James, Gary  
Thanks everyone might maybe get under way now. Welcome. I really appreciate you taking the time to join us for this stakeholder workshop on minimum energy performance standards for commercial ice makers. Really appreciate you taking the time out of your day to join us for this discussion. When we do these public consultations I find there’s a lot more value, lot more interest and we get a lot more out of it when we have these discussions, rather than just publishing the paper and waiting for submissions it gives an opportunity for you to ask us questions to discuss issues in more detail, and gives us a good understanding, a better understanding of what the issues are for everyone. Before going any further, I just like to acknowledge the traditional owners of the various lands on which we are meeting today. In my case, I am on Ngunnawal country, and I pay respect to the elders past and present and extend that respect to all Aboriginal and Torres Strait Islander people participating this online workshop today.

James, Gary  
So thanks again for joining us. I'm probably not known to most of you. My name is Gary James. I'm in the Commonwealth Department of Climate Change, Energy, the Environment and Water. Fair bit to say there. I work in what's called the GEMS program, the Greenhouse and Energy Minimum Standards Program, which operates under the Act of the same name. And it's the Act that actually sets the requirements for minimum energy performance standards for various appliances, the equipment and the labels that you'll see on fridges and stores and things like that.

James, Gary  
With me today is my colleague Melody Coutman and also our consultant working on this project, George Wilkenfield. Melody and I will be running the workshop in the sense of running chats and doing the administrative stuff behind the scenes and George will be doing most of the talking. George has done a hell of a lot of work on this project. He's the one who's done most of the, we’ve got a few people joining. He's the one who's drafted the consultation RIS document we published about two weeks ago. And so is the expert on what we're proposing to do and how it will all work.

James, Gary  
Before we go any further, just a couple of housekeeping things. Please keep your microphone muted when you're not asking a question or responding or participating in the discussion. George will run through the slide pack, the presentation we've got. You'll be able to ask questions at the end of that presentation, but also feel free to ask questions in the chat. Melody and I will track that, and we'll use those questions at the end of the session. We're also recording the workshop. That's to enable other people who aren't able to make it this morning to, you know, to at least see and hear what was discussed. A link will be provided on the consultation web page for people to watch the recording on Vimeo, for anyone who's unable to make it, we’ll also be circulating a copy of the slide pack to everyone who joins us this morning.

James, Gary  
That’s probably enough for me. I'd like to hand over now to George Wilkenfield, who will present on the consultation RIS. Over to you.

George  
OK. Thanks, Gary. And I would like to say, welcome to everybody. I'll leave my camera on at the beginning just to introduce myself, but then I'll turn it off and we'll go to the slide pack. Gary will be operating the slides, so bit of software complication that my end, so I'll be talking for quite a long time I'm afraid. But the good news is that if you haven't had a chance to read the document, you'll have a pretty good idea of what it contains at the end of my talk. Please hold questions till afterwards. There's quite a lot of material that I'll be going through, so hopefully you may find out that many of your questions will be answered along the way. So, Gary, I'll turn my camera off. And Gary, if you can put on the slide pack, please. OK, I can see it. A good start. Uh, OK, that's the intro. Next, next one please, and we'll get into it.

George  
OK, well, I'm going to cover for a start, the background to energy efficiency regulations. Some of the people here may have had personal experience. If you come from the commercial refrigeration industry, then you will also have had some exposure to this through the refrigerator cabinets. But I'll give a little background to the structure of energy efficiency regulations, a little bit about the equipment energy efficiency program and then we'll get into the recommendations and the analysis regarding commercial ice makers and I'll cover the definitions and types of ice makers and there's a link, of course, between the technical definitions and what regulations and standards have to say about definitions and types.

George  
The rationale for doing this kind of thing is what is called market failures. Governments tend not to want to intervene in markets for any product without evidence of market failures. I'll be talking a little bit about that and then the options for increasing energy efficiency through regulations, we've done, it has to be done a certain kind of way. So, I'll also be presenting it in a fairly formulaic way. We projected the costs and benefits of proposing to regulate commercial ice makers. And then finally, we'll get down to probably what you're most interested in is the regulatory proposals. What governments are considering to do and when they are considering to do it. And we reiterate at the end how you can participate in the consultations, and I will emphasise at the beginning and will do so again at the end, that the document that's been circulated is what's called a consultation, regulation impact statement and I'll be outlining at the end how this fits into the entire process. So, I'll emphasize that this is the beginning of the process, and by no means the end of it.

George  
Next slide, please, Gary. As Gary said, the regulatory mechanism for doing anything if it is to be done in Australia, it's the GEMS Act and the GEMS Act gives the Australian Commonwealth Minister the power to make what's called determinations for various products and there are many determinations already in place and we'll talk about that a little bit later. But the Commonwealth Minister has the powers to, in these determinations, set rules for energy labelling and also for minimum energy performance standards for the products covered by that determination. Some determinations only have labelling. Some only have minimum performance standards, and some have both.

George  
Now, New Zealand is also a party to the same arrangement that does so under its own legislation. And that's the Energy Efficiency (Energy Using Products) Regulations 2002. The mechanism, the legal mechanisms are different, but the aim is to ensure that the same outcomes and the same rules are enacted in both countries.

George  
Now at the moment over 23 products, depending on how you categorise them, but the number at the moment is usually 23 regulated for labelling, MEPS or both, and they cover residential, business and commercial applications. The full list you can see on a website, energyrating.gov.au. So, if you haven't gotten there to date, we advise you to have a look at that because it gives a very good analysis of all of the rules covering all of the products currently underway.

George  
Next one please. Now the regulations are enacted through the two Acts, one in Australia and one in New Zealand. But the development of products for covering in the regulations is managed by a committee of officials. These are known as the Equipment Energy Efficiency or E3 committee, and this has representatives from the Commonwealth Government from all of the Australian States and Territories and from the New Zealand Government and New Zealand representation is managed through EECA.

George  
As I say, there are 23 products already regulated, but the E3 program has got an ongoing process to regularly review the outcomes not just for the products already covered by monitoring the market and seeing how regulations affecting those products, but also looking at products not yet covered. And the criteria for looking at groups of products, there's a long list of criteria, but one of the important ones is the potential for energy saving in that particular group of products and also to look at whether the market at the moment for the way those products are supplied, designed and purchased comes near the optimum of energy efficiency in that market.

George  
So essentially the triggers for looking at a product are that there has to be a reasonable prospect for saving energy and greenhouse gas emissions through regulating that product for energy efficiency. And there has got to be a rationale that is based on the understanding that the market at the moment is not delivering the optimum outcomes. The process for analysing this is very well established. The first step is to prepare a consultation regulation impact statement, which is a document that's been circulated and that has to go through a number of stages dictated by, it used to be called the Office of Best Practice Regulation in Australia, I think it's been renamed, but essentially part of the Department of Finance that sets out a prescription for the things that have to be looked at in this consultation RIS. The next stage is we hold a public information session which this is, and we invite submissions, which at this stage of the process invited up to the 12th of June.

George  
After that, the Department with its consultants, in this case, my company, will analyse all of those submissions and, if a recalculation or a revision of recommendations is required, we will prepare that in a Decision Regulation Impact Statement and that document goes to Energy Ministers, all of the State, Territory, Commonwealth and New Zealand Energy Ministers will receive that Decision Regulation Impact Statement being of course filtered through a number of bureaucratic steps and if accepted, the Ministers will decide to implement a GEMS determination Australia and, if approved by the New Zealand cabinet, a matching regulation in New Zealand. So that in short is the process.

George  
Next one please. So, getting now down to ice makers in particular. It may come as a surprise to people to learn that this is by no means the first time that the E3 committee has looked at this product and it was last reviewed in 2004. I think the document is still retrievable, but the main finding is the document summarised in the current regulation impact statement. In 2004 the E3 committee looked at that. I was not, by the way, involved in that particular exercise, a number of other consultants were. But the outcomes of 2004 evaluation was that it did actually recommend that MEPS be introduced for commercial ice makers. At that time, there was no Australian or New Zealand standard for testing the products and that's obviously an essential building block of any minimum standards process. There has to be a published energy test. There wasn't any at the time, so the recommendations led to the drafting of AS/NZS 4865, which is eventually published in 2008, and I'm assuming that everybody on this call is familiar with the contents of that particular standard, and if not, the main outcomes or the main points of that are summarised in the consultation RIS.

George  
The title is performance of commercial ice makers and ice storage bins. Part One is the test methods for ice makers. Part 2 is a test method for ice storage bins and Part 3 actually contains the MEPS levels for ice makers and bins. This three-part structure, multipart structure is what used to be standard for all of the Australian and New Zealand standards that were called up in determinations. I think that's changed a little bit, but the principle is still the same. Part One is the test, but the actual MEPS, Part one will give you a number obtained under a physical test for things like kilowatt hours per 100 kilograms of ice production. But that only gives you the results of the test. It's Part three that says that the minimum acceptable standard is, let's say, 14 kilowatt hours with this particular kind of ice maker and anything greater than that is not permitted. So that's why there are different parts of the standards.

George  
The 2004 analysis also envisaged that MEPS would be introduced in 2009, but this did not occur. I did try to examine the reasons why this might have happened, but there's no single outcome. I think what happened was that there were changes of government and always when there is a change of government, governments change their priorities and the focus moved on to other products and other programs.

George  
However, since 2004, you may be aware that other countries have introduced minimum standards for ice makers. The main one, and the one with some global influence, is the United States. The United States has actually got two types of minimum standards for ice makers. One is the minimum standard operated by the United States Department of Energy, which says that you cannot sell legally a commercial ice maker in the United States if it exceeds the certain energy consumption per kilogram of ice. And in addition to that, there's an Energy Star program which gives a special certification to those products that perform at the better end of the market. So, the United States Department of Energy sets a minimum standard and the Energy Star program in the US rewards a product which perform much better than the minimum standard. And as people will know, the US standards are based on US tests, and these are the ones ANSI/AHRI 810 and ANSI/ASHRAE 29. And once again, the impact of those tests and how they're structured is covered in the RIS.

George  
Next one, please. So, this project is at the moment led by the Commonwealth Department with which Gary and Melody are involved. But I should give a credit to the NSW Department, well the Office of Energy, they’ve also now been renamed, who managed the project up to, I think the middle of last year, and then I actually worked as consultant with them. So, I think I will have talked to some of the people on this call in association with my engagement with the NSW Department. So, in case you were wondering, this is still the continuation of exactly the same project, but for administrative reasons, the Commonwealth is now managing the project. And I've been involved with the project since early 2020 and it was slowed down as everything else has been by a couple of years during the COVID pandemic. And so we are essentially just picking up the momentum now from exactly the same project we started in 2020.

George  
So this presentation will summarise the document. So, if you haven't read it, you'll have a better understanding of it. And just to remind people, again, if you have things that you really want to submit formally after listening to what I have to say today, please do so. But it has to be in writing by June the 12th.

George  
Next one please. So, the first issue we have is what is a commercial ice maker. Now we did an analysis of the market and found that ice makers on the market were in some cases very small tabletop models that didn't even have a plumbing connection, all the way up to multi-ton per day commercial ice makers that make bagged ice or ice for food production or ice for fishing boats or whatever. So, we had to develop a definition and the definition that we propose is that at the lower end, a commercial ice maker must have a fixed connection to both a potable water supply and to a waste connection.

George  
So that excludes all manual fill ice makers, which we consider residential. Now at the top end it gets a little bit more tricky, but we're proposing that the upper level of a commercial ice maker is a production capacity up to 1000 kilograms of ice per 24 hours, with the important caveat that this capacity must be measured under the AS/NZS 4865 test and larger units are industrial. The test conditions under 4865 is 32 degrees ambient and 21 degrees Centigrade. Yeah, 30 degrees ambient and 21 degrees potable water supply.

George  
So we know that at the moment, you may not have that information for every model that you manufacture or import or handle. But this information should be obtainable and that will be necessary for you to obtain to determine whether a product meets the threshold. And commercial ice makers below the one-ton threshold are typically used in food service industries, pubs, hotels, catering, hospitals and amenities. And we know that ice makers are further categorized by machine configurations, ice type and batch versus continuous production.

George  
Next one please, Gary. Now this picture was included in the series basically, for laypeople who may not know what ice comes out of machine looks like and what different types there are, so I won't belabour this because everybody on this call I think is pretty familiar with different ice types. But the critical thing is that as far as efficiency standards goes, the US ice makers make a difference between batch production which is shaped ice, and flaked and crushed ice. But we'll get back to, at the end of it we'll get to how we proposed the rules differentiate between those two ice making types.

George  
Next one please. And these are the main configurations which will come as no surprise to people on this call. There are self-contained units, there are modular units which are designed to stack over ice storage bins, and there are ice makers that dispense. All of those would be covered by the regulations. All of these types or configurations would be covered.

George  
Next one please. The market, there's no centralised data collection on the size of the market so we had to do quite a bit of analysis involving talking to the manufacturers and importers. There's not that many manufacturers. In fact, there's only one Australian manufacturer still left, and that’s Stuart Ice. Almost all of the products on the Australian market and all of the markets in the New Zealand market imported are manufactured in other countries.

George  
But we got all of the import data from the ABS and from Customs and we analysed the import data and did a lot of cleaning up to remove things like ice cream makers and other things which share the same import codes. And we've got a pretty good handle, we think, on the size of the annual market. So, in Australia about 10,000 commercial ice makers within the categories, 1 ton or less and plumbed are reported each year and the total installed stock in Australia is about 60,000 units. The largest markets in Australia are Queensland and NSW and then Victoria, WA, and then the other States are quite a bit behind. The New Zealand market, we estimate about 1500 to 1700 units sold each year and installed stock about 10,000.

George  
As I say, there's only one Australian manufacturer. We did actually talk to 15 companies involved in the market altogether, and we estimate that between them they import about 92% of the Australia and New Zealand market between them. So we're fairly confident we have a reasonable handle on the market and I say majority of the market supplied by imports and the countries of origin, Italy, Spain, China, UK and the USA and we estimated the annual energy use of commercial ice makers in Australia and New Zealand, about 400 GW hours of electricity per year in Australia and about 55 GW in New Zealand. And for comparison, I mean, these are just numbers. In Australia commercial ice makers consume more than all of the stock of household clothes dryers each year and clothes dryers are subject to energy labelling and minimum performance standards. So, this is, by the criterion of does this product use enough energy to merit consideration by the E3? The answer is yes, it does.

George  
Next one please. And supply channels, people on the call will know all about this, I won't belabour it. But there's, with characterising supply channels in different ways and there's more detail on this in the document, but clearly there are importing companies, some of them set up in the 1940s and 1950s with long standing ties to the global brands and some of the companies have shifted the brands they import over time, in some cases because they've made contracts with other suppliers and in some cases the supplies themselves have reconfigured their businesses and brands have been acquired by other brands and so on.

George  
And these supply channels sell direct to end users, the pubs and clubs and hotels and so on, as well as the secondary distributors. There's also a group of commercial refrigeration specialists who tend to retail a range of brands supplied by the major importers, and some of them may also import products themselves. Now I’ll emphasize that regulations if they are implemented, will apply to the product. So, any organisation that deals with the product, there'll be a legal obligation on them to ensure that the product supplies complied with the standards.

George  
Then there's commercial kitchen equipment companies. Then there's general online retailers, and the online retailers actually don't have a show of presence. And our analysis of their offering is that they mainly deal with manual fill residential ice makers, which would not qualify as commercial ice makers, but many of them do import one or two low price so-called commercial models which are invariably imported from China and those products would also be covered by the regulations. And I say we believe we have a reasonably good handle on the market, but the purpose of this consultation is that if we miss something, then please let us know. Or if we’ve got something wrong, then we definitely would like to have you tell us what we've got wrong.

George  
Next one, please. And we've also asked what the factors are in the purchase decision and the message that came back to us from the 15 suppliers that we've interviewed. And we also tried to get some direct information from some of the large users and purchasers of ice machines as well. And that was done via, I mean, if you recall I said that this project was initially started by the NSW Office of Energy. They managed this in parallel with looking at commercial catering equipment, fryers and commercial dishwashers and so on. And they actually sent out a questionnaire to a number of buyers of commercial equipment and asked them what their criteria were for purchasing all these products, including ice makers. So, we've got information on this purchase decision from both what the suppliers think the customers want and I won't exaggerate the size of the sample, but also from some of the large buyers.

George  
And clearly as you will know, and the first criterion is ice type, I mean am I supplying a clear ice in drinks, am I supplying ice to display seafood etc, etc. So, ice type is the first criteria. Next is the physical size of the product. Where can I, is this an undercounter machine that has to be in a bar space? Is it replacing existing machine and it's already got joinery all around it? Is it going into a storeroom? Is it refrigerated or is it an air conditioned or non-conditioned space, physical size. And then it's output capacity.

George  
Once you satisfy those criteria, most customers will want what's the maximum kilograms for 24 hours I can get for my money or for the space that it fits. And this, as you will know, is where it gets tricky because most models are marketed on a headline capacity without mentioning the rating point at which the capacity is measured. And a lot of the European machines, if you dig down, if they give information at all will generally give capacity at a very favourable conditions quite often at things like 15 degrees ambient and 10 degrees water. So, you can produce a hell of a lot more ice under those conditions then, under the standardized conditions that we're proposing. And in fact, some of those outputs, if it's a 75 kilogram machine, for example, that was determined at those favourable outputs. It's quite often included in the actual designation and the model number of the machine, so that's a complication.

George  
Then the next issue for buyers is the configuration. If there's a lot of ice, it's going to be met by a modular unit. And if room ventilation or noise is a problem, then remote condensing might be required. Then obviously how much ice production can I get for my money? And then warranty or brand reputation, which is usually more important for professional than repeat buyers. Let's say your cafe that’s buying an ice maker first time probably won't pay much attention to anything other than would it fit and how much does it cost me. But you have noticed that energy costs and that is how much I'm going to pay for this per year and how efficient it is are not major factors in the purchase decision. And even if it were, it's very difficult for buyers to easily access reliable information or efficiency data. When we've asked buyers about, would this information be valuable to them, they invariably support not just wanting information but wanting minimum performance standards so that they can be assured, have at least getting a minimum standard of efficiency. So, buyers, to the extent that we've surveyed them, have certainly indicated that that's what they want.

George  
Next one please. OK, now there's an analysis of the lifetime costs of operating ice makers of various configurations. And this is in the document, so I won't go through it in detail, but essentially each of these bars represents different types of ice makers. The first one for example, is the modular batch type air-cooled. So, if you look at a typical 8 to 10 year operating lifetime and you work out the net present value that is a discount for user discount time related financial flow discounting for the energy that will have to be purchased to operate that product over its lifetime that you can do the same with water. Then if you look at the first bar, the light blue at the bottom represents the initial capital cost of buying the machine. The larger slice of the bar is the net present value of the electricity that will have to be purchased by the owner to operate the machine, and the grey section at the top is a net present value of the potable water that will be purchased. And these numbers were calculated for Australia, looking at weighted average of the value of commercial electricity tariffs and commercial water prices and also to the extent that we could get, and we got about 180 different datasets on advertised prices for the ice makers themselves. So that's a reasonably good data set.

George  
So as you go along, you can see that in all cases, except for a couple, the ownership costs are dominated by energy costs. The two oddities, which are the 3rd and the 4th bars, water-cooled ice makers, where the condenser is water-cooled rather than air-cooled, and here the cooling water that is, if it is a once through cooling water and not recirculated, and if it's purchased at commercial prices, would be as much as the energy.

George  
But we know that really that rarely ever happens in actual price, because people who put in water-cooled condensers tend to be, let's say large hotels or convention centres where there is a chilled water recirculation system. So, it's not a once through and discharge use of water, but it's recirculated water. So that's just a theoretical condition that almost never exists in practice. But the message from this graph or these graphs is that if a buyer actually knew ahead of time what the breakdown of lifetime ownership costs would be, there would be much more concerned with the energy efficiency and the energy running costs of the ice maker then they seem to be at the moment. So that suggests that there is a deficiency in the market or in the understanding of this product by the market.

George  
Next one please, Gary. So, in the jargon that we need to use in this kind of analysis, that is prima facie evidence of a number of categories of market failure. The first market failure category is information asymmetry that the manufacturer or the supplier knows far more about the energy efficiency of the product than the buyer does, and in this case I would say there's actually a three part information asymmetry that the manufacturer is the only entity in the supply chain that has or is capable of getting the full information. The importer or the intermediary, which most of you people represent, probably could have access to the information, but not easily, and the endpoint of the supply chain, which is the buyer, has almost no access to the information. So, this is the market failure or information asymmetry. There are negative externalities, now in economic speak that means that the amount of energy that is used, because it's generated using fossil fuels, creates greenhouse gas emissions, which are not actually priced into the cost of energy. At least, well, they were briefly priced into the cost of energy some time ago in Australia where there was a carbon tax, but at the moment there is no carbon tax. So, in fact, greenhouse gas emissions are not included in the price of electricity. So, it's the market failure of negative externality. And the third market failure, which in fact encompasses the other two, is that there's irrational market behaviour or it's called, economic speak again, bounded rationality, is that the buyers in the market make decision based on a limited consideration information and undervaluation of some of the economic cost of what they're buying. The upshot of this is that users and the community as a whole is significantly worse off than if they were aware and responsive to energy information and the result is an inefficient allocation of resources and higher negative externalities across the economy, people, the society as a whole pays far more than it should for the service of obtaining ice and creates more greenhouse gas emissions than is necessary. So, it meets the criteria for intervention by the government to correct for these market failures.

George  
Next one please, Gary. Look, I'll just pass through this because there's just summarised what I said. Next one please. So, we looked at then a number of options of what intervention could look like. And this is increasingly stringent levels of minimum performance standards. Now we think that the least stringent level that could be applied are those that were essentially envisaged back in 2004. So, they're not particularly ambitious, if that's what they look like 20 years ago, but nevertheless they are incorporated in the table in Part Three of the AS/NZ test 4865. If you don't have a copy of the standard, don't worry because they are tabulated in an appendix of the consultation RIS, but the lowest level of minimum standards that we looked at, the MEPS levels recommended 20 years ago. Now we know that there's been technical development in the efficiency of ice makers since then, and we know that a significant number of ice makers are already more efficient than that level. So, it would not have much impact on the market unless we implemented a more ambitious level. Now the next most ambitious level was also incorporated in that standard, and that's called the high efficiency level. So that's our second MEPS level is the high efficiency level in the standard. But then we went beyond that, and we looked at the United States Department of Energy MEPS levels.

George  
If you recall, I mentioned that the United States has got two efficiency levels and we looked at the Department of Energy minimum levels and I'll draw your attention to the fact that they differentiate between batch type and continuous ice makers types, which our standard does not, at least not at the moment. So that's the third most stringent level and we also looked at the most stringent level anywhere in the world, which is the US EPA Energy Star level.

George  
Now that's not mandatory in the US, but it's certainly in the public domain and we also analyse what we've the impacts of adopting that which is the most stringent level anywhere in the world that is known in Australia and New Zealand. And all of these levels, all of these MEPS regimes are based on similar test conditions of 32 degrees centigrade air temperature and 21 degrees centigrade water temperature, or in the United States, the Fahrenheit equivalents of those. And all the tests are very similar. In fact, in many cases they are interchangeable, and many people here will know, but I'll just point out now that the ISO is about to publish its first ISO test standard for commercial ice makers. It's already been, the final drafts have been internally approved by the Committee, of which I am a member as it happens. It's been balloted and I'm pretty sure that's going to be published sometime in the coming year, and the ISO test uses exactly the same test conditions.

George  
Next one please, Gary. So just to illustrate what we're talking about, this is a diagram of how the MEPS levels would apply for one particular type and configuration of ice maker. This is as it happened, self-contained ice makers. Now across the bottom of this we've got the ice production rate kilograms per 24 hours and on the vertical axis, this is the maximum allowable energy consumption in kilowatt hours per 100 kilograms of ice, and the top line is the least stringent of the MEPS levels that we're looking at, which is the MEPS level in 4865. The red line below that is the high efficiency level in 4865. The green line below that is the US Department of Energy MEPS level and the blue line before that, below that, is the US EPA, the level which is not a MEPS level, but if an ice maker in United a can achieve a kilowatt else with 24 hours at that line or below it, then they can apply for Energy Star certification and there's quite a few such ice makers on the US Energy Star website.

George  
The dotted green line, that dotted blue line is an elaboration of the US standards. The solid line is the batch level, and the dotted line is a more stringent MEPS level that applies to continuous ice makers. So, in the United States, a flaked ice maker for example has to achieve less energy in its production of ice than a batch ice maker, which is a reasonable provision. But however, that differentiation does not exist at the moment in the Australian standard.

George  
OK, off we go. Next one please. So how do we decide, between these four potential MEPS levels? The procedure is also fairly standardised. We look at setting each of those MEPS levels in turn, and we project the energy use of all ice makers that would be sold after the MEPS levels come into effect. And it's a conceptually simple, but mathematically fairly complicated method of analysis which is embodied in a very large spreadsheet. But we project the total number of ice makers that will be sold in each Australian state and in New Zealand over the coming years, we'll work out what their average size will be, we’ll work out what their average annual production of ice will be and we always check against what we know about the existing market such as it is. So, we calibrate it against existing data at the extent possible and we work out what the net present value under a discount rate that is prescribed will be to date of all of the energy that all of those ice makers will use. If we do nothing, if we impose the minimum standard one, minimum standard 2, minimum standard 3, minimum standard 4. And in addition to that, we work out a net present value of fee reductions in peak demand. The average peak demand, of course, will reduce if all of these ice makers using less energy that is separately given of monetary value and also look at the net present value of the greenhouse gas emissions that will be avoided.

George  
As I said before, this value at the moment is not signalled in the electricity tariff, but we can assign a shadow price to it. And the policymakers in both countries have prescribed for us what the shadow price values we are to use. And those are specified in the CRIS as well. So that's the projected benefits, that gives us four sets of values, and it runs through hundreds of millions of dollars, as it would, of projected benefit. But that's only half the ledger. We also have to estimate the projected costs of doing this and these are the categories of costs that we take into account.

George  
Now, at the moment ice makers do not have to be tested to any standard. But if we implement or if the Government implements these regulations, these will have to be tested to the prescribed standard and the test laboratories, if they exist and we have actually begun to talk to some of them. And I should say in parentheses that the NSW Department actually commissioned a commercial laboratory in Australia to undertake a number of tests to 4865. So, we know that the test works, that it’s repeatable and we have a fair idea of what it would cost commercially as well. So, we've incorporated those commercial testing costs into the cost part of the ledger. The Government also would have to administer the program, and we've added those costs in as well. And anybody who's dealt with the E3 program knows that if a product is subject to MEPS, it has to be registered with the regulator. In Australia, the regulator charges a fee for that, which is several hundred dollars per model, so that also has been costed into the analysis.

George  
In New Zealand, the EECA does not charge a registration fee, but the cost is actually covered by the taxpayer, but they’re costs nevertheless, and they go into the analysis. But the largest cost by far is the extra cost of making ice makers more efficient. If we did not impose any regulations at all, then the market would continue to charge the client sale price that is charging today for commercial ice makers. So that's our business as usual case, but we know that if we push or as we push the minimum standards higher, then an increasing number of existing ice makers would actually be excluded from the market and would have to be replaced by ice makers with better refrigeration systems, with alternative refrigerants, with better control systems. And there is a very weak correlation between cost and efficiency. So, we've built in that correlation into the analysis. So, we fully expect the regulations, if they are implemented, to increase the purchase price to users of all commercial ice makers. But we balance the benefits and the costs, and we come out with an analysis.

George  
Next one please, Gary. OK, well this is just some of the outcomes all of these graphs are in. The top line here is the annual electricity consumption in Australia of all of the ice makers that would be purchased after the standards are implemented. So, this is not the whole stock, this is just new ice makers purchased after 2004, and for modelling purposes we estimate, or we project that the minimum standards will take effect for all ice makers supplied from December 2004. At the moment that's the recommended or projected time of implementation. But there's a number of questions in the consultation questions at the end of the RIS that directly ask for feedback on whether that data limitation rotation is feasible.

George  
But nevertheless, for modelling purposes, we have to assume a starting date and we assume that all products sold from that date will comply and that's why the graph starts to diverge in 2005. If nothing was done, the total energy consumption will be the top line and for each increasing application of MEPS or increasing stringency of MEPS the line lowers. So, at the next line down, the orange line, would be the implementation of the present MEPS levels recommended in or included in the standard, in the Australian standard. The next line down is the high efficiency levels included in the same standard. The next line down is actually two very close lines. I'll tell you why in a moment, is the adoption of the United States MEPS levels and the bottom line would be the adoption of the Energy Star standards as a MEPS level, which we’re not advocating by the way, that would be, for reasons that I'll say in a minute, we believe to be too risky. But coming back to the reason why there's two lines very close together in the 1-2-3 fourth line down is because oddly enough, for some configurations, the high efficiency level in the Australian standard is slightly more stringent than the US DOE MEPS level, just for one or two configurations of ice makers. So, we're advocating that if the US DOE MEPS level is adopted, then those configurations where the high efficiency level in the Australian standard is already more stringent should stick with the more stringent MEPS level.

George  
Next one please, Gary. And this looks at the whole stock of all commercial ice makers in Australia. If the MEPS levels were adopted, the previous slide only looks at new ice makers sold after 2024. This one looks at the whole stock of ice makers and once again it's the same procession of lines as before, so I won't belabour that, but obviously the consumption of the entire stock of ice makers would drop substantially if increasingly stringent MEPS levels were adopted.

George  
Next one please, Gary. And this is simply the GW hours saved. This essentially is the area between those lines and in the other graphs. So, we project that, let's say if the US DOE MEPS levels were adopted, then the total amount of GW hours saved in 2007, 2037 in Australia would be nudging about 140 GW per annum. That's on the right-hand side, second line down. So, the reason it flattens out is because after 2013 or so or 2020, 2033 or so, every ice maker would already have been subject to the MEPS level. So then from that point on, efficient ice makers are being replaced by efficient ice makers. So, you're not getting any further or not much further improvement in the total stock efficiency. So, the total stock efficiency climbs steeply and then flattens out because of this replacement effect.

George  
If you could just jump over the next three ones, please, Gary, because there's just, keep going, keep going, keep going, keep going, keep going. Stop here, please. One back please. OK, the ones we skipped over are the counterparts of the Australian analysis for New Zealand. So, they're all in the document, but this is for New Zealand as it happens. But this summarises the total impact of each of the MEPS options as a set of bars. Let's just go to the or look at the 1-2-3-4 set of bars, which is option 3A, adopting the US DOE MEPS levels with the, as I said, the selected MEPS means keeping the higher ones for Australia. The first bar is the costs, and the blue part of that cost is the increase in the average price of ice makers because we're forcing efficiency increases. The tiny yellow bit of the top of that bar is the testing costs and the administrative costs. And that's just to give you an appreciation of the fact that the analysis actually thinks that the increase in commercial ice maker prices will be by far the biggest slice of the cost of the community of adopting this measure. The bar to the right of that is the benefits and the grey benefits, are the value of the electricity saved. The little yellow bit is the value of the CO2 emissions saved and the blue bar at the top is the value of the demand reduction saved.

George  
So even if we forgot about factoring in greenhouse and demand reduction, the measures would be hugely cost effective sold in their basis that the value of the electricity saved. That is, the electricity bills of all of the many commercial buyers of electricity will be reduced by an amount that's vastly greater than the cost of them buying more efficient ice makers.

George  
Next one please, Gary. So other factors that we did consider, and this is covered in the document, is minimum performance standards for ice storage bins as well. Now I said at the beginning that the United States Department of Energy also has minimum ice storage bin standards. Essentially, as you know, it's a very simple test. You fill the storage bin with ice and you come back at certain time intervals and you bleed off the melted ice and you weigh the solid ice that remains. And over time, you get a sense of the rate of melting of the ice and what remains, as solid ice. And that tells you what, essentially, the insulation efficiency of the bin is.

George  
We thought about adopting similar efficiency standards in Australia, but the GEMS Act does not support it. The Act empowers the Minister to set energy related performance standards for products and also, as it happens, to set standards for products that indirectly affect the energy efficiency of energy using products, and we thought that might be a possibility of enacting efficiency standards for ice storage bins, but in the end it appears that this is not so. So, for legal reasons, we looked at MEPS for ice storage bins but decided not to pursue it.

George  
OK, look, I apologize how long this is taking, but I think we're getting through it more or less the right pace and there should still be plenty of time for questions at the end of it.

George  
The other thing that we looked at was minimum water performance standards. As you know the data for ice makers, it's pretty hard to get the energy data and for most models it's almost impossible to get the potable water consumption data or the cooling water consumption data and it's often presented in very user-unfriendly ways like water consumption for 24 hours. Whereas the energy test actually standardises in terms of litres per kilogram or 100 kilograms of potable ice. And for water-cooled products, condenser water use per 100 kilograms of produced ice, so the information is actually obtained on the same test as the energy test, but rarely reported.

George  
The United States Department of Energy and the US EPA do have the means of obtaining and reporting water consumption data, but once again, the GEMS Act in Australia does not support setting minimum standards for water. I think in New Zealand there would be more scope to do so, but for the time being we've decided not to include water consumption. It's something that we’re holding open as a possibility for the future.

George  
The one area where it could make the bigger difference is on whether users select a water-cooled condenser where they could possibly opt for an air-cooled condenser unit. But the information we got back from the market is that water-cooled condensing is very much a minority part of the market. In many cases it's only offered by suppliers when people ask for it, and people have a very definite need for it. So, it's not common. There was some we had some a notion at first that some people maybe choosing water-cooling because the energy consumption is slightly lower because of the water-cooling function and people might be choosing water-cooling on the basis of wanting to save energy and then being saddled with very large water bills because they weren't aware of that. But you know what we know about the market now actually discounts that hypothesis, nobody actually knows very much about energy at all, and almost nobody except the extremely well-informed professional buyer or building designer or consulting engineer would make a decision to choose a water-cooled product unless they had a very strong need for it. So, because of that, we don't think that there is a great market demand at the moment for knowledge about potable water use or condenser water use. But is something that could develop over time as the market becomes more informed.

George  
Next one, please. This is just monetary costs and benefits, you can look at them at your leisure. Next one, please. And same for New Zealand. For New Zealand we were asked to look at different CO2 prices because it happens, New Zealand Treasury, it has a prescription that all Regulatory impact Statements for New Zealand should use middle and lower estimates of prices. Now you'll remember from the graph we looked at the costs and benefits for New Zealand, it’s that tiny grey area of the bar chart. That represents the CO2 costs was actually a very small part of the total projected benefit. So, in fact, varying that value of that benefit even by a lot makes almost no difference for New Zealand.

George  
On we go, please. OK, now we're getting near the end now. We looked at just to recap, we looked at a number of different MEPS levels of increasing stringency for each of those, we came with a net present value of the benefit, that is, the total savings minus the projected costs, and you will see from the table that the highest value of net benefit comes from, in fact, the most stringent MEPS levels so that in fact would indicate if that were our sole decision criteria of adopting the USA EPA levels as our MEPS level. Now, before you gasp and throw up your hands, you'll be relieved to know that there are many other considerations as well. Now practicality and the cost-benefit ratio are also taken into account, and we looked at how many products we think are on the market now that would pass the US Energy Star level and there were very few, we'll get to that in a minute. So, it represents an extremely high-risk option for the government to regulate at that level. And I'm sure that, I assume that you as suppliers would share that conclusion. If you do or don’t, please let us know in your submissions on the consultation RIS. So, the next highest, if you discount the US EPA level, is the US Department of Energy level. Even there we believe will need to manage the market impacts and we admit that although we believe we have pretty good market data, we will only have complete data on the market once all suppliers register the energy consumption of their product under a standardised test condition.

George  
So the US DOE level also has some risks, but we believe that those risks can be managed by a two-stage implementation process. So, the short of it is that the US DOE level is the most cost-effective from a policy point of view, but it has some risks which we have designed a process to manage.

George  
Next one please, Gary. Now this is what we estimate the market impact to be of adopting the MEPS levels. Now there's about 350 discrete models that we have been able to identify of commercial ice makers on the Australia and New Zealand market. And by discrete models we tried to account for rebadging of the identical model under different brand names and different markets. It was quite a long process, and we actually downloaded the online specs to the extent they were published on as many of the 350 models that we could and we actually looked at the physical dimensions, the country of origin and the performance specifications, to the extent that they were published. So, we did try to eliminate duplicates, and even then we came for about 350 discrete models. Of those we managed to get what we believe to be reliable performance specs under the standard conditions of 32 degrees ambient and 21 degrees water for about 188 models. Then for those models we applied the MEPS levels to them and looked at the number that would pass and the number would fail. And this is the summary of that fairly complicated analysis.

George  
If we applied the minimum of the MEPS levels that we looked at, which is the lowest levels in the standard, then 172 would pass, 16 would fail. Now, what that tells us is that that is a regulation that's not really worth enacting. It's very close to business as usual. The vast majority of the market, although we will say that the ones that are the models that did publish their data are likely to be the most efficient models. The ones that did not publish data are likely to never have been tested or to be the less efficient one. So, with that caveat though, of the roughly half the market that we were able to actually do this analysis on, 91% would pass. Which means that enacting the lowest level of the MEPS would give us almost no benefit. If we go to the high efficiency level, then about 71% of that group of products would pass. And if we went to the US DOE MEPS level, about 60% of products would pass.

George  
Now that is pretty close to the criterion that almost all MEPS products meet when we initiate a MEPS for a product at the beginning. The government usually aims for it to affect 50 to 60% of the existing products on the market, because if it's much less than that then it will not have the market correcting effect that the analysis says is possible and is desirable. So, the US DOE MEPS level, if enacted today as we speak, would exclude about 58% of the products on the market. But we're not proposing to enact it today. As with all MEPS regimes the process usually gives a 1-to-two-year lead time to the industry that would be affected. So, let's get on to the recommendations then Gary.

George  
Next slide, please. So, what are we recommending, and this takes word by word the recommendations from the document. So, our recommendation is that the Government, through the GEMS Act and the counterpart regulation in New Zealand, implement the recommendations in two stages. The target being stage one to take effect at the end of 2024, which is about just over a year and a half. So, the recommendation is that all commercial ice maker models that are supplied after the target date will have to meet MEPS levels initially set at the high efficiency level in the Australian standard. The MEPS must be based on the categories in that standard, and there are 6 categories in that standard, air and water-cooled are separately categorized. Batch, continuous, sorry, air and water cools, configurations and self-contained and modular units are separately specified, so there's actually 6 categories. In the United States, there are 12 categories, but we recommend that in this first phase, only the six categories in the Australian standard be used.

George  
The next recommendation is that suppliers will have to register their results from a 4865 test or the US test, or the ISO test, provided that the tests are undertaken at through 230 volts, 50 Hertz. The reason for that recommendation is that we know that, for example, ice makers imported from the US, the suppliers will have the facilities to do the ASHRAE tests at, and the ASHRAE test actually can be done at 230 volts and 50 Hertz. At the moment for the US market of the US DOE, they are invariably done at 110 and 60 Hertz, but the test itself doesn't actually specify or limit the voltage and frequency, so it is possible to undertake an ASHRAE test at 230 and 50. So to give some flexibility for suppliers who have to do the testing we are advocating that test results can be lodged with the regulator here under the 4865 test, which has to be done to 230/50 or an ASHRAE test, provided it's done at 230/50 or the ISO test if published by then. So, this is intended to give some testing flexibility provided that the test conditions are within those constraints.

George  
And now we move to Recommendation 4. This is a further consideration of possible cost savings to some suppliers that the regulator should consider, and this is one for a consideration. This very much depends on feedback from you, the industry and obviously the regulator will also make a choice. But this is one where we very much like to know where this is worth considering or value to the industry or would complicate everybody's life too much. But as a cost saving option for suppliers, we recommend that the regulations to consider accepting ASHRAE test reports undertaken at 115 and 60 if you as supplier are willing to accept the risk that a compliance test, which would be done at under 4865 on the same variant randomly selected, which show compliance. So, you'd have to make a judgment about, look, I've got an existing test standard for this particular product. It's not worth my while retesting it. The result shows that it exceeds the required MEPS level by a wide enough standard, a wide enough margin. So, I'm pretty confident that a check test done under 4865 would show that it meets the MEPS level. So, I've got the test result, passes by a long way. I'm confident so I'll put it in, and I'll take the risk that it may be check tested, but I'm pretty confident that the check test will show that it's OK. However, if the check test does not verify that it's OK, it will be found to be non-compliant and there'll be a number of non-compliance procedures, one of which will be the possibility of the supply having retested. Anyway, that's a complicated process. It may be of no value for industry, or it may be of value. This one area where we're definitely wanting feedback.

George  
Next one, please, Gary. This is still the stage one recommendations continued. The ice maker supply will have to register under standard test conditions. That almost goes without saying. The next point is that suppliers will be invited to voluntarily also tell the regulator the potable water consumption and, if applicable, the cooling water use. Now you will have that information I think if you undertake the test, but we will be, well the recommendation is that to build up the information, and if you've got a good potable water use consumption it will be to your advantage to have that publicised via the regulator register. And I would say that all of this information that goes to the regulator to prove compliance also goes on to a public website and the public website is arranged so that an informed buyer can go onto the website and rank ice makers by production capacity, by energy efficiency kilowatt hours per 100 kilograms, by configuration. And if the information is there as well by water consumption. So, if you've got a product that is particularly efficient in its water use, it'll be to your commercial advantage to put that information before the marketplace and steer some water-conscious customers towards that particular model as well.

George  
So this is in phase one. We are only mandating the higher efficiency standard, but you'll recall that the US DOE MEPS level is more stringent than that. So, we are also including the option for a supplier that also meets the US MEPS level in stage 1 to designate that model as a high efficiency product. However, there will be a legal meaning now to the word high efficiency and under the regulations, the legal regulations, the Determination, the term high efficiency will become a reserved term. So, you cannot, or a supplier will not be able to call a product high efficiency unless it actually meets that higher US DOE MEPS level.

George  
And the last point is this, the procedural point is that suppliers will have to disclose the registered performance data for each model on that will go on to the website and the website will be structured as it is for all other products so that a user can calculate the annual and lifetime operating costs and will apply rank products from the most to least efficient. So that's the first stage of regulations which we propose will take effect at the end of 2004. But there is a second stage as well.

George  
So Gary, next, next slide please. Well, we're almost finished, by the way. So, we recommend that the second stage should take effect two years after stage one. So, if stage one takes effect at the end of 2000, sorry at 2024, then stage two will take effect at the end of 2026 at least could be longer than that could be two years, could be four years and once again timing is very important aspect of what the industry thinks. We want to know about, but the second stage, the MEPS levels, would rise to the US DOE MEPS levels, where the current age levels in 4865 are already more stringent. So, at that stage the high efficiency level would disappear. The high efficiency level designation being stage one would disappear because there'd be no point to it because all products would then rise to the US DOE MEPS levels. Then, with the adoption of the US DOE MEPS levels we proposed to adopt the product categories used in the United States, which means that we would go from 6 categories as we have in the current standard to the 12 categories. The big difference is that there will be different MEPs levels applying to batch or continuous production.

George  
And the last one and this is an interesting one that in the second stage the regulator would look at implementing additional forms of information beyond simply disclosing the information on the website that is to would look at a possibility of a physical label that would go on to commercial ice makers and also to the possibility of requiring the information that be disclosed in advertising. This is early stage as yet, and it partly depends on whether similar measures will be adopted for other commercial catering products, like commercial dishwashers, fryers, ovens and so on. So, we look at the possibility of having a unified labelling system across commercial catering and commercial refrigeration products. This may or may not be a star rating label. It could be a simply a QR code, but that's something to be considered in stage two.

George  
Next one please, Gary. And that's it. As a relief no doubt we'll be coming to the end of the presentation now. Written submissions are welcome. Section 5 of the consultation RIS, I think its Section 5, has got, I think 20 or more specific questions related to many of, or each of the measures or each of the questions on which we very much would like consultation responses, but any other points that we haven't listed in those questions are also very welcome. And as I say, the procedural requirement is that any submissions have to be stated in writing. I think an email is adequate, but it would be very helpful to get a, if you go to put in a detailed response to all of those questions, then an attachment is probably the best way to do it. And there is a facility for submitting commercial-in-confidence information, that it will not appear on a website, but commercial-in-confidence formation would come through to me as consultant and I'm also bound by exactly the same commercial-in-confidence requirements as the Government. And if it improves the quality of the final information that we give to ministers, then I welcome or we welcome commercial-in-confidence information as well, and I think on to the final slide, please Gary.

George  
That's it. So, any questions and I've not been monitoring the chat, but Gary, maybe if you can, I’ll throw over to you, Gary, is to chair the next part, or the final part of the discussion.

James, Gary  
Well, thanks, George. That did go for, there was a lot covered in on all of that. I haven't been able to monitor the chat because I've been running the slide pack and I've only been able to see, so I haven't actually seen any questions as yet, but if you do have some questions, could you just use the raise your hand function and we'll go to you through them.

James, Gary  
OK, I'll wait and hear somebody. I'll just have a look.

Paul Baini  
I was patiently waiting, sorry.

James, Gary  
Paul?

Paul Baini  
How we doing all? OK, so I guess I'm looking at it from a benefit from a customer's perspective. Now if we have a customer that is currently purchasing a more efficient product on a regular basis, take it like a large supermarket chain, yeah, that's buying these products in by the hundreds on a regular basis and they're currently buying a very efficient product in one that might comply with the Energy Star rating. And then we implement this scheme, obviously with good intentions to essentially filter out the products that are less efficient, that customer’s essentially long term going to be paying a lot more money per unit and not getting any benefit from the scheme whatsoever because it's already an extremely efficient product because of their internal processes to make sure that they’re purchasing a product that is climate focused, IE it's not using a synthetic greenhouse gas as a refrigerant. They're using a hydrocarbon gas like an R290. So, they're focusing on that. They're looking at the energy efficiency. They've got their own staff put in place to review the products and make sure they're purchasing the best product in the market because they're running hundreds of these. They're essentially going to be paying an additional fee per unit because of the scheme that would be put in place. So, I guess the way I'm looking at it from a customer's perspective, not as a supplier or manufacturer, I'm looking at it from a customer's perspective. Are they really winning in that particular scenario that they're going to have to pay an additional fee per unit and they're essentially buying hundreds of these a year?

James, Gary  
What do you mean by paying an additional fee per unit?

Paul Baini  
Well, the supplier and manufacturer isn't going to absorb the cost of the administration fee and that the additional testing when the product already is in that it might be that the products are already in line with the Energy Star rating in the US And so it's an extremely efficient product and the customers already purchasing it from their supplier and they have been for many years and they don't intend to change it because they're happy with the quality of the product and it ticks all the boxes that they ask for. So, from a supermarket chain, and I'm just using that as a as a basic example, but this would flow on to other businesses as well. They need to see value in why it's gone up in value or gone up in price. So, if they're buying a machine, for example, I'm just throwing some numbers out there. Let's say it's $5000 per unit and they're buying 200 of these a year, for their 800 or 1000 supermarkets nationally. What value are they getting for paying 10% more?

George  
OK. Can I answer that?

Paul Baini  
Yes, please. Yes, please. Yes.

George  
OK, no, good point. And when I said that our analysis shows that most buyers of the commercial ice makers are not concerned with the efficiency, I should have said that we obviously know that there are the larger supermarket chains. We have got professional advisors and who've got very good energy efficiency and environmental programs not in that category. But you said that if this particular customer’s already buying Energy Star compliant equipment and to know that it would already have presumably the only people who can certify as Energy Star would be a United States original originated product. So, we'd have to be to say that it's Energy Star compliant, it would have to be registered with the Energy Star program, which is run by US Department of Energy. So, their requirements would be to the ASHRAE standard so they supply it would already have that information. So that's why we're saying no new test would be required. So, there's no additional testing costs.

Paul Baini  
The admin fee? Yep.

George  
The admin fee is of the order of, so we don't scare you, I think the higher admin fee charged at the moment of the end product is the order of $800.00. So, there will be no testing costs in your example, it wouldn't have to be a different model at all. So essentially if it's if it's one model sold 200 times it would be an additional annual, and you don't have any other customers and you're registered, let's say cost you $1000.00 to register. You’re adding what $5.00 extra cost per sale. And for that money. The question is what does the buyer get? The buyer, every single buyer of that particular model in Australia and New Zealand gets an assurance that it meets a certain level of energy performance because the statement has to be legally made by the supplier to the regulator. So, it's an assurance of quality and information. So yeah, it does cost a fraction more, a few dollars more per unit, but the benefit is that all customers are now assured and as I said, the beginning the data sheets that these products are extremely penetrable. So, you've got a model that actually publishes the performance of this particular model at 32 degrees ambient and 21 degrees, or the Fahrenheit equivalents, then it's very much a minority. So, the market as a whole actually it's very poorly informed and you're very fortunate to have a good product and discerning customers, but it's by no means difficult at the market.

Paul Baini  
Yeah. So, so Energy Star is interesting, I know with commercial ice makers, it appears to be a little bit different. So, I've got the Energy Star website up there for commercial ice makers and there are a large number of them that are sold in Australia that are already registered on that website.

George  
Yep.

Paul Baini  
But Energy Star also works the other way around as well, in the sense that the consumer can also obtain a rebate and that, I guess is the one of the key drivers in the US when they go to purchase. If they buy an Energy Star product, they can get a rebate from the government. In this particular instance, that doesn't appear to be looked at, and I mean, it's all about driving the efficient product, but we can also benefit the consumer by offering a rebate, otherwise there there's no additional value for that for that $5 a unit or $10. I mean, it's likely to be more because a supermarket chain won't buy the one model for every single supermarket, it’ll come down to the size of the supermarket. If it's in a regional town and it's a smaller market there, it’s naturally going to want to buy a smaller machine because they won't have the larger demand for ice, so it won't be one model across 200 a year. It will be potentially five or four or five different models, but that's only just one example, and companies like ours, we have potentially 40 or 50 models that we offer. It's not all based on 5 different models only it's about 50 odd models that I've got to go through and essentially pay a registration fee of $800.00 every year, on top of the existing ongoing costs that I've got, like watermark approval, which isn't cheap because I have to have a factory audit done over in Italy. So, it's not cheap, but yeah, so I'm looking at the overall costs, what the benefit is to the end user, if there is a benefit of a rebate, then I'd be more than happy to spend the $800.00 because it would then encourage them to buy more efficient product. But if there is no benefit to the end user at the end, apart from a label, I mean our spec sheets have all that data on there as well, showing the operation at different temperatures. We're quite transparent with our customers.

George  
Yeah.

Paul Baini  
They can see the operating temperatures at, give me one second, I had it up on the screen a second ago. So, we have air temperatures at 10 degrees, water temp at 7, air temperature 21, water temp 15, air temp at 32, water temp at 21 and we showed the production at all those three inner tables on each spec sheet. So, we're quite transparent. We provide as much data as we can to our end users. We don't want to mislead them. And we just need to see a benefit for that end user and it and us is spending money without a benefit. I don't see what how, how it sort of passes the pub test. I don't think a consumer would be prepared to spend money for a sticker on a machine. Yeah.

James, Gary  
I take the point that you're saying, Paul, you know in these sorts of measures and initiatives, not everybody wins. And what you're saying is you're familiar with examples or you can identify examples where there will be somebody who won't win. And in this case, it's somebody who is already buying, you know, top quality product, high efficiency product and so effectively the price of that product will go up, but they'll still be getting exactly the same product. And I acknowledge the point.

Paul Baini  
Yeah.

James, Gary  
Yes, there will be people who will be in that situation. The way ministers will make a decision. We're looking at the overall picture and if you've got some good examples of people who will look not gain anything out of that, what I suggest is to, you know, set out those cases in a submission. And that's something that we'll present to ministers so that they can see that, OK, while overall there is a good, there is a high public benefit, there is a good public benefit here in taking an action like this, there are going to be some losers and this is what they will face as a result.

Paul Baini  
That's it, yeah.

James, Gary  
At this stage there is no, there's no suggestion on the table of rebate. It's not something that is generally done in the GEMS program, but there are rebates that are available in some other ways or some other subsidies. But we can't give any guarantee or any comment on whether or not there will be such a thing for commercial ice makers.

Paul Baini  
OK.

James, Gary  
Yeah.

Paul Baini  
Thank you. Thanks for answering the questions.

James, Gary  
Yep. Wes, you had your hand up.

Wes Zabielski  
Yes. Sorry, just on the other MEPS requirements, most of them are based on the European IEC standards and regulations over there and we rather follow it where in this case of ice comakers we seem to be trying to lead, be ahead of the actual manufacturing base where most of the ice makers are made in Italy, with the European IEC-based regulations and will be ahead of them. We’re buying a very small percentage in the large variety of products. So, we're not buying one type of product or model in the large numbers. We're buying large variety of different products in small numbers. How would that be? How we can influence them to give us all the data testing and provide the testing required for such a small market. All those small quantity products will basically fade out of the market by the commercial reasons here.

George  
Yeah. Look, just a quick response to that, but that's exactly the kind of information that we need. Just on the question on the issue of European made ice makers. We are aware of the structure of the global market, and we know who the majors are. But invariably there will be smaller manufacturers, but the test conditions, the 32/21 test condition is going to be a global standard. The ISO standard will be coming out. What the EU rules are for their own products at this stage are less stringent than the ISO levels. But I'm not aware that there are any European EU MEPS levels that ice makers at all at this stage, and that's why the European ice makers, manufacturers, have been able to quote production values and energy efficiency at conditions that are really not typical for Australian conditions. So, we have looked at the appropriate test condition and for Australia as it is for the United States and it will be globally, the 32/21 condition is going to be the default global standard. So, if the European manufacturers do not test it at standard now, I think that they will actually be forced to in the coming years. But however, knowing how many models there are that you obtain and in small numbers will tell us the administrative burden that you're going to have to face if this regulation is implemented so that that is exactly the kind of information that we need to know in your submissions. Thank you.

Wes Zabielski  
OK. Yeah, I understand that it's just a. Yeah, I'm a bit surprised why we try, why we're leading then here from Australia point of view where another product, so like refrigeration, we're following on the European regulations and so trying to adopt the same. So, the results over there, they can be, can be transferable and instead of being duplicated by additional testing here.

George  
OK. Thank you. I wouldn't say that we're actually leading. I mean the 32/21 test level, is as I say near universal now. I guess where we try to match MEPS levels is yes with the US MEPS level, but there's no general EU MEPS level at this stage.

Wes Zabielski  
OK. And one more question is there intention here to recognise accredited test results from over there. say from Europe, from the US and Energy Star if the Energy Star is already compliant, would that be recognised automatically here or to have to be doubled up by additional administrative testing costs and all that?

George  
No, as you'll see from the recommendations, they're actually intended to make it possible that a test result if you've got a product that is already meets Energy Star and the United States, then there will be a test report for that product.

Wes Zabielski  
Hmm.

George  
Otherwise it would not have been accepted as registered for Energy Star. So, what we're saying is that that test report should qualify for being submitted to the Australian regulator. So would not have to be retested in Australia or New Zealand. And even if that product has not been tested so far, let's say it hasn't been registered in Energy Star. If there is a laboratory, if there is a laboratory that's capable of doing a an AS 4865 test, and any competent laboratory should be able to do a, any competent laboratory that does ice maker tests at the moment should be able to do a 4865 test. It's easy to understand, you just send them a copy of the test and they do it. It doesn't have to be accredited in Australia. The pattern with other products that are subject to MEPS is that the initial registration can be done by a test report, any test report, it doesn't have to done by an accredited laboratory. But if the regulator needs to do a test, a check test, the regulator would have to use a laboratory that is accredited to 4865. At the moment there are no laboratories accredited to 4865 because there's been no commercial reason to get an accreditation. But I mentioned before that the NSW Office of Energy did actually get a testing laboratory in Australia to do a 4865 test, so at least one laboratory would get accreditation if there are commercial demand for performing those tests in Australia.

Wes Zabielski  
So this one more question on that. So, if there is a new international standard or global standard coming, ISO or IEC, shouldn't we adopt that and work with this rather than having our Australian New Zealand unique requirements?

George  
There is an ISO test coming and I can tell you being on the committee that produced it is that it'll be very near identical to the 4865 standard. So, because the timing of the ISO test standard is uncertain, the recommendations as they stand say the testing should be based on 4865 or ASHRAE. But when ISO is published, that should also be a legitimate test standard.

Wes Zabielski  
I see. OK. No, that, that that will make sense. So, because yeah, we’re getting a lot of regulations which are very unique to Australia and unfortunately Australia is not a global manufacturer anymore, neither is New Zealand and we're paying a big price for that uniqueness here, of the unique requirements. And unfortunately, the customer is paying because there is less product range can be imported to Australia than anywhere else, simply by the unique requirements.

James, Gary  
Thanks Wes. Nick Cameron, I saw your hand up, did you still want to ask a question? Or was your question answered by the discussion?

Nick Hammond  
It was kind of more a comment just about Energy Star in the US and my understanding is it's a 60 Hertz regulation and we have a number of 50 Hertz machines that meet it, but we can't register them anyway. So why are we talking Energy Star testing when they won’t work in our power configuration.

George  
OK, it no good point and that's why the 4th recommendation there is there that it gives the option of people who have products that meet Energy Star to use the 115/ 60 test report, if they are confident that the machine if tested in Australia or tested to 4865, it doesn’t have to be in Australia, if they are confident that the machine would give sufficiently similar results under a 230/50 test to show that it qualifies. So that's why that particular option is suggested.

Nick Hammond  
So then does that come down to how you group your models as well? Because I know some people don't distinguish between 50 and 60 Hertz on their models, but Ice-O-Matic do, which is why, we can't have it labelled in our 50 Hertz machines that they meet Energy Star basically. So, I guess it would depend how we group different models for registration as well, then wouldn't it?

George  
Yep, uh yeah. Look that that information would be very useful to us is how you at present how you deal with the difference between 110 and 230 Volt models that please. So please give us more information on that.

James, Gary  
Thanks, Nick. Wes you've got another question?

Wes Zabielski  
No. Sorry, probably pushed the hand twice. Sorry.

James, Gary  
Yeah. Anyone else got any questions or any points they’d like to make. Paul?

Paul Baini  
Just with regards to the registration process, I mean obviously I’m a bit against it unless there is some form of benefit to the consumer. But if it was to be pushed through anyway, I think it needs to be considered to be done by a family of models rather than individual models. I think that is going to be far more beneficial cause, for example with us we have a family of models and obviously the sizes do vary, but it's based on the technology that's being used to produce the ice. I would heavily recommend that being considered because ultimately, we want the end user to be happy with the product. We don't push our prices up for the sake of it. We only increase our prices when we have internal costs. And to complete this administration process, yes, the government cost is one part of it, but we've got our own internal costs for processing that as well and that does take time. I'm just looking at the overall cost, not just the administration cost, but person at our end facilitating all the all the documents, collating the information, making sure we've got everything, requesting what's required that we don't have back from the manufacturer, if additional testing is required, the freight costs of getting the appliance to the laboratory, the lab costs of freight back, there's a lot of cost in there, hidden costs that you guys can't quite see. Obviously because we sell a variety of machines and have to get them tested to all different types of standards, whether it's gas, water, ventilation, we know those internal costs and the administration costs internally as well as external. So, I think collating it into a family of models, and as Nick pointed out as well with frequency, so you've also got some machines that might be available in single phase version and three phase versions as well. Again, you want to be able to incorporate that into one family of models. You don't want to have to register every potential variant that is offered in that exact model. Air and water-cooled as well. We offer air and water-cooled, we offer remote condenser or condenser built-in, but ultimately it makes the same ice, so we just want to be careful because, I mean I've got 52 models that we've got in our system at the moment and that is air-cooled only, that doesn't include water-cooled condenser. Main reason obviously as everyone sort of mentioned through the presentation, it's not often requested for water-cooled, there are very small parts of the market that do need it because of the lack of air movement in the location they intend to install it, but few and far between you ever get anybody asking for it. So, like the watermark scheme currently is in place, we can have a single license per supplier, and we can add as many models to that as possible. It just means more testing and more work is done in the background, but we pay for a single license for the entire brand as long as it's manufactured at one location. So that is probably what I would recommend is try and streamline the registration and cost process down and make it as affordable as possible because ultimately that is what's going to be paid by the end user and if they can't see the benefit and the price has just gone up, they're going to end up changing brands and getting a less efficient product, which is going to have an adverse effect on what you guys are trying to do so.

James, Gary  
Thanks for that Paul, if you could provide in a submission details on all those extra costs that would be involved for your company in registering and complying. Another piece of information is I gathered from that some of the models that your company supplies you don't sell many of, you're talking about water cooled. If there are particular models that would be caught within the scope of this but you sell very few models a year, if you could provide details on that as well, because we can approach it in terms of different fees or different requirements for low sales units, rather than having them having to compete effectively with you know units you might sell 200 a year versus ones you only sell three a year.

Paul Baini  
Yeah, that's it. Yeah, I I'd have to check with the sales team because I'm obviously doing the approval side of things. And I'm the one that gets the query, Paul, we've got somebody interested in this product, but again, as I said, it might be once every five years I get that phone call, whether they ever eventuate in the sale or not is a completely different thing, so I’d need to check with product management and sales to see if we've even ever sold one.

James, Gary  
OK.

Paul Baini  
But yeah, I hardly get a query about it. Yep, thanks.

James, Gary  
Wes, you got another question?

Wes Zabielski  
So it looks like they've just been covered in the last couple minutes. It was about the low quantity products or the unique products whereas Paul described you get the inquiry once in a year or even five years sometimes. And is there any room to have some kind of exclusion for low quantity products because otherwise those products will never make its way to Australia and New Zealand from the commercial point of view.

James, Gary

There's two possible responses on this one. Firstly, we're looking at some changes to the Act that would mean that you might only need to register if you ever sold a product. So, if you've got a model that you offer and you know it's so rare that you even get enquiries, let alone sell units, you would not be required to register it simply because you offer it even though you don't sell it. That's a change that's coming in the future for the Act. Secondly, as I said, if you've got products that you might sell only a small handful a year, we could have a different approach to registration and fees for those products. I'm conscious of time. Sorry, Wes.

Wes Zabielski  
Yeah, just one thing. I mean, I could give example of the New Zealand gas regulation here that’s up to 21 products, they can be endorsed by somebody and knowing the specification and a few recognised people by the New Zealand regulators who can endorse those products as compliant rather than going through a full testing. So that's the method for low quantity. Same here if there is some kind of mid-level, I'm not saying there is no kind of assessment done whatsoever, but lower level assessment rather than external lab testing and certification and all those requirements for the low quantity product. Where, and unfortunately, that's reality in commercial catering, where we have large variety of model sizes within the same family, but large variety and a lot of them coming, they are very common ones coming in the larger quantity. But unfortunately, those once in a year, once in five years enquiries that's they are really coming in a very small quantity and treating them the same way as the large quantity will just basically make them commercially unviable. So yes, some kind of mid-level assessment recognition would probably be beneficial to maintain the product range availability here.

James, Gary  
OK. Thanks Wes. If you could provide in a submission more details on some of the products where this would be the case you're talking about, the problems you're talking about would arise, that would be really good and any ideas for how we could approach that better. I'm just conscious of time, so I'll just go to one more question. Ice Machines Rentals.

Ice Machine Rentals  
Hey there. Just really following up more on Paul's questions. With the registration and testing costs per model, I understand at the moment the registration in New Zealand is not charged. I think that was mentioned earlier, that's an at the moment thing, it possibly could change, but either or there is a lot of costs that go behind the scenes to register these models. The financial impact of the cost that go into the registration, whether or not you know the actual fee to register or not is going to be spread across a much, much smaller volume for New Zealand. So, it's going to have a much greater impact percentage wise on machines sold in New Zealand then it would in Australia for example, because the actual cost is effectively the same, the behind-the-scenes cost getting all the information and doing the registration. So, if you're selling 200 units to supermarkets in Australia, you're probably selling 20 to 30 in New Zealand if you're lucky, so it spreads less and therefore a greater percentage impact. It's, I suppose a bit of concern, depending on what the future holds in regards to, if we get charged a registration fee, do we get charged a registration fee every year? If so, why are we registering the same machine every year? That was one of the comments Paul made. It doesn't make sense. We're going to input the same machine for the next five years. We've tested it once. Surely we should be able to amortise the costs of doing that over all of our imports to the next five years. Otherwise, the impact is going to be significant.

James, Gary  
Don't like to speak on behalf of New Zealand, but my understanding is that the registrations, there's no fee charged for them, and they are lifetime registration, so you don't need to reregister in New Zealand and in Australia at the moment registrations are for a period of five years. I'm conscious of time here and people have other commitments.

James, Gary  
Happy to take more questions through the ice makers email address. Melody will monitor that, and we'll try to get back to everybody with any other issues that are raised that way. Also, please if there are concerns and issues you have if you can detail those in your submissions. We might have some additional one-on-one consultation, or maybe through NAFES, once we've reviewed all the submissions as a way to actually, you know, get greater focus on some of these issues and maybe to find a way forward in some cases. If there's anyone who's got any last comments or questions, Wes you still have your hand up or are you just having trouble with the raise hand thing. OK. Well, thank you everyone. I'm sorry. Wes?

Wes Zabielski  
Just one thing maybe if there is half a minute time here and have we considered the already changes in the requirements on the refrigerant types that the regulations coming now and coming very quickly in the requirements on much more efficient refrigerant to be used in our refrigeration as such and that obviously will, or can be forced, to come into ice makers and that obviously will reduce the cost additional cost currently, what we're trying to save. Has this been taken account in the cost calculated so far or that been done on the on the previous data or previous refrigerant types?

George  
I can answer that very quickly. We assume that even if we do nothing, the business as usual case, that ice makers would continue to get more efficient. Because yes, we are aware of the gradual change over to refrigerants. So yeah, we assume that that will happen even if we do nothing. Yep.

Wes Zabielski  
Yes, that's why I'm thinking that the graphs and everything, they will be much closer in the 1-2 years’ time anyway by the other requirements coming through. So, the cost benefits described here are not as high as that would be.

George  
No, that's not the case. The cost benefits are assuming that the refrigeration change and the technical changes take place in any case, so the improvement in efficiency has already been taken into account, yeah.

Wes Zabielski  
OK I see. That’s basically what I'm trying to describe. Yeah. Thank you.

James, Gary  
Thanks Wes. Thanks everyone for your time this morning and your questions. If you've got further concerns or questions, please put something in email through to the ice makers email address and please provide more information and particularly detailed information so we have a better handle on the costs because it sounded like that’s one issue that's coming up is that we might not have captured all the costs and we need to have a better handle on that before we present to Ministers.   
But again, thank you very much for your time and your commitment this morning and we really appreciate it. Have a great day everyone. See you.

George  
Thank you. Bye.

Paul Baini  
Thank you.

Wes Zabielski  
Thank you.