreed to the scope and timeframes for this Phase 2 policy work (1560 18-19; IR2018/688 refers). If you agree with these proposals, we will hold workshops with stakeholders to get their feedback. We anticipate providing you advice in April so that Cabinet approval and legislation can follow later in the year.

Refundability

Why it is an issue

- 17. Refundability refers to paying out the tax credit if the business has insufficient tax liability. The alternative to refunding the credit is for firms to carry it forward and use it when they become profitable.
- 18. Providing a refund ensures that all firms doing R&D receive equal support. For instance, an established business can support R&D through profits from its existing products, and therefore can immediately benefit from a tax credit. Similarly a large conglomerate can support a loss-making R&D division through profits from other parts of a business. By contrast, a start-up firm will not have offsetting profits from other activities and unless its credits are refunded may not be able to benefit from the tax credit until a much later date, if at all.
- 19. Refundability provides financial support for R&D when it is most needed. In most cases, a firm will engage in R&D expenditure prior to receiving revenue from commercialising its product. Therefore, not only are R&D-intensive firms more likely to be in loss, they are also more likely to be cash constrained. For these

firms, cash today will be much more valuable than a credit that is carried forward until the firm becomes profitable.

- 20. Additionally, credits carried forward while a firm is in loss are at risk if the firm breaches shareholder continuity rules relating to the credit. This is more likely to occur where there is significant new equity investment in a firm before it reaches profitability.
- 21. However, paying out to businesses, rather than reducing the amount of tax they pay, increases the fraud risk for Inland Revenue. This is not particular to R&D tax credits but is seen with other parts of the tax system such as donor tax credits and GST refunds.
- 22. Refunds also increase the fiscal cost of a scheme. In countries where credits are refunded, fiscal cost growth is faster amongst those firms getting refunds. Discussions with officials in Australia and the UK suggest that some of this increased cost is associated with marginal quality R&D cash payments for small, start-up firms are a powerful lure for some firms so encourage reclassifying other expenditure as R&D or claiming for activity that is not R&D. In those countries, a large number of claims has made it difficult to counter this risk through audit.
- 23. In summary, providing refundability generates positive net benefits but adds risk to the tax incentive scheme. Therefore, the question is not whether to have refundability or not but how to manage the risks associated with it.

International approaches

- 24. In developing a proposal for New Zealand, we have taken note of other countries' policies.
- 25. Across the OECD, most countries have R&D tax credits but fewer than half provide refundability. Australia, being the country with which New Zealand businesses most readily make comparisons, only has refundability for small to medium sized firms.
- 26. Appendix 1 summarises the policies applied in other OECD countries that do provide refunds and describes the strengths and drawbacks of each policy.

There is no uniformity as to how constraints are applied, but some broad observations are:

- Some constraint on refundability is the norm; a system with no restrictions on refundability would be an outlier amongst OECD countries
- the different ways in which refundability is limited often reflect differences in the underlying tax incentive scheme
- some countries limit refundability to SMEs and start-ups
- it is relatively common to limit refunds by reference to other taxes paid by the firm.

Refundability in relation to other features of the R&D Tax Incentive

28. New Zealand's tax incentive differs from most other countries through its lack of targeting. The three countries we studied in most depth in designing the New Zealand scheme either have higher credit rates for smaller companies (Australia and UK) or have such a low cap the scheme is effectively limited to SMEs (Norway). New Zealand's scheme has neither of these features.

- 29. Another aspect of the R&D tax incentive is that it is replacing the Growth Grant. Though not explicitly stated by the Government, Growth Grant recipients have an expectation that they will not be disadvantaged by moving to the tax incentive.
- 30. Loss-making firms can receive up to \$5 million per year from a Growth Grant. Under the tax incentive this would equate to incurring around \$33 million of eligible expenditure. This is a relatively high level of R&D expenditure. Based on Growth Grant recipients, only 5 New Zealand organisations currently exceed it and of these 2 are loss making. There will be some non-Growth Grant recipients who may also exceed this level but we are less certain of the number.
- 31. By comparison, the maximum level of eligible expenditure for refundability in Australia is around A\$10 million.
- 32. These factors suggest that targeting refundability exclusively to small and medium-sized businesses would be incompatible with other features of the tax incentive and that a cap for eligible expenditure under \$33 million would be perceived as less generous than the Growth Grant.

Fraud and fiscal risks

- 33. One reason to constrain refundability is fraud risk. Despite efforts to restrain it, determined organisations are frequently able to find ways to fabricate losses, and once payments have been made it can be difficult if not impossible to recover the funds.
- 34. A common approach in other jurisdictions is to limit refunds to the amount paid in other taxes such as PAYE¹. This ensures a firm has a tangible economic presence, and therefore means it is less likely to be operating fraudulently. It also operates as something of an integrity measure for the tax system because it means what firms receive from the tax system does not exceed what they have contributed.
- 35. Administratively, checking how much PAYE is paid by a firm is straightforward.
- 36. In-year approval of the R&D activity, which will apply from year 2, will provide a further element of robustness because it will potentially give an early warning of suspicious claims.

Stakeholder views

- An indication of what stakeholders think is provided by their submissions on the Taxation (Research and Development Tax Credits) Bill to the Finance and Expenditure Committee.
- 38. All submitters who have commented on this issue think the tax credit should be refundable to a greater extent than it will be in the first year. Some of them argue for no limits on refundability. Others contemplate some form of refundability such as:
 - Limited by level of firm turnover or a tax incentive less than a certain amount (Corporate Taxpayers Group)
 - A cap of \$5 million on the amount of tax credit refunded (EY).

Proposals for refundability

39. In terms of establishing the policy on refundability, the key question is whether it should be unrestrained or whether there should be some restrictions. On balance, we think there should be some restrictions, for the following reasons:

¹ For most firms, the amount of PAYE they pay will exceed 15% of the amount of R&D they undertake because all employees in the firm will contribute to the PAYE total whereas R&D is usually only one part of the firm's activities. There will, however, be some firms that (quite legitimately) do not pay PAYE.

- Some form of constraint linked to other taxes paid can make fraud less likely.
- The R&D tax incentive is new and not all the risks are well understood. Maintaining some constraint will be useful until there is a better understanding of how the scheme is operating.
- Given the proposed R&D tax credit is relatively broad and accessible, the proposed refundability restrictions do not fundamentally alter the incentives of the scheme.
- Other countries offering R&D tax incentives have generally put constraints on refundability in place.
- If the constraints are relatively light-handed they are unlikely to have a material impact on the amount of R&D encouraged by the cax incentive.
- 40. It is therefore recommended that the proposals on refundability with which officials will engage externally are:
 - The amount of tax credit refunded in any one year cannot exceed the amount of PAYE the firm has paid in the same year, and
 - The maximum tax credit paid out in any year is \$5 million.
 - Excess credits that are not refunded in a particular year can be carried forward subject to the credit continuity rules and can be refunded in future years, subject to the above conditions.
- 41. Framing the constraints in this way is not anticipated to restrict refunds for the majority of R&D performers. It means that all firms would have some refund and a few would have less than full refundability. This differs from the Australian approach where there is a hard boundary in the form of a turnover threshold which means that if a firm grows, it switches from receiving refunds to not receiving any.
- 42. Overall, and compared with most other jurisdictions, the proposed policy for New Zealand represents a comprehensive approach to refundability. We therefore consider it will be reasonably well received. Issues that might be contentious, and which we would want to explore with stakeholders, include:
 - Some firms may pay little or no PAYE. For instance, their staff are not employees and are paid a shareholder salary or provide sweat equity. We are interested in understanding how prevalent this issue might be amongst R&D performers and whether an alternative definition of taxes paid² would be more appropriate.
 - The impact of the \$5 million cap. We think some cap on refunds would be prudent as a backstop but this would have to be balanced against any evidence that it would disincentivise firms from expanding their R&D.

Tax exempt organisations

Which organisations are tax-exempt

43. Within the Income Tax Act, there are different types of tax-exempt organisations, including charities, public authorities and local authorities, sports promoting bodies, and science and industrial research promoting bodies. In some cases, the legislation deems these bodies to be tax-exempt and in other cases the

² One possibility would be to add FBT, withholding tax on scheduler payments (WT) and employer superannuation contribution tax (ESCT) paid.

organisation elects to have the tax-exempt status. These categories include levy bodies.

44. Māori authorities are not tax-exempt (they pay tax at 17.5% rather than at the company rate of 28%), but some post-settlement governance entities have registered as charities and Māori organisations often have charitable entities within their structures. Consequently, tax-exempt organisations include organisations considered Māori organisations.

Why it is an issue

- 45. The first-year policy on refundability excludes entities that receive exempt income. They are eligible for the tax incentive but, because they do not have an income-tax liability, they will not benefit from the incentive without refundability.
- 46. The main argument for making the credit refundable for these organisations is that the quality of their R&D and the spillovers arising from it are not likely to be any different from private-sector organisations. Therefore, from the perspective of growing New Zealand-based R&D it makes sense to include them.
- 47. Some tax-exempt organisations, such as levy bodies, may already be receiving government financial support from a different programme³. However, the rules applying to the tax incentive mean that R&D that has been funded by another government grant is not eligible for the tax incentive, so providing for refundability of the R&D that is eligible should not lead to double dipping.
- 48. Finally, there is an argument that organisations that have chosen to be taxexempt organisations should not subsequently receive benefits from the tax system. One concern is that organisations that are not paying tax can accumulate assets faster than comparable taxpaying businesses so are better able to fund investments including R&D. Another concern is that organisations may choose to place their profitable operations in a tax-exempt structure while treating their loss-making parts as taxable entities.

Proposal for tax-exempt organisations

- 49. Officials are in the process of getting a better picture of the type and amount of R&D that is undertaken by organisations that are tax-exempt. We consider the stakeholder engagement will be an opportunity to extend our knowledge.
- However, we are conscious that these types of discussions could raise expectations amongst tax-exempt organisations that they will be eligible for refunds of their tax credits if they are eligible for the tax incentive.
- 51. Also, we consider there may be allegations of unfairness if organisations that are undertaking R&D are shut out of the tax incentive as a result of not providing refundability for tax-exempt organisations.
- 52. We consider the arguments in favour of refundability for tax-exempt organisations are stronger than the arguments opposing it. Consequently, the proposal is that the stakeholder engagement would be based on the premise that tax-exempt organisations would be eligible for the refund of their R&D tax credits, with only the restrictions applying to taxpaying firms applying to them.

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³ For example, the Endeavour Fund or Primary Growth Partnership

The R&D Tax Loss Cash Out

Background

- 53. The R&D Tax Loss Cash Out was introduced in 2015 and allows some firms that perform R&D to cash out their losses, up to the amount of their R&D spend, so they receive 28% of the relevant amount⁴.
- 54. The scheme has been designed to support R&D intensive firms. R&D intensity provides a way of targeting firms in the early phase of their development⁵. This group of firms have been selected for support because:
 - They are likely to be cash-constrained. Their R&D might not yet have developed a viable product so they will struggle to attract investors and the absence of a commercial product means they are not earning revenue.
 - They are more likely to be at risk of breaching the loss continuity rules within the tax system so the losses are no longer available for the firm⁶.
- 55. In terms of the immediate cash benefit provided by the policy, it functions like a 28% tax credit. However, an important difference from a standard tax credit or grant is that because the payment cancels an equal amount of the firm's losses, the tax-credit payments are more in the form of a loan from the government which is "repaid" if the firm becomes profitable². Other events (liquidation, sale of the company or of IP) also trigger repayment obligations.
- 56. The scheme is tightly targeted to a subset of R&D-intensive firms through imposing a wage-intensity test. This screens out many R&D performers and has meant the scheme operates on a small scale. About 350 firms have registered with slightly fewer actually applying for the credit. Its cost is about 10% of expected expenditure on the tax incentive.
- 57. The advent of the R&D tax incentive has led Inland Revenue to review the R&D tax loss cash out. This review is summarised as follows.

How is the R&D tax loss cash out working?

- 58. The tax loss cash out scheme was introduced in 2015 with effect from the 2016 year. There are two full years of results (2016 and 2017) and one part year (2018).
- 59. Uptake of the scheme has grown, with 350 firms now registered and the number of approved firms slightly less than 300. In aggregate, the scheme has provided \$50m to firms undertaking R&D, over the past 3 years⁸. The average amount received per firm has grown from \$73,000 in year 1 to \$105,000 in year 3.
- 60. Recipients are generally smaller enterprises employing fewer than 20 employees. There is a mix of stand-alone entities and firms that are part of a group. Of the latter, some have a foreign parent or are associated with a foreign entity that exercises control over the functions and business activities of the firm.

⁴ Technically, it is the lesser of their R&D send or 1.5 x the amount spent on employees engaged in R&D.

⁵ The standard pattern is that as a firm's R&D is successful and it commercialises its product, its R&D intensity will decline.

⁶ Generally, a firm loses it losses if there is more than a 50% change in ownership. This can be triggered either by the current shareholders selling or by an injection of fresh equity capital. Within the tax system there is a discretion for firms undertaking R&D to defer the recognition of their R&D expenditure so that the losses associated with their R&D expenditure are not lost.

⁷ Repayment occurs because a firm starts paying tax earlier than it would if it had carried losses forward.

⁸ \$13.7 million was paid out for the 2016 tax year, \$23.2 million was paid out for 2017, and – part year only -\$16.3 million has been paid out for the 2018 year.

Is the scheme achieving its objectives?

- 61. An assessment of the scheme's impact is difficult because many recipients also receive other forms of government assistance (such as Callaghan Innovation grants or support from the NZ Venture Investment Fund). It is not possible to discern the impact of this scheme alone on the amount of R&D that is being carried out.
- 62. IR officials administering this scheme indicate there is some evidence of the scheme providing needed financial support. Some firms use the credit to pay instalments on tax debt or to offset debt not under arrangement. Inland Revenue officials consider the credit has on occasion saved a company from liquidation or relieved the financial strain of tax debt.
- 63. The eligibility criteria are designed to target New Zealand-based firms that are
 - Currently loss-making firms but will potentially become profit making and tax paying
 - Firms for whom R&D is a central feature of their operations
 - In the start-up phase because these firms are most likely to be cash constrained
 - Not otherwise readily able to tap into non-government sources of finance.
- 64. An analysis of recipients of the scheme suggests that the current criteria are letting in these types of firms but also letting in firms that don't meet the criteria. For instance, in the first year though the majority of recipients had incorporated in 2012 or later, at least 20% were more than 10 years old, so could not be considered still in the start-up phase. Additionally, firms within a wholly owned group with a listed company have been eligible, despite their access to significant non-government finance.
- 65. A feature of the scheme is the obligation to repay the credit once the firm has become profitable or other conditions are met. However:

Because the scheme has only been in operation for a short time, there is not a clear picture of whether firms are moving to profitability

Some firms have become profitable but still have other losses carried forward so are not yet paying tax

- A very small number of firms have triggered the other repayment obligations
- These other criteria are hard to monitor and Inland Revenue is reliant on self-reporting by firms
- Some corporate structuring arrangements can result in perpetual loss making companies, despite significant revenue arising from commercialisation of the research and development.

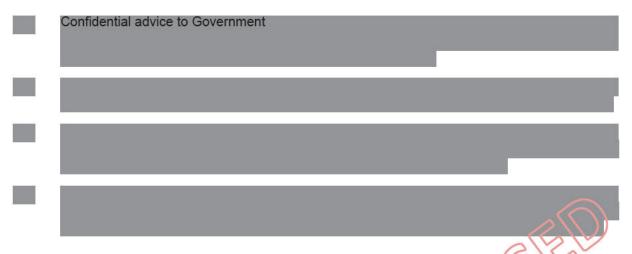
Definition of R&D

- 66. The scheme works off the accounting standard definition of R&D. This is different from the definition used in the R&D tax incentive.
- 67. The accounting definition was consciously chosen when the scheme was developed because, given the target recipient was a small start-up firm, it was considered this would be the easiest concept for firms to apply.

68. However, it is anticipated that the vast majority of firms eligible for the tax loss cash out will also be eligible for the R&D tax incentive. Therefore, the advent of the R&D tax incentive means that firms will have to apply two different definitions of R&D.



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Next steps

- 80. If Ministers agree with the proposals set out in this report, we will proceed with a programme of stakeholder engagement. This will focus on a series of workshops in diverse locations and with different types of organisations in order to canvas a broad spectrum of views.
- 81. However, as agreed by Ministers (1560 18-19: IR2018/688 refers), we will not release a discussion document nor engage in formal consultation. This is to avoid consultation overload given the extensive consultation that has already occurred through the tax incentive's development.
- 82. Officials will update you on the finalised stakeholder engagement plan by early March. This will likely cover the list of attendees invited and topics for discussion. It may also signal the additional analysis that needs to be undertaken to support the consultation eq quantifying the number of tax-exempt organisations that qualify for the R&D Tax Incentive.
- 83. We anticipate coming back to Ministers in April with proposals. Any implementation of the proposals outlined in this report will require legislative change so we anticipate a process of Cabinet approval and legislative drafting in rnid-2019, with a target enactment date of 1 April 2020.

IN CONFIDENCE

Appendix 1 – International Comparisons of Refundability policies

84. The following table sets out key features of how refundability is applied in key OECD countries.

Country	Refundability policy	Other relevant factors
Australia	 Limits refundability to: firms with turnover less than A\$20m & subject to a A\$4m annual cap. 	The cap is a recent feature aimed at fiscal affordability. The cap equates to A\$10m eligible expenditure.
UK – SMEs	Firms in loss can cash out their tax credit at a discount to their value ¹¹ .	 The SME scheme is more generous than the large firm scheme. SMEs must have. fewer than 500 employees and turnover less than EUR 100m.
UK – large firms	For non-SMEs, the tax credit is paid before tax, so loss making firms benefit equally with profitable firms, subject to not exceeding the amount of PAYE and National Insurance Contribution paid.	RELE
Norway	Full refundability for tax paying entities.	The tax credit operates with a very low cap. The maximum credit is (approx.) NZ\$2m, and in most cases is NZ\$1m. The tax credit is not available to non-taxpayers.
Ireland	Full refundability, but paid in instalments over 3 years, and subject to limits relating to amounts of corporate income tax paid or amounts of payroll tax paid.	
Netherlands	Full refundability but limited to a firm's payroll tax liability.	
Canada	The credit is fully refundable for Canadian Controlled Private Corporations up to an expenditure limit of CAD 3 million. Higher expenditure is only 40% refundable.	The tax credit rate is 35% up to eligible expenditure of CAD 3 million, and 15% for higher amounts.

The table above demonstrates different mechanisms can be used for constraining refundability. Here are some brief comments on each of them:

 $^{^{11}}$ Firms in loss can cash out 14.5% of surrenderable losses (these are the lesser of their trading loss and 230% of the R&D spend).

Eligibility for refundability based on firm characteristic (generally a measure of size such as turnover)

- can target refundability to firms that, potentially, benefit most from it ie, smaller or early stage firms
- creates boundaries which might disincentivise desired behaviours eg, a firm may choose not to grow to keep turnover below the threshold
- relatively simple to understand but measurement would introduce complexity

Refundability applies up to a cap; credits above cap carried forward

- refundability addresses cash flow needs
- less of a boundary issue so less likely to impact on firm behaviours (though incentive to increase R&D spend may diminish above cap)
- relatively easy to understand and apply

Limit refundability based on other taxes paid

- If based on PAYE paid, more like a backstop rather than a fiscal cap as for most businesses the amount of PAYE across the whole firm will exceed 15% of the cost of R&D
- Useful as a possible fraud deterrent as it should ensure a firm has a tangible economic presence, and may also prevent exploitation of a loophole if that involved claiming credits for high non-wage costs
- Operates as some form of integrity and fiscal constraint measure, in that a firm cannot "take out" more than it is "putting in" to the tax system.
- Some firms may not pay PAYE eg, staff are not employees and are either shareholders who are paid a shareholder salary, contractors or provide sweat equity. This suggests either using a wider definition of taxes paid¹² or making a provision for firms to apply for an exemption
- Administratively easy to understand and apply (subject to exceptions for firms without employees)

Refund credits at a discount

- Supports loss making firms while providing an incentive to become profitable
- Provides firms with a choice whether to refund the credit or carry it forward
- Perhaps less easy to understand but relatively easy to apply

Spread refundability over several years

- More complex to track a firm's position
- For a firm in a long-term loss making position, will produce similar results to full year refundability after a few years
- Creates a tail of Government liability

Target refundability based on R&D intensity

This mechanism is not used by any other country for targeting refundability (though in Australia R&D intensity influences the credit rate for large enterprises) but is worth considering as it is the basis of the year one scheme.

- Can target refundability to those most deserving of it
- Creates a boundary that might give rise to perverse behaviours
- Different measures of R&D intensity may favour different types of R&D performing firms

Though relatively easy to understand, adds complexity to compliance and administration

¹² One possibility would be to include adding withholding taxes paid.