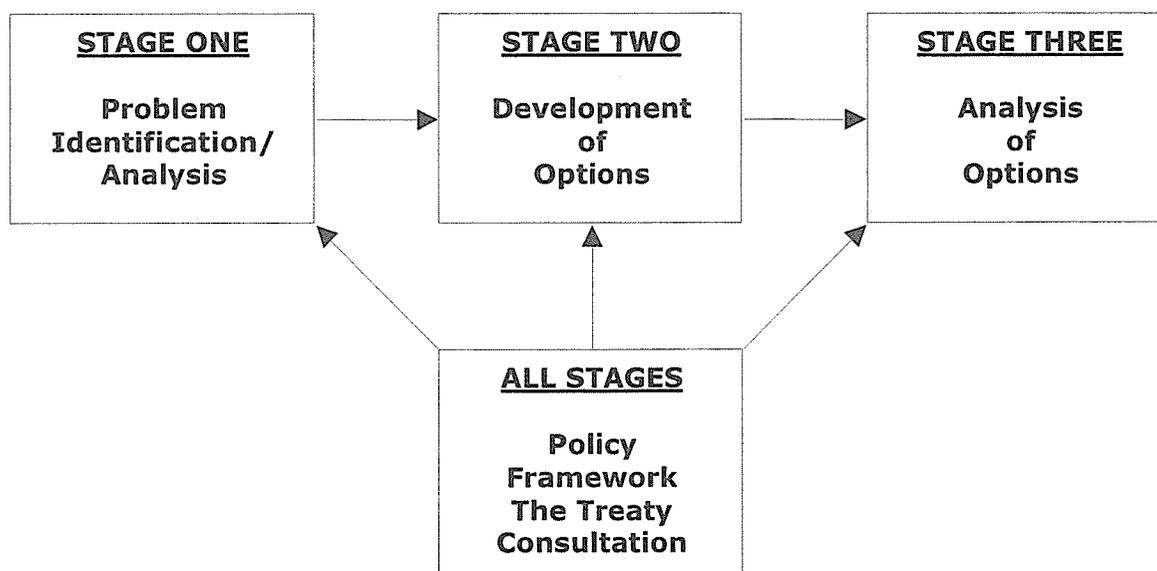


## Part 2 - Recommended Guidelines for Preparing Regulatory Impact Statements

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18. Part 2 details recommended best-practice approaches to developing the summary information required in the RIS, and is consistent with the **Code of Good Regulatory Practice** (see [http://www.moc.govt.nz/gbl/reg\\_man/regprac.html](http://www.moc.govt.nz/gbl/reg_man/regprac.html)). This section follows the RIS framework set out in paragraph 6 of Part 1 (and shown diagrammatically below). It should be noted that the full analysis underlying a paper's recommendations is not required to be documented in the RIS.

### POLICY FRAMEWORK



18a. Further, there are a number of process and content requirements that officials must comply with in preparing Cabinet papers. These requirements are, for the most part, outlined in the **Cabinet Office Manual**, and can be found at <http://www.dpmc.govt.nz/cabinet/circulars/co98/5.html>.

18b. Also, for a discussion of some of the key relationships between the main stakeholders in the policy process, see the State Service Commission's **Public Service Principles, Conventions and Practice Guidance Series** at <http://www.ssc.govt.nz/documents/PS-PCP/intro1.html>.

## Problem Definition

### *Explaining the Nature and Extent of the Problem*

19. Government interventions should be based on clear evidence that a problem exists and that government action is justified.

20. This section requires the RIS to explain the background to the problem and provide an overview of the relevant facts to set the scene. It should discuss in broad terms the nature and extent of the problem and identify the likely risks associated with not intervening. The extent of the problem should be quantified where possible.

21. Officials should commence this section assuming the reader has no or little knowledge of the topic, and seek to explain from the beginning the issues leading to the development, amendment, or re-issue of a regulatory solution. Supporting evidence should be included to enhance reader understanding of the problem. Care should be taken to focus on the “root cause” of the problem and not just the symptom.

22. The discussion of the nature and extent of the problem will assist in identifying the appropriate type of Government intervention as well as possible alternatives for consideration in the RIS.

23. A useful checklist to follow in framing this section includes:

- a. background to, and incidence of the problem;
- b. discussion of why the market will not provide a satisfactory outcome (where this is not apparent); and
- c. preliminary assessment of the likely costs associated with maintaining the status quo.

24. A useful framework for analysing the nature of a problem is that of market failure (problems associated with the government not intervening) and government failure (problems associated with government intervention). Examples and descriptions of key concepts are provided in Appendix 1.

## Analytical Framework

### *Why Develop a Framework?*

25. In developing a policy proposal, an explicit analytical framework helps to identify: what government wants to achieve (objectives, and possibly sub-objectives); how, in general terms, it considers those objectives can be promoted (principles); and the main impacts (costs and benefits) against which the policy options are expected to be assessed. An explicit framework serves a number of purposes:

- a. it provides a vehicle, at an early stage, to identify and resolve key differences in approach and understanding between officials, thereby promoting consistency and saving time and resources;
- b. it promotes and focuses communication between officials and groups being consulted. It explicitly identifies for stakeholders what the Government considers to

be important, and any boundaries on the scope of consultation. This helps to give consultation greater focus, and reduce cost;

- c. it provides a checklist of the major impacts (costs and benefits) against which to assess options as they are developed; and
- d. it gives Ministers and others confidence that good process has/will be followed in the development of the policy advice.

### ***Specifying Desired Objective(s)***

26. Objectives should be clear and concise. The objective should be specified broadly enough to allow consideration of all relevant alternative solutions, but should not be so broad or general that the range of alternatives becomes too large to assess, or the extent to which the objectives have been met becomes too hard to establish.

27. The objective should not be specified so as to align with (and thus pre-justify) the particular effects of the proposed regulation. Rather it should be specified in relation to the underlying problem and desired outcomes. Also, the objective should not pre-justify a preferred solution, but should allow for an examination of alternative solutions to the underlying problem. The objective should also be outcome or impact based. A common error is to confuse the desired final outcome of a proposal with the means of achieving it.

*Example: An objective of health policy might be to “reduce the costs associated with smoking”. This objective differs to an objective of “banning smoking in certain venues”, which may be only one means of attaining the first, broader objective.*

28. If applicable, a distinction should be made between the primary and subsidiary objectives of the proposal. For example, the primary public policy objective in reviewing the Meat Act may be to promote food safety, thereby reducing food related illness. Secondary objectives may include improved access to overseas markets, and minimising the compliance costs on the meat industry.

29. If outcomes are subject to constraints, for example they must be achieved within a certain time frame or budget, then these should also be clearly specified within the statement of objectives.

### ***Efficiency objectives***

30. Common efficiency objectives include:

- a. Providing goods and services at least cost (*productive efficiency*). An improvement in productive efficiency increases welfare by freeing up resources for other purposes. For example, reducing the cost of heart by-pass operations might free up resources for preventative education programmes outlining the benefits of exercise and good diet.
- b. Allowing resources to go to where they are valued the most (*allocative efficiency*). Formally, allocative efficiency is satisfied when Marginal Social Cost = Marginal Social Benefit (MSC=MSB). Key to allocative efficiency is taking into account externalities associated with resource use, for example, internalising the cost of pollution into the production process. An improvement in allocative efficiency could be represented by, for example, the removal of subsidies that direct investment

towards low value industries, or a redistribution of income from high income groups to low income groups (given low income groups will place higher value on each additional dollar of income).

- c. An economy responsive to changes in supply and demand over time through, for example, the development of innovative practices and technologies to better meet society's demands (*dynamic efficiency*). Increasing the level of competition in a market will tend to promote dynamic efficiency, for example.

31. The three types of efficiency identified above will often move in different directions in response to a change in policy settings, requiring analysis of the trade-offs between the objectives. For example, where a market is characterised by declining production costs, deciding whether to prevent a monopoly from becoming established is likely to involve assessing whether the benefits from productive efficiency gains will outweigh losses from lower dynamic and allocative efficiency. The key is to seek to maximise the total contribution of the objectives to New Zealand's public welfare (i.e., the scope should be national).

### ***Specifying Key Principles***

32. The principles, or broad statements of how the government considers the proposed objective will be achieved, should be identified at an early stage.

*FOR EXAMPLE: relevant principles for the development of a preferred option relating to minimising environmental costs (air and water) from roads might include:*

- clearly specifying and enforcing property rights;
- providing mechanisms to ensure people face the true cost of their actions;
- ensuring people in like situations are treated the same; and
- avoiding unnecessary, conflicting and complicated regulations, thereby minimising compliance costs and other distortionary costs.

### ***Identifying Key Impacts***

33. The key impacts should relate directly to the objectives for the reform (refer paras 26 – 29 for discussion of objectives). Principally, this should be done by breaking the key objective(s) down into their constituent costs and benefits, and identifying any other impacts not identified (if the objectives are correctly specified, these additional impacts should be minimal).

34. The costs and benefits could be specified in terms of, for example:

- the incidence of the impacts (government, consumers, business, for example);
- whether they are transitional or long term; or
- direct or indirect impacts.

35. This process helps to ensure all major costs and benefits have been identified, and once identified, remain in front of officials as policy options are developed and assessed.

## Identifying Feasible Options

36. Officials should carry out, early in the policy development process, an informed consideration of the options available to deal with an identified problem. The decision about *how* to intervene may be as important as the decision about *whether* to intervene. A variety of options are available. These are likely to have very different implications for results, the magnitude of costs and benefits, their distribution, and administrative requirements. At a broad level, officials are often confronted with decisions on the appropriateness of different types of standards.

### *Broad Types of Standards*

37. Standards can be principle-based, performance-based, or prescriptive. Principle-based standards describe the objective sought in general terms and require interpretation according to the circumstance. Performance-based standards specify the desired outcome in precise terms but allow regulated parties to determine their own technique for achieving the outcome. Prescriptive standards specify the technical means for attaining the specified outcome. These may be appropriate where there are stable problems requiring a high level of certainty.

38. Principle and performance based standards are more appropriate where the outcome can be measured (to ensure compliance), and where innovation is likely to be an important consideration in how those standards are met (these standards tend to promote the most efficient mechanism for achieving the objective). Prescriptive standards are useful where information costs are high, and there is little scope for innovation in the way the objective of the regulation is achieved. Regulators can usefully combine performance-based standards and prescriptive “deemed to comply” standards to capture the best features of both. Smaller companies could be expected to adhere to prescriptive standards (where the compliance costs involved with performance standards would make up a large portion of their revenue), while larger companies could be expected to comply with performance standards (where it is anticipated efficiency gains would outweigh the costs of compliance).

EXAMPLE: The objective of a standard may be to reduce to safe levels the exposure of workers to chemical fumes that are a by-product of a production process. A prescriptive standard might require firms to install ventilation systems to extract the fumes, and that they be set up in a specific way. A performance standard would require the safety objective of “reducing workers exposure to fumes” be met. Firms could achieve this objective by adopting the approach specified in the prescriptive standard or they could adopt any other feasible approach. For instance, a company may modify the inputs used in the production process itself so that the total amount of fumes produced is at a safe level.

39. In more detail, options available to the Government might include (but not be limited to):

- no government intervention;
- status quo;

- extending current legislation;
- increasing enforcement;
- information and education campaigns;
- economic instruments (taxes, subsidies, and tradable property rights);
- voluntary standards/codes of practice;
- self regulation; and
- co-regulation.

### ***No Government Intervention***

40. This option involves relying on the market in conjunction with existing laws (general liability law). No government intervention is particularly important to consider when undertaking reviews of existing regulation.

41. By holding individuals and firms responsible for their actions and requiring them to pay damages where liable, for example, incentives may develop for individuals and firms to take appropriate levels of care. Through legal remedies (litigation and the common law), individuals can enforce their rights rather than relying on government action to do so.

42. This approach is more appropriate where flexibility is needed in the application of the law, such as where there is a heavy emphasis on the circumstances surrounding the case (for example, where the degree of culpability is important).

43. In many circumstances, however, legal remedy may be too uncertain, slow, or costly (high transaction costs) to be an efficient method of changing behaviour.

### ***Status Quo***

44. The status quo is a dynamic concept. It is the situation that will arise if current policy settings are maintained. Maintaining policy settings could lead to deterioration in the public interest, for example, escalating environmental damage in the event allowable maximum pollution discharge limits are not reduced as the number of polluting factories increases. Equally, evaluation of the status quo should include consideration of the potential for a problem to “self-correct”. The status quo should always be considered as an option, to ensure that alternatives are not chosen which would lead to worse outcomes than expected by maintaining the current policy settings. The status quo is frequently the option against which other options should be compared.

### ***Extending Current Legislation of General Application***

45. In some circumstances, legislation with proven ability to overcome problems of the nature being addressed may already exist, but not have sufficient coverage to deal with the circumstances under consideration. In such cases it will often be more appropriate to expand coverage of this existing legislation than to attempt to create a new regime. The chief advantages of this approach are that a proven means of addressing the problem is

employed, and that consistency between the treatment of the same issue arising in different circumstances is achieved.

### ***Increasing Enforcement***

46. Another approach is to consider the implications of increasing the level of enforcement associated with the current regulation, rather than implementing new or amended provisions. It may be the case that existing regulations are adequate in themselves but are not enforced adequately.

### ***Information and Education Campaigns***

47. This approach acts to change the quality and level of the information available, or to change its distribution. This can be achieved by regulating for certain information to be provided, or by government providing the information itself. This may involve requiring information about the attributes of a product, process, or situation (e.g., dangerous working conditions) be disclosed.

48. These measures improve markets by allowing people to make decisions that better match their preferences. The main advantage of these strategies over some other approaches is that they allow individuals to choose what is best for themselves given the information available, rather than Government imposing one solution on all.

### ***Economic Instruments***

49. Economic instruments seek to influence market behaviour by altering the relative prices of goods and services in a market, or by creating a market where none previously existed. Market behaviour can be influenced either directly (for example, through a tax or user charge), or indirectly (for example, through controlling the level of supply). Economic instruments will generally require a regulatory basis. The two main types of economic instruments are:

- *Taxes, charges, or subsidies*: Government can alter private incentives (and therefore behaviour) by taxing actions it wishes to discourage and subsidising action it wishes to encourage. For example, by taxing pollution or subsidising education to correct for perceived externalities. A tax or charge used to influence behaviour in this way is distinct from a general tax, where the objective is to raise revenue for government spending programmes while seeking to minimise behavioural change.
- *Tradable quota (marketable rights)*: These are a means of controlling, for example, the quantity of some externality produced, or the amount of a scarce resource taken. Tradable quota have been used effectively in the United States to control emissions of sulphur dioxide, and in New Zealand to provide for the sustainability of commercial fisheries. Under tradable quota systems, the government sets an overall maximum supply level for the outcome of a specific activity. Producers must then hold a right to produce (e.g., sulphur dioxide) or take (e.g., fish), and may not produce or take any more than the level provided for by the quota. Quota is a valuable property right. Providing for tradable quota places strong incentives on the market to use resources efficiently, and ensure the quota goes to where it is valued the most.

### ***Voluntary Standards/Codes of Practice***

50. Positive behaviour can be achieved through instruments such as voluntary standards and codes. The standards can be developed by industry or co-operatively with government as codes of practice or guidelines that seek to detail what is deemed to be acceptable practice.

51. Voluntary codes maximise the potential for flexibility of response to allow easy adjustment in response to changes in the industry or occupation. They are best applied where there are strong occupational or industry bodies, where the implications of non-compliance do not pose significant or irreversible risks, and where non-compliance with the standard or code is visible (certification, for example, will tell consumers whether their provider complies with specified standards).

### ***Self-Regulation***

52. Self-regulation can be defined as an arrangement in which an organised group (such as an industry association or professional body) regulates the behaviour of its members, and where that organised group can impose sanctions. The advantages of self-regulation are; rules are more likely to be observed if they are made by insiders, changes and updating can be more rapid, rules are developed using the expertise of those being regulated, and it is cheaper for the Government as the regulated group bears the costs of regulating (and also have strong incentives to minimise those costs). Compliance is achieved because the players involved may find it in their interest to obey the (non-binding) rules. This can be driven by a concern by individuals and firms about their reputation, or by peer pressure.

53. As it is the industry that formulates the rules and codes of conduct, there is a risk that self regulation could result in anti-competitive behaviour. That is, unnecessary barriers to entry to an occupation or market, or other undesirable practices such as price fixing may occur.

### ***Co-Regulation***

54. Co-regulation refers to a situation where the regulatory role is shared between government and an industry body. Co-regulation can range from simple endorsement of industry self regulation, to providing legislative backing to privately defined rules when industry lacks sufficient sanctions to ensure compliance, thus bordering on traditional regulation.

55. Co-regulation is used for certain types of occupational regulation (e.g., lawyers, doctors, financial advisers). In such cases, the legislature may delegate regulatory authority to an organisation representing members practising that occupation. The organisation makes rules, levies charges, and applies discipline. These can have the same force and legal authority as if the government itself carried them out. Again, care needs to be taken to ensure the interests of consumers are given prominence, and that opportunities for anti-competitive practices are minimised.

56. It is important that the RIS outline the main options available for dealing with the problem, and why competing options were discarded in favour of the preferred option.

## Impact Assessment

### *Context*

57. The fundamental purpose of the RIS is to demonstrate that the expected benefits of the proposed regulations will exceed the expected costs; that is, there is a net benefit, when considered from the perspective of society as a whole, associated with the proposed regulation(s). A cost/benefit analysis (CBA) is a systematic approach to demonstrate that this requirement will be met.

58. A cost-benefit analysis is a conceptual framework for the economic evaluation of programs and projects in the public sector. It differs from a financial evaluation in that it considers all gains (benefits) and losses (costs) regardless of from where or to whom they accrue. It involves the identification and assessment of all costs and benefits, direct and indirect, tangible and intangible, which may impact on the choice of policy options.

59. The opportunity costs of regulatory policy drives the rationale for costs-benefit analysis, that is, what is society giving up to achieve its regulatory objectives? Opportunity costs may be direct in terms of the costs imposed on businesses and consumers - resources that could be allocated to other uses. Opportunity costs may also take the form of policies that have been displaced or must be foregone because a particular policy has been adopted.

60. A “formal” or “technical” CBA provides for a comparison of the identified costs and benefits of a proposal by employing constant dollars of those impacts as a common unit of measure. There will often be difficulties in converting some impacts to dollar terms. In many cases this may be achieved via the use of indirect approximations (refer Appendix 2 for examples of common valuation techniques). The use of these methods can be resource intensive. The level of quantification required will vary according to the importance of the proposal being analysed, the availability of the necessary data, and resource constraints.

61. In many circumstances quantification of the major impacts will not be feasible, such as where the policy proposal is more strategic in nature rather than technical. For example, it would be extremely difficult to quantify the costs and benefits to New Zealand of adopting a capital gains tax. In this case it may be more appropriate to apply “informal” cost benefit analysis, that is, to fully describe to the extent possible the magnitude, incidence and nature of all significant costs and benefits, rather than attempt to convert all those impacts into dollar values. Multi-criteria analysis is one systematic technique that can be used to undertake this type of analysis within the overall CBA framework.

### *Identifying All Significant Impacts*

62. A fundamental requirement of sound policy development is to ensure that no significant impact of the proposal is overlooked. While many impacts are easily identified others, particularly those which are indirect in their effects, may not be taken into account. Common types of costs and benefits include:

*Direct and Indirect*

63. Direct impacts are those clearly related to the purpose or objective of the regulatory proposal. Indirect impacts are incidental to this main purpose, although they may, nonetheless, be of significant magnitude.

64. An example might be a workplace safety regulation which has direct benefits in terms of a reduction in the costs of injuries and damage to production equipment, and may also have indirect benefits in terms of lowering the rate of industrial disputes (where there has been a history of disputes over the particular safety issue).

65. A key purpose of making this distinction is to emphasise that a regulation should be justified primarily in terms of the direct impacts associated with it. This does not necessarily preclude the making of a regulation that relies on indirect effects in order to show an overall net benefit. However, it does mean that regulation which has larger indirect than direct effects should be questioned on policy grounds, that is, whether a different policy response, which directly addresses the indirect benefits identified in respect of the current proposal, would be more appropriate.

*Tangible and Intangible*

66. Tangible impacts are those values that can be identified and quantified. An example is the cost of employing people to collect information from the public. The term “intangible” is often applied to those impacts to which it is difficult to attribute a dollar value. Examples might include time, health, comfort, environmental, and cultural impacts.

67. It is both possible and necessary to integrate the two types of impact in the RIS. Intangible factors (either dealt with in a descriptive or qualitative manner) should be presented alongside quantitative analysis. The analysis should indicate the relative importance that has been assigned to the values, and the assumptions that have been made in making those judgements. It is also critical to recognise the use of a formal CBA approach does not imply ignoring non-quantifiable factors. In fact, it may be more important to focus on the qualitative factors, especially where those factors are expected to be larger than the quantitative impacts.

*Administrative and Compliance*

68. These are the paperwork and related costs of complying with the regulations, and with monitoring and enforcing compliance. Administrative costs will be incurred by both the regulatory agency and the “target” group (in the form of compliance costs) of the regulations. Compliance and administrative costs will often include both one-off (capital, systems, training, etc.) and ongoing costs.

69. Care should be taken to ensure the full costs associated with regulatory administration are identified. Some aspects frequently missed are the non-wage costs of labour, labour “indirectly” associated with the administration of the regulations and other corporate overheads, and the information and compliance costs incurred by the “target” group (i.e., the costs of interacting with government).

70. Enforcement activity will often be significant. It is necessary to be realistic about the extent of the enforcement effort necessary to ensure an adequate level of compliance with the regulations and, hence, achievement of their objective(s).

71. A comparison of the size of the identified administrative costs with the overall costs and benefits of the regulations can be a useful check on the administrative efficiency of the systems which have been designed to implement the regulatory structure.

#### *Domestic and International*

72. In assessing policy options, the only impacts taken into account are usually those that accrue to New Zealand. This objective is explicitly identified in some legislation, such as the Maritime Safety Act 1994 which provides for the Minister of Transport to promote safety at “reasonable cost”. Reasonable cost is defined as where the “value of the cost to the nation is exceeded by the value of the resulting benefit to the nation”. An exception to this approach might be assessing options for overseas aid.

73. New Zealand is a signatory to a number of agreements with overseas countries. These agreements can constrain the choice of policy options. For example, an option to restrict the import of fruit from Australia for phytosanitary reasons would need to be considered within the context of the CER agreement with Australia. This would be necessary to ensure New Zealand would not be exposed to retaliatory trade measures.

74. Agreements are entered into with other countries on the basis that to do so is in New Zealand’s best interests. Within these overall agreements, it is not uncommon for options which, by themselves are likely to produce net benefits to New Zealand, to be ruled out because they are inconsistent with those agreements. This would be because the benefit from the policy options is considered to be outweighed by the cost of no-longer being a signatory to the agreement.

#### *Avoidance of “Double Counting” Errors*

75. Although it is important to identify and include all impacts, it is also critical to avoid double counting any impact. While this appears an obvious caveat, double counting can often occur due to a failure to recognise the redistributive impacts of particular policies.

76. For example, the value of a reduction in injury costs associated with a safety regulation may be recognised as both a reduction in ACC premiums and as a reduction in its payouts. This fails to appreciate the role of ACC as an insurance scheme. The fall in premiums is caused by the reduction in payouts, with the one change flowing through into the other. To sum the two reductions would be to count the value of the reduced injury costs twice.

77. Further, it is useful to specify, wherever possible, expected costs and benefits as outcomes. For example, rather than identifying a benefit as “an enhancement to the safety characteristics of a consumer product”, the reduction in the number of fatalities and serious injuries expected as a result of the measure should be identified and assessed in preference. This reduces the likelihood of double counting. It will also give decision-makers a better sense of whether the benefits will actually be realised. For example, it may be clear that a measure will enhance the safety of a product, but less clear that it will improve safety outcomes, for example, where the product does not pose a serious threat to consumers in the first place.

#### *Resource Allocation and Distributional Impacts*

78. Resource allocation is a central concept underlying economic efficiency. For efficiently operating markets, resources are allocated optimally if prices reflect full costs. In this way

resources are consumed only up to the point where the benefit from consuming the “extra” resource equals the cost of providing that resource.

79. In these circumstances there is an improvement in resource allocation if prices and costs become more closely aligned and a deterioration if they become more disparate. Conversely, where a market is inefficient (due to public goods issues or monopoly power, for example), the imposition of taxes or other modifiers of behaviour may provide resource allocation benefits.

80. An example of a resource allocation benefit in RIS terms is that of a change to a fee (refer *Treasury’s Guidelines for Setting Charges in the Public Sector* at <http://www.treasury.govt.nz/pubs/alm/guide/guide.pdf> for further discussion on public sector charging). In the absence of market failure, if the fee is raised to a level that recovers the full cost of service provision there will be an improvement in allocative efficiency, due to the removal of the incentive for over-consumption of the formerly subsidised service. That is, facing a real set of prices, consumers will change their consumption so as to reflect the real value they place on different items.

81. Distributional impacts are the impacts a regulatory proposal will have on the distribution of costs and benefits between individuals, or between individual companies, for example. Just as high absolute fee charges will have a greater impact on small businesses than on large businesses, regulatory proposals which result in higher absolute compliance costs for low income earners will result in a higher burden than the same costs falling on high income earning individuals. Some regulations may be made primarily in pursuit of such distribution effects, or may form a significant secondary part of their impact. Clearly then, such impacts must be highlighted and their size estimated.

82. Judgements will need to be made on the appropriateness of, for example:

- a. costs and benefits disproportionately favouring or disadvantaging one group over another; and
- b. any trade-offs between small, but concentrated costs, and large, but dispersed benefits.

83. Formal cost benefit tools can be used to assess distributional impacts. For example, other things being equal, costs that fall on high-income groups should be favoured over costs that fall on low-income groups. This is because an extra dollar to a low-income household is likely to produce greater utility or welfare than an extra dollar provided to a high-income household. However, it is important to also assess the likely impacts from, for example, increasing effective marginal tax rates, and consequently the likely impact on peoples’ incentive to increase work effort or return to work.

### *Comparing Options*

84. It is important to clearly identify the base case option against which the impacts of the preferred option are being assessed. For example, is it the status quo, no regulation, a more prescriptive regulatory option? The appropriate base scenario for comparing the preferred option is frequently the status quo, that is, maintaining the current policy settings (refer para 45 above). Once the appropriate base scenario has been identified, it is important to assess all expected costs and benefits of the preferred options against that scenario. It is important to note that the expected benefits cannot, for example, be

assessed against no regulation, while the costs are assessed against a more prescriptive regulatory option.

## Techniques of “Formal” Cost Benefit Analysis

85. This section describes some of the central techniques used for developing a formal cost benefit analysis. Accepting the quantitative difficulties, a full CBA is desirable wherever a major regulation is proposed and reasonable data is available or derivable. It should be noted that only the summary or outcome of this analysis would be included in the RIS.

### *Net Present Value*

86. The result of a CBA will generally be expressed in dollar terms as a net present value (NPV). The NPV concept is essential for converting a range of costs and benefits which may accrue at widely differing times to a comparable basis.

87. The need for such a conversion arises from the simple observation that the value of a dollar received today is not the same as that of a dollar received at some time in the future. There are three major reasons for this difference:

- a. The “*rate of time preference*”. Most people prefer consumption undertaken now rather than later. Thus, a dollar available now is more highly valued than one received later.
- b. *Uncertainty*. There is necessarily some degree of uncertainty as to whether a future dollar will actually be received. Its value is lessened in proportion to the expected size of this uncertainty factor.
- c. *Inflation*. The effect of inflation is that a dollar is able to buy fewer goods in the future than at present. (NB This aspect can be ignored if all elements of the CBA are being undertaken in real (i.e. inflation adjusted) rather than nominal (i.e. actual dollar) terms).

88. The discount rate seeks to capture the sum of the above factors. The discount rate captures the extent to which a dollar is held to lose value as the time at which it is to be received (or incurred) becomes more distant. The NPV is calculated by applying the discount rate to all costs and benefits that occur in the future, then summing the costs and benefits and subtracting the former from the latter.

89. The formula to discount a value to its present value is  $(v)/(d+1)^t$  where:

(v) is the value of the cost or benefit being discounted

(d) is the discount rate

(t) is the time period. The time period is defined with reference to the discount rate. For example, if  $d = 10\%$  per year, and  $t = 2$ , 2 represents the second year. If  $d = 10\%$  per month,  $t$  would represent the second month.

90. The discount rate used may depend on the type of benefit or cost being discounted. For example, a New Zealand survey found the discount rate people apply to the value of avoiding death or serious injury was in the range 5-7 % per annum. Alternatively the

discount rate applied to government expenditure is the cost of capital to the Crown, or the government bond rate appropriate to the term of the project. This would incorporate the opportunity cost of resources forgone to pursue the proposal or project. Further, it may be possible to justify applying much lower discount rates to environmental values in the expectation that 1) as people become wealthier; and 2) the extent and nature of the environment decline, people in the future can be expected to place greater value on the natural environment.

91. Care needs to be taken in the choice of discount rates. Across government, these choices can impact on:

- the allocation of resources between the private and public sectors;
- the extent to which it is possible to support the imposition of regulatory costs on business and community interests (the lower the rate, the greater the tendency to regulate); and
- the extent to which the interests of current generations may be favoured over those of future generations.

### ***Decision Criteria, Risk and Sensitivity Analysis***

92. The final aspect of the formal cost/benefit analysis is the selection and application of appropriate decision criteria. The basic tools to be used are the NPV and the benefit/cost ratio (BC). The NPV, as noted above, represents the total excess of benefits over costs, assessed in constant dollars. The BC is the ratio of total benefits to total costs, again assessed in constant dollar terms.

93. In the case of the NPV, the basic rule is policy proposals that produce a  $NPV > 0$  should proceed. With the BC ratio, the equivalent basic rule is  $BC > 1$ . However, other decision rules can be attached to each of these basic tools. The appropriate criteria will vary according to a number of factors. For example, where there is a high degree of uncertainty as to the size and/or timing of the benefits sought, it may be appropriate that a higher requirement (NPV and BC ratio) be met before allowing the proposal to proceed.

94. There will be times when the option with the highest NPV will not be the option with the greatest BC ratio. For example:

#### ***Option One***

*NPV of benefits equals \$35 million*

*NPV of costs equals \$20 million*

*BC ratio equals 1.75 (benefits divided by costs)*

*NPV equals \$15 million (benefits minus costs)*

#### ***Option Two***

*NPV of benefits equals \$20 million*

*NPV of costs equals \$10 million*

*BC ratio equals 2  
NPV equals \$10 million*

95. In this example, the NPV criterion favours option one, while the benefit cost ratio favours option two. Without risk, or uncertainty surrounding the results of the analysis, the option with the highest NPV (option one) is favoured as this would contribute the most to public welfare, i.e., an expected gain of \$15 million against an expected gain of only \$10 million for option two. However, the greater the level of uncertainty surrounding the results of the cost benefit analysis, the more appropriate it is to weight more highly the option with the greater benefit cost ratio (option two).

96. Sensitivity analysis involves altering the main assumption(s) of the analysis to determine the extent to which the results are dependent on those assumptions. It also provides valuable information on reliability. It is particularly useful where:

- the analysis shows large absolute net benefits, but the benefit cost ratio is small; and
- there is considerable risk or uncertainty surrounding the estimates of the main cost(s) and or benefit(s).

97. Additionally, where there is considerable uncertainty, the NPV and BC calculations should be repeated using other reasonable assumptions on the value of the major impacts. A regulatory option should be able to demonstrate a positive outcome under most of the scenarios tested if confidence is to be had in its appropriateness.

### ***Limited Application of Cost Benefit Techniques***

98. Break-even (B/E) analysis can also be used as an effective tool where, for example, the likely benefits of a proposal can not be accurately estimated. Cost effectiveness is useful where, for example, government has fixed the benefits, and the only policy issue is how to best achieve that level of benefit.

### ***The Cost Benefit Break Even Point***

99. It is often easier to quantify the costs attributable to an intervention than it is to estimate the benefits. In fact, it may not be possible to derive a useful estimate of benefits at all. In such circumstances it can be informative to decision makers to estimate the cost benefit break-even point.

100. The break-even point is the point at which benefits equal cost, or the minimum level of benefit required to justify an intervention. At first brush this may appear a pointless exercise. That is, if costs equal \$16.5 million, then to say benefits must also equal \$16.5 million does not appear to advance the analysis very far. However, by:

- a. expressing the benefit required in units of the intangible value(s), e.g., lives saved; and/or
- b. running a number of possible scenarios against the estimated costs,

the technique can provide useful information on the magnitude and nature of the benefits required to justify the proposed intervention. This allows the reader to more easily make their own judgement about the likelihood of those benefits being achieved. However, it is important not to lose sight of other possible benefits. Using the above example of a

measure to reduce fatalities, serious injuries that would also be avoided could easily be over-looked.

### ***Cost Effectiveness Analysis***

101. A more limited policy tool than formal CBA is the cost-effectiveness test. Cost effectiveness measures provide an index of the *relative* cost to society of various options for promoting a particular objective (usually expressed as cost per unit of benefit). Within the context of risk regulation, for example, the task of this approach is to ascertain which policies minimise the cost of eliminating a given risk.

102. Cost effective analysis can be used on those occasions when Government specifies an objective below which it will not be willing to trade off other objectives. For example, in introducing competition to the Employers' Account of the ACC Scheme, it was agreed that claimant access to entitlements was not to be compromised by insurer insolvency. The appropriate mechanism for assessing options for achieving this objective then becomes cost effectiveness analysis. That is, the option expected to achieve the specified objective at least cost. Analysis of benefits, in this case, is not required.

103. A critical difference between costs-effectiveness and formal CBA is that, for the former, benefits need not be valued explicitly. The cost-effectiveness measure calculates the cost per unit benefit but otherwise does not assign dollar values to outcomes. The data needs for cost-effectiveness tests will consequently be less. Also, as with break-even points, cost effectiveness analysis does not easily deal with multiple objectives.

### ***Presentation of Results***

104. Finally, in presenting the results of the CBA, it is important to document the methods used to calculate the costs and benefits, including:

- a. all major assumptions;
- b. deficiencies in the information used;
- c. the scope of the analysis;
- d. possible estimation biases;
- e. any major intangible costs and benefits; and
- f. any other information considered necessary for a third party to be able to assess the analysis objectively.

## **Public Consultation**

### ***What is Consultation?***

105. A key aim of systematic public consultation is to make information available to the public, to listen to a wide range of interests, to obtain more and better information from affected parties, and to be more responsive to what is heard. This allows for better information for efficient decision-making.

106. Consultation is not synonymous with consensus. It is, however, a process that permits and promotes the two-way flow of ideas and information among all sectors of society and between them and the government. Effective consultation is based on principles of openness, transparency, integrity, and mutual respect. It requires that:

- a. key information be provided to those being consulted;
- b. those being consulted are in a position to influence policy formulation;
- c. sufficient time is allowed for a considered response to be compiled by those being consulted;
- d. the agency undertaking the consultation has the capability to interpret and use the information derived correctly, for example, consultation with iwi groups will require an understanding of Maori perspectives and issues; and
- e. the information gained is considered in good faith, that is, the advice obtained cannot be discounted without good reason, and must be sought prior to final decisions being taken.

### ***Benefits of Consultation***

107. A well designed and implemented consultation programme can contribute to higher quality regulations, identification of more effective alternatives, lower administration costs, better compliance, and faster regulatory responses to changing conditions. Just as important, consultation can improve the credibility and legitimacy of government action, win the support of groups involved in the decision process, and increase acceptance by those affected.

### ***Costs and Risks of Consultation***

108. Effective consultation is difficult to carry out and can be costly in terms of time and resources. Less well organised, diffuse, or smaller interests can easily be left out. Information received from stakeholders may be one-sided, of poor quality, or irrelevant to the issues at stake. Consultation can also occur too late to allow affected groups to influence key decisions such as problem definition and whether regulation is needed.

109. Invariably, the costs of consultation are incurred in the short-term, while the benefits emerge over the longer-term.

### ***Forms of Consultation***

110. There is currently a wide range of different consultative approaches. These include departmental advisory bodies, secondment of personnel from the private sector, public discussion papers, multi-stakeholder negotiations, focus (consultative) groups, targeted briefings, workshops, questionnaires, public notice and comment, hearings and select committees. The appropriateness of each approach will depend on the issues under consideration, the nature of the group being consulted, and the resources, including time, available for undertaking the consultation.

## ***Consultation on Sunset Clauses***

111. Sunset clauses provide for the automatic repeal or review of legislation (principally regulations) at a pre-specified time, or on the occurrence of a specified event.

112. The primary purpose of sunset clauses is to provide a strong incentive for the systematic review of legislation to ensure it is the most appropriate mechanism for achieving the objectives to which it is targeted. Some regulations will benefit more from regular review than others. For example, to accommodate the rate at which technology is reducing the natural monopoly characteristics of telecommunication services, the United States now provides for telecommunications regulations to be reviewed every two years.

113. Sunset clauses also provide clear signals on what will be reviewed and when. This makes it easier for stakeholders to prepare, and subsequently participate in the review. This approach also helps to circumvent criticism that reviews are being “sprung” on stakeholders.

114. It is for these reasons that, in consulting on regulations, officials should explicitly explore with stakeholders the contents of any sunset clause provision.

## **The Treaty of Waitangi, and Maori Policy**

### ***The Treaty***

115. The Treaty of Waitangi is a founding document of Government in New Zealand. Article 1 provides for a transfer of sovereignty (*kawanatanga*) from Maori to the Crown. Article 2 provides for the protection of tribal property (*taonga*) and the exercise of self management (*tinio rangatiratanga*) by Maori. Article 3 provides that Maori acquire the same citizenship rights (*oritetanga*) as British subjects.

116. Treaty policy is about the Government’s *relationship* with Maori. It is governed by concepts that include good faith, fiduciary duty, opportunity for redress, co-operation, partnership, and mutual respect. It is also about promoting the durability of settlements, and minimising the risk of creating new grievances.

### ***Maori Policy***

117. Maori policy is about establishing and achieving the Government’s objectives for Maori. An overarching objective might be to foster an environment within which Maori are able to realise their full economic and social potential.

118. Of particular importance in developing Maori policy is an understanding that:

- a. Maori will, in certain circumstances, have different values that will need to be taken into account in the policy development process. A simple example is a policy that provides for a Maori woman to be able to take her after-birth away with her when she leaves hospital, should she so choose.
- b. Alternative or non-mainstream service delivery will sometimes achieve the best results for Maori. For example, *kohango reo* and *marai* based health care may be the best way of contributing to the Government’s health and education objectives for Maori.

119. It is important that these dimensions of Maori policy are kept to the fore at the different stages of policy development. Also key is ensuring policy development is informed of Maori perspectives through effective consultation, facilitated by strong communication links with the Maori community. Also key is ensuring policy development is informed of Maori perspectives through effective consultation (refer ***A Guide for Consultation with Maori*** at [http://www.justice.govt.nz/pubs/reports/1998/maori\\_consultation/index.html](http://www.justice.govt.nz/pubs/reports/1998/maori_consultation/index.html) for more information on Maori Consultation).

## Appendix 1 - Problem Identification

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### Markets and Market Failure

In general, decision making is considered best left to private individuals, who have the best information on their needs. Further, the operation of markets is considered the most effective means, on the whole, of ensuring least cost production, and that resources go to their highest value use, thereby maximising their contribution to the economy and public welfare. However, in some circumstances markets may fail to do this (see Box 1).

#### Box 1: Common Market Failures

<i>Externalities</i>	<p>Externalities are negative (or positive) effects arising from a transaction, which fall on third parties. As a result, they may not be taken into account in production decisions, and too much (or too little) may be produced. An example of an externality is pollution, emitted as part of a manufacturing process, the cost of which does not fall on the manufacturer.</p> <p>Governments may choose to use economic instruments to ensure that prices include the cost of the externality, or technical standards so that less of a negative externality is produced.</p>
<i>Imperfect competition</i>	<p>Where barriers to entry into a market exist, producers may be able to set prices higher than competitive levels, and/or restrict output. Governments may wish to intervene to prevent this (for example, through implementing anti-trust laws).</p> <p>Competition problems may also arise in the case of natural monopolies. A natural monopoly exists when one firm can provide the entire market demand at a lower cost than two or more firms. For example, electricity and gas transmission networks tend to be natural monopolies for any given geographical location. It should be noted, however, that either breaking-up or over-regulating a natural monopoly might lead to higher costs to consumers.</p>
<i>Information problems</i>	<p>Where producers or consumers do not have full information on which to base their decisions, this can lead to poor outcomes. For example, if consumers do not recognise high quality goods or services this may lead to lower prices, thereby causing high quality suppliers to exit the market. Alternatively, it may allow for producers of poor quality goods or services to “free ride” on the good producers, to the detriment of the market.</p>