CLEAN ENERGY SOLUTIONS CENTER
ASSISTING COUNTRIES WITH CLEAN ENERGY POLICY

The Role of Labelling and Certification Schemes in Renovation Policy Packages: Key Lessons from Global Best Practices

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For more information, see the clean energy policy trainings offered by the Solutions Center.

Panelists

Sophie Schnapp, Policy Analyst, Global Buildings Performance Network

Adrian Joyce, Secretary General, EuroACE

Roger Hitchens, Consultant, UK Building Research Establishment, previously, technical director at BRE

Stacy Lee, Policy Advisor for the New York City Mayor's Office of Long Term Planning and Sustainability

Chris Hughes, Program Manager, Sustainable Energy Authority of Ireland

This Transcript

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Sean

Hello, everyone. I'm Sean Esterly with the National Renewable Energy Laboratory, and welcome to today's webinar, which is being hosted by the Clean Energy Solutions Center, in partnership with the Global Buildings Performance Network. And today's webinar is focused on the role of labelling and certification schemes in renovation policy packages, with key lessons from global best practices. One important note of mention, before we begin our presentations, is that the Clean Energy Solutions Center does not endorse or recommend specific products or services. And information provided in this webinar is featured in the solution center's resource library, as one of many best practices resources reviewed and selected by technical experts.

Before we begin, I just want to let you know some of the webinar features. You do have two options for audio. You may either listen through your computer or over your telephone. And if you do choose to listen through

your computer, please select the Mic & Speakers option in the Audio pane. This will just eliminate any, feedback or echo that you might receive. And if dial in by phone, please select the Telephone option in the Audio box, and then the box will display the telephone number and audio pin that you can use to dial in. And panelists, just a reminder, we do ask that you please mute your audio device while you are not presenting. And if anyone's having any technical difficulties with the webinar today, you may contact GoToWebinar help desk at that number displayed at the bottom of the slide. And that number is 888-259-3826.

And we encourage anyone from the audience to ask questions at any point during the webinar. And to ask a question, simply type it into to the Question pane, and I will present those questions that I receive to the panelists, following the presentations. And if you're having any difficulty viewing the materials through the webinar portal, you will find PDF copies of the presentations at cleanenergysolutions.org/training. You may follow along as our speakers present. And, also, we will be posting an audio recording of the webinar to the solutions center training page within a couple days of today's broadcast. And, in addition, we are now also posting the webinars to the solutions center YouTube channel, where you'll find other informative webinars, as well as video interviews with thought leaders, on clean energy policy topics.

And today's webinar agenda is centered around the presentations from our guest panelists: Sophie Shnapp, Adrian Joyce, Roger Hitchens, Stacy Lee and Chris Hughes. And these panelists have been kind enough to join us to present best practices from the United Kingdom, Ireland and the United States on implementing successful labeling and certification schemes as part of their renovation strategies. And before our speakers begin their presentations, I just want to provide a short, informative overview of the Clean Energy Solution Center initiative. And then, following the presentations, we'll have the question-and-answer session, followed by closing remarks and a very brief survey.

And so this slide provides a bit of background in terms of how the solutions center came to be formed. The solutions center is one of 13 initiatives of the Clean Energy Ministerial that was launched in April of 2011 and is primarily led by Australia, the United States and other CEM partners. Some outcomes of this unique initiative include support of developing countries and emerging economies through enhancement of resources on policies relating to energy access, no-cost expert policy assistance and peer-to-peer learning and training tools, such as the webinar you are attending right now.

There are four primary goals for the solutions center. The first goal is to serve as a clearinghouse of clean energy policy resources. Second is to share a policy best practices data and analysis tool specific to clean energy policies and programs. And third is to deliver dynamic services that enable expert assistance, learning and peer-to-peer sharing of experiences. And

then, lastly, the center fosters dialogue on emerging policy issues and innovation from around the globe. And our primary audience is energy policymakers and analysts from governments and technical organizations in all countries. But we also strive to engage with the private sector NGOs and civil society.

And so, this slide describes one of the marquee features that the solutions center offers, which is the no-cost expert policy assistance known as Ask an Expert. And the Ask an Expert program has established a broad team of other 30 experts, from around the globe, who are each available to provide remote policy advice and analysis to all countries at no cost. So, for example, in the area of buildings, we are very pleased to have Cesar Trevino, leader of the Mexico Green Building Council, serving as one of our experts. So if you have a need for policy assistance in buildings or any other clean energy sector, we do encourage you to use this valuable service. And again, it's provided to you free of charge. So to find out if the Ask an Expert service can benefit your work, please feel free to contact me directly at sean.esterly@nrel.gov or at my phone number, which is 303-384-7436. Or you can also go to cleanenergysolutions.org and, um, and read more about it on there. And my email and number are also displayed on the slide, there, if you'd like to contact me. We also invite you to spread the word about this service to those in your networks and organizations. So in summary, we encourage you to explore and take advantage of the solutions center resources and services, including the expert policy assistance, the database of clean energy policy resources, subscribe to our newsletter and participate in webinars like this one.

And so, now I'd like to provide brief introductions for our panelists today. And our first panelist that we'll be hearing from is, uh, Sophie Shnapp. Sophie is a policy analyst with the global research team at the Global Buildings Performance Network. And then, following Sophie, we will be hearing from Adrian Joyce. And Adrian is the secretary general of EuroACE, where he is involved in the day-to-day management of the affairs of EuroACE, bringing support to the working structure, preparing documentation, advising the members, the general assembly and the board of directors on issues that affect the energy efficiency of buildings. And then, following Adrian, we will hear from Roger Hitchin. And Roger is a private consultant and associate with the UK Building Research Establishment, having previously been a technical director at BRE, dealing with building energy issues. And our fourth speaker today is Stacy Lee. And Stacy serves as a policy advisor for the New York City Mayor's Office of Long Term Planning and Sustainability. And then, our final presenter today is Chris. And Chris is the program manager with Sustainable Energy Authority of Ireland with responsibility for the implementation of all aspects of the energy performance of buildings directive. And so, with that, I'd now like to welcome Sophie to today's webinar.

Sophie

Hello there. Firstly, I'd like to, um, say a big thanks for everybody, for being here today. I know some of you have woken up pretty early, and others have stayed up late. So it's great to have you all on board. As Sean said, my name is Sophie Shnapp. I'm a policy analyst at the Global Buildings Performance Network. We call ourselves GBPN. And I'm in charge of the development of, generally, the existing buildings project. So today's webinar is going to focus on the importance of building labeling schemes as part of a renovation strategy. Next slide, please.

So, firstly, I'm just going to give you a little bit of an introduction to the GBPN. We are a global network with a regional presence. We have hubs and offices in China, Europe, India, America and now moving on to opening up some in Southeast Asia. As a network, we develop recommendations and try and share information on state-of-the-art policies for efficient buildings. Next slide, please.

In 2012, we looked at three different policy scenarios for future building energy use around the world. You can see these, three different scenarios on the graph in the bottom right-hand side of your screen. We have the orange area, is the business-as-usual scenario. The blue area is the moderate scenario, and the green area is what we call the "deep path." You can see here that there is only one real possible way of reducing energy in the future of buildings, and that is to follow this deep path that will allow us to reduce the consumption of buildings, by 30%, by 2015. This can be achieved if we implement best practice policies around the world. We know that the technology is available to do this. OK. Next slide, please.

So, um, the GBPN's existing building project has one real fundamental goal, and that is to upscale deep renovations. We believe it can happen. (0:09:15.9-0:09:23.0 Audio unavailable) report that defines a deep renovation and a deep retrofit. You can find this online, um, on our reports database. We've then defined a state-of-the-art criteria for a deep renovation or an energy renovation policy package. Using this criteria, we have, um, highlighted some best practice policy package case studies that work, um, with deep renovations. And the criteria and the case studies feed into an online policy comparison tool that you can find on our website that allows the user to play around with different policy elements. Next slide, please.

So with the findings of the tool, we present this webinar series to you, today, on how to save energy using renovation policy measures. This series takes a deeper dive into how to really set up a best practice policy package. And each of the, each of the webinars within the series takes a deeper dive at, um, looking at individual elements of a policy package using insights from best practice jurisdictions. Next slide, please.

So this webinar is the third of the series and will discuss the importance of labeling schemes, how they're implemented and how they drive energy

renovations. We have invited three jurisdictions that have implemented successful labeling systems and schemes. And I'm sure these people will impress you with their fine stories. They're going to provide us insight into how they have really been implemented, what role they played in policy development and what you can learn from the mistakes that these jurisdictions have had to come across. Just going to point out that we're going to have a final webinar, of the series, on financing energy renovations, renovations, um, and this will be held at the end of October. So I hope you enjoy the webinar, and thank you, very much, for being here and listening. OK. Thanks.

Adrian

So hello, everyone. It's Adrian Joyce here. I hope you can see my screen with the title of the presentation. It's a pleasure to be with you, and I'm very grateful to the GBPN to have organized this session. And I hope that the few words that I am going to say will help to stimulate a lively discussion in the Q&A part. I thought I would start by letting you know what is EuroACE. It is, the European association of leading companies involved with the manufacturing, distribution and installation of energy efficient equipment and services in buildings.

We survive by promoting energy efficiency in buildings on the EU political agenda, and we do so in a manner that is integrated across all solutions within the building. In other words, we are solutions on technology neutral. We find this to be very important because it allows us to speak for the building sector, as a whole, and to keep a very high-level political awareness alive around our issues.

The principles that guide us in the work we do is known as the Trias Energetica, and many of you may have come across this concept before. It is a kind of priority pyramid where you have three steps which must be taken in the order shown. So we believe, strongly, that we must reduce the energy demand first. And in this context, we fully support and agree with the GBPN's deep-path scenario that was just presented briefly by Sophie. After reducing the energy demand of the building to its maximum extent, then use renewable energy sources for residual energy needs. And finally, if you must, use fossil fuels efficiently, for the residual energy needs.

For my members and those who support the work we do, it's very important, um, to have a means of understanding whether or not you've reduced the energy demand effectively. And it's quite easy to see when sustainable energy resources have been used because you see, panels on a roof or you have a heat pump or another physical presence. Reducing energy demand can be by passive means or active means, but often, not visible. So here, good design, good specification comes into play. And in order to verify that the demand has been reduced, we strongly believe in the need for labeling and certification, the subject of today's webinar.

Just to give a little context, some of you may not be aware of the extent of the challenge in the EU where we have over 210 million buildings, 90% of

which will still be standing and occupied in 2050. So in the EU region of the world, the main challenge—and maybe our presenter from Ireland will touch on this—is not new buildings where we have very strong legislation to bring them to a nearly zero energy standard, but really, existing buildings. And that's because 40% of primary energy in our region is consumed in buildings, and that consumption leads to 36% of energy-related CO2 emissions causing climate change.

The members that I represent have the technologies, today, that could reduce that energy use by 80%. And that market is active, but needs to be up scaled, dramatically, if we're to achieve global targets, particularly around carbon, low-carbon economies of the future. So how do we do this? We need to build trust and confidence in the market, and that's because, at the moment, there's a lot of asymmetric information in construction. We see that the professionals understand what's at stake. They understand the solutions. But the purchasers, or the clients, don't. We see evolving standards, so standards are going up more and more. We see progressive, integrative approaches being applied to renovation of buildings in Europe. Those progressive, integrated approaches could actually form the subject of another webinar.

So looking at the trust and confidence element first, and to talk briefly about labeling, labeling is best known on white goods or appliances where they are giving a simple message to a consumer, to help them in the choice of their purchase. And here, I've shown you the examples from, on the left-hand side, a television and on the right hand-side, from a window. So you can see the energy performance and help you with your specification or your purchasing decision. So labeling is to be understood, in, uh, my world, as a method of giving—in a simple and clear way—pertinent information to inform a purchasing or specification decision. Where certification, on the other side hand, is a more complex procedure, it provides independent verification of what is being delivered through the works to a building, whether it's a new building or an existing building. It's there for breaking down some of those information asymmetries I spoke to a little earlier. And we find that it's good for dissemination of information.

I'm going to come, in a few moments, to my final slide, which will tell you the essential features that I see for success in labeling and certification. But what I wanted to share with you is that here, in Europe, we have, for our buildings, a-an energy performance certificate. You see an example on the right, and that certificate is already having a market stimulus affect. There is an appreciable impact on the value of properties that are properly labeled, and there's an increasing market acceptance of the need for these certificates in the marketplace. And we see an increasing link to policy developments. The UK is an example in point, where it... there is a proposal that buildings with grade E or lower certification cannot be rented in the private sector after and I will be corrected by our UK colleague, if I get the date wrong, but after 2018, if I remember correctly.

So if we're going to roll out labeling and certification, as I believe is necessary to stimulate the market for, uh, energy-efficient renovations, then there are certain features that need to be taken into account. I'm not listing the whole range of features in this slide, but just touching on a few, c few key elements. The first is that legislation should require labeling and certification for products and for, uh, buildings. The legislation should be clear and readily enforceable because there's no point to having a good policy if it cannot be implemented readily, on the ground. The format and content of, uh, a label or certificate should be informative. I've touched on that already. It should be trustworthy, so that the recipient of the label or the certificate can know that what's on the label is correct. And that that information is easy to understand because we are a very small number of people, who are buildings experts.

And finally, the implementation of labeling and certification schemes should be supported by a robust system which, at the least, should be accompanied by accreditors, independent testing facilities, for testing that labels are trustworthy and truthful; accreditors, qualified professionals in the certification world, in order to go and take the measurements needed to put the certificate in place; the maintenance of a register of labels and certificates, so that others can learn from what we have, uh, done and from previous experience. Because if we don't learn and build on what we do today, how can we improve for tomorrow? It's impossible. So a register that's accessible and open can be very helpful, particularly for design decisions. And there should be a system of penalties, for non-compliance with legislation.

Evidently—and it's the last point I make—there should be an appeals system in case, uh, an accredited professional, for example, is struck of a list or if there is an abuse of a client's confidence by untrustworthy information. So I gather we will now see some case studies from the three regions. And, uh, I look forward to hearing those and seeing whether the few pointers I've given, um, are being taken up in the regions that we are about to hear from. So thank you for your attention.

Roger

Right. Good afternoon from England. Can I have the next slide, please? I'm going to be talking about energy performance certificates and labeling, which Adrian has just introduced to you, from the context of the UK. Uh, about the first two-thirds of the presentation is about things you need to think about before you actually launch into putting the certificates in place. We're having to experience... I have experienced, with the implementation in the UK, but also in other EU, European Union countries and, currently, some non-European Union countries. The point to make here, I think, is that the issues are all the same, but countries differ in which priorities they place on different sorts of issues. And I'll talk about that, a little bit more, in a moment. In the final third of the presentation, I'll, touch on some of the other things that Adrian mentioned, which is how EPCs, energy performance certificates, which are actually called EPCs, can be used to support other policies. In 15 minutes, you're obviously not going to get a lot of detail. I'm going to cover quite a lot of ground. So if I can have the next slide, please?

I think Adrian already mentioned—those of you in Europe will be familiar with this—there is a legal requirement, a European directive called the Energy Performance of Buildings Directive. And the key element of this is that any building, when it's constructed, sold or let, has to have an energy performance certificate. And the energy performance certificate has to provide an energy rating scale, either A to G or 1 to 100, or some such number, and it has to be accompanied by recommendations for improvements that could be applied to the building being certified. And in almost every country these are based on calculations using standardized assumptions of occupancy and weather. In the UK, an EPC is valid for 10 years. It can be replaced earlier but it will expire after 10 years. Next slide, please.

If you start to think about introducing this process, you'll find that there are quite a lot of features you would like to have which seem somewhat contradictory. Now, I just want to run through some of them and give you a feel for the way things tend to pan out in Europe. But anyway, the first issue here is repeatability. You want two assessors, going into the building, to come up with much the same results. That's actually quite difficult because we're talking about existing buildings, for the most part, and the data quality is actually not very good. And that encourages assessors to guess, if they don't know. And I'll talk about that, in a bit more, in a moment.

Member states—actually, “MS” stands for member states—have really come to accept that if they could get back to that plus or minus 15% reproducibility, they're doing well. Obviously, you'd like to have better than that, but it's really very difficult to do without spending an awful lot of time on the, uh, on the whole process. The second, uh, issue is discrimination. In other words, if you have a number of different measures which can save energy, how important is the difference between them or the reliability of the difference between them? And on the whole, member

states accept that plus or minus 5% is, is good enough. Anything smaller, any difference smaller than that really means, with all the uncertainties, you're really saying that these two measures have much the same impact.

Then, for credibility, you need the technical people that look at what you're doing to say, “Yes, that's reasonable.” And you need the results of the process to be recognizable, and this is not so easy. It's easy if they don't. It's easy to see when they don't. But the process is a bit like, um, the one that applies to vehicle energy efficiencies. You know that there's an index that says, under certain conditions, “This how many... how much fuel the car will use.” But you know that, in fact that you're probably going to get a little bit of a different figure. Well, you have the same issues with buildings. And then, as Adrian has already alluded to, you need to have a proper quality assurance procedure in place, which means that the data and the process has got to be pretty transparent. And it's got to be auditable, at least by those people who are put in place to do the auditing.

And then, finally, and but by no means the least, is the question of the cost of doing all this. What some other states would typically like is it to take no more than eight hours for a dwelling and16 hours for another... other types of building. That's pretty hopeful, frankly, especially for the non-residential, where it can easily take you two, three, four, four days to a survey of a complex building. But it's an important issue. OK. Can we go to the next slide, please?

So I just want to say a little bit more about, one or two of these and, in particularly, the interaction between data reliability, the way you do the calculations and the way you construct your rating scale. So if we can move on to the slide, please? Before I talk about them individually, I just want to make... stress this point that we are really talking about existing buildings. And in England and Wales, there are about 11 million EPCs for existing dwellings, about 1 million for new dwellings and about half a million for other buildings. Now, that half million are actually big, mostly big, complicated energy-intensive buildings. So in terms of energy saving and energy consumption, they are more important than the number of EPCs suggests.

But I think the important point I want to make here is that it's very easy to think, “OK. We're going to introduce EPCs, and all we have to worry about is existing dwellings.” That is... That can create an awful lot of complications further down the line because, unless you're sure you're not going to want labels for commercial buildings, it's very easy to produce a nice simple methodology for dwellings and then find that, for other complicated buildings, that it doesn't work.

For example, if you try to produce a rating for a hotel, you may have a hotel which has bedrooms, swimming pool, a restaurant, shops, and you also may have a hotel which only has bedrooms. And despite what is a reasonable rating for, for... which applies across all those types of

buildings, it's really quite difficult. But again, I'll come on to that again, in a later slide. So if we can go to the next slide, please?

Data quality, as I've said already, in existing buildings, is often poor. And if you're an assessor and you're pressed for time, and you can't see what something is, you're tempted to guess. And that is not very auditable and not very reliable. And you have this dilemma between allowing an assessor, free reign, to simply write down what he thinks he sees or to restricting him to say you can only have one of these. For example, if it's a window, maybe you only give him a choice between single glazed, double glazed and triple glazed. That improves the consistency, but you will obviously lose, or can lose, quite a lot of information in terms of accuracy, reliability, if you like.

The way the UK approaches this, which is not untypical, is that for most of the factors that you are likely to put into the calculation, there is a default value which is set so that if you choose the default, you get a poor rating. If you're the assessor, you may overwrite that default value, but you have to be prepared to justify it. In other words, the quality assurance will probably kick in, at some point, and say, “OK. Why did you say that? How can you justify it?” And then, to make life easier, we introduce option lists where it seems helpful to do so. And the option lists may be related to the default values. For example, if you know the age of a boiler in a, in a house, you that at a certain... that after a certain date, there was a minimum performance requirement on boilers. So you can immediately shift your default value to being a boiler which complies with that requirement. And so, there are a number of tricks like that you can do to, to simplify the data input and help to, to reduce the uncertainty. But clearly, the creating of quality assurance of the assessors and the quality assurance of certificates is, is really a very crucial idea. So let's go on to the next slide, please.

The choice of the rating scale is something that's often overlooked. It's easier to say, “We'll have kilowatt hours per square meter.” That's fine for simple buildings like dwellings. It's really complicated... It can get really complicated for more complex buildings. The way the UK works—and it's true in other countries, as well—is that when you put the details of the building into your software, to do the calculation, it automatically generates another building which has the same geometry and the same use that has preset values of insulation, boiler efficiency, window area and the like. So, in effect, the building sets its own yardstick, its own, its own, uh, reference point. So that, that deals with the issue, much more satisfactorily, for multi-use buildings because you've got the same proportioned spaces.

It's also quite robust against a number of data areas. For example, if you get they are slightly wrong, it affects both buildings the same. So it doesn't completely remove the effect of getting the area wrong, but it does dilute that impact quite a lot. Um, and it also allows you to think in terms of

having more than one calculation procedure, which I'll come on to in a minute.

So the procedure produces an A to G scale. It also produces numbers, so you can whether you're near the top or bottom of the particular scale. And, uh, the UK is unusual in that our main metric is greenhouse gas emissions, calculated greenhouse emissions. In most of Europe, the metric is primarily energy. OK. Next slide, please.

Say a little about calculation procedures. Most, member states use a monthly calculation method, from the European standard. So, it's an international standard, actually. And a few use the much more complicated hourly simulations. The UK allows monthly calculations for all buildings, but also allows hourly simulations for non-resident-residential buildings. In practice, though, that approach is only used for complex, new buildings where this little simulation is part of the design process. I'll just mention, in passing, that the way you divide your building up, internally, when you do the calculations, is important, especially for air-conditioned buildings. I haven't time to go into that. So let's move on to the next slide.

OK. I'll say a little about recommendations and refurbishments. The recommendations that are thrown up by the certification process are basically for elements. They might be related to the window or to the boiler or to insulation, with an indication of the approximate cost-effectiveness. And it's important, again, to remember that some measures may be cost-effective now; others only make sense when you have to change something for some other purpose. So, for example, a recommendation may be that when your boiler eventually reaches the end of its life, buy a better one. And I think, in order to distinguish between these minor, these elemental changes, which are a part of minor refurbishments, and major refurbishments which trigger the requirement for whole-building minimum performance requirements that Adrian mentioned, for new buildings. So in other words, if you're making a deep renovation, you're going to be caught by some minimum whole-building requirements. And the EPC, itself, is not so much the issue.

Process in the UK is that the software produces a recommendations list and (Inaudible 0:33:48.7) But importantly, the final responsibility is with the assessor. The assessor has been to the building. He may recognize opportunities which the software can't, or he may recognize that the software makes a generic recommendation, which is not applicable in this particular building. So that's important. OK. Next slide, please.

I wanted to say a little bit about impact of EPCs and interaction with other policies. Adrian mentioned the impact of EPCs on the value of buildings, and that seems to be true in quite a number of countries. It's very little evidence in the UK. The UK, apply well, value, location are much more important. So the energy rating doesn't seem to have a big impact.

There is potential for using a database which holds all the EPC data, as a tool for policy development, because usually, we don't have very good information on the building stock. And the EPCs cover at least a part of that stock. Although, we have to remember that it's not necessarily a representative standard, sample, sorry. And EPCs can be an enabling tool for other policies. So if we could just go on to the next slide, please. I've got a couple of slides, just to highlight this, before I wrap up.

In the UK, we have, uh, some financial incentives for the use of renewable energy. We have a feed-in tariff for renewable electricity. And we have something called the Renewable Heat Incentive which is a bit like a feed-in tariff for solar, thermal, biomass and the renewable part of heat pumps. Before you get these, these, uh, these financial inducements or, at least, certainly before you get the most attractive of them, you have to show that you've done the reasonably sensible things to reduce the demand of your building. Coming back to Adrian's inverted triangle, in a way, you've got to do the top bit first, before you get an incentive for doing the second bit. And the EPCs are used as a filter, if you like. If you have it you don't have an EPC above a certain level, you've got to either show you can't do it or, or do it.

Adrian mentioned that there was a proposal for... to prohibit the letting of buildings which are... with a poor EPC rating. This isn't actually the law, yet, but is likely to become the law. And, uh, he said 2018. I think it may be the end of 2017. But that's the sort of time scale we're talking about. So can I have the next slide, please?

I want (0:36:34.6 audio unavailable) Um, there is an increasing tendency to use the energy performance certification to justify financial support for renovation. Now, in itself, that is not a bad thing, obviously, but there are some traps. As I've explained, the process of producing EPCs typically errs on the side of, if you don't know, you get a low rating. Now that implies that there may be some substantial savings to be made. And they may or may not exist. It may be, simply, that the assessor didn't have the information to judge one way or the other.

There's also another complication, which is that the calculation, the EPCs are based on the standardized occupancy, and people, as we know, have a wide range of, um, ways in which they use their buildings. And so, the actual savings may be more or less than the EPC indicates. So, in other words, the EPC is a useful tool, but not just in itself. You need to work on it and do more.

But my final slide now, which is to summarize my personal thoughts about all of this, which are, essentially, before you do anything, think about it. Think about what criteria are important for you. Realize that, although the calculation methodology is important and where most of us start thinking, it's not actually the whole issue and, in many ways, not

really the main issue. Remember that it's not necessary just about housing, and you need a procedure which can deal with other buildings, too.

And then, there are a whole lot of support infrastructure issues that Adrian touched on, that I haven't mentioned. But I think Chris Hughes will mention some of them later. And finally, it's good to learn from your mistakes. It's better to learn from other people. So talk to somebody who's done it before, preferably more than one person. They've probably found out, the hard way, where the traps are. With that, I'll hand it over to the next speaker.

Stacy

Hi. My name is Stacy Lee. Good morning from New York. I'm very excited to be presenting on this webinar. Um, I'm going to speak more from the local context of labeling and, um, certification. So, um, let's begin. Next slide, please.

Uh, just to give you context, we, New York City, has a citywide greenhouse gas emissions goal reduction of 30% by 2030, from a 2005 baseline. And as of our last greenhouse gas inventory, we were at 19%, um, in 2012. Um, however, we did a study looking at how we can reach further reductions, um, of 80% by 2050, and we see that we're not on a track to get there if we focus on just 2030. We need to move, further and be more aggressive to get on, a long-term path. Next slide, please.

And while emissions from buildings have dropped since 2005, more needs to be done through energy efficiency. As has been seen in many other cities, uh, buildings contribute to a significant amount of, u m, emissions, citywide. And looking at the changes, just from buildings alone, we see that, um, in New York City, most of the reductions have come from cleaning our fuel supply, rather than energy efficiency. And so, therefore, we need to focus on how we can get to those deep reductions. Next slide, please.

Just as we saw some context on EU buildings, I wanted to give, uh, more contexts on buildings in New York City. We have almost 1 million buildings, with 85% of them expected to present in 2030. Um, energy consumption in buildings represent 83% or our citywide energy use, and, also, as mentioned earlier, it contributes towards 71% of citywide emissions. And interestingly, the largest buildings that we have represent only 2% of all properties, by count, but are almost half of citywide square footage. So from a strategic standpoint, we thought it made sense to focus on, um, getting those energy efficiency gains from the largest buildings. Next slide, please.

And, measuring and tracking energy data is essential. And so, in 2009, we passed the Greener, Greater Buildings Plan, which is composed of four local laws, including the New York City energy code, benchmarking energy audits and retro-commissioning, and lighting upgrades and sub metering. Focusing on benchmarking, we looked at the largest properties

that we define as over 50,000 square feet or roughly 4,600 square meters, or groups of buildings on a single property that are, collectively, over 100,000 square feet or roughly 9.300 square meters. And this equated to 13,000 properties, which translates to 24,000 private buildings.

We also require public buildings to benchmark, as well, and they have to meet a more stringent standard of over 10,000 square feet. And altogether, they represent, 2.5 billion square feet or roughly 240 million square meters. And you can see from the pie chart, on the right, this is a significant percentage of national square footage that is benchmarked. The pie does not include counties and states, but you can see that there are many other cities, at a local level, who are also, um, benchmarking. And the data is collected through a national tool called the Energy Star Portfolio Manager, which is provided by the U.S. Environmental Protection Agency. Next slide, please.

So when this webinar asked us to look at labeling, we thought of our disclosure process and how we require building owners to report their energy and water consumption, annually, using the online tool. And, after the city receives it, we go through a process of verifying that the building owners are in compliance, and then provide that information back out to the public.

So you can see, from this slide, we have an online database available at nyc.gov/ll84data. And you can just easily see, based on this information, any property that's over 50,000 square feet, whether or not they've complied; how high or low is their site and source, energy use intensity; uh, where do they rate, in terms of their Energy Star score and how much emissions did they emit that year.

In terms of the Energy Star score, this is a 1 to 100 national rating that a building can receive, uh, when they use the Portfolio Manager tool. And, it's a national comparison of, the national median is 50. So not only can buildings compare how they are performing in relation to other buildings, citywide, but they can also see how they perform on a national basis. Next slide, please.

In addition to disclosure, we wanted to provide context, so the city of New York was required, by law, to conduct analysis and provide three benchmarking reports, uh, looking at data from 2010 to 2012. And what we found was that multi-family properties make up the majority of the largest buildings and use the most energy. We also found that high energy users also tend to be high water users. And lastly, going back to that labeling of the Energy Star score, we saw that, citywide, the median Energy Star score increased and energy consumption decreased in the past three years. However, we can't completely say that this is due to energy efficiency, alone, because there are many factors to consider, such as the event of Hurricane Sandy effecting buildings, causing them to lose power; um, benchmarking tool upgrades which provided changes to a tool, which

may have affected the data; and lastly, fuel switching, which is not necessarily energy efficiency, but can reduce greenhouse gas emissions.

And the graph on the left is an outdated graph. It's for the second benchmarking report, but you can see the trend of, uh, the properties that are eligible to receive an Energy Star score and how we compare with the national median. We have exciting news, that our last benchmarking report will come out this month, and it will be available online, at that same website. So we encourage you to visit it and look through the report. Next slide, please.

In terms of certification, Energy Star also provides a certification program for eligible buildings that receive an Energy Star of over 75. They go through a verification process, working with a registered architect, or a professional engineer, to conduct a site visit, as well as verify the data that was reported through the tool. And, uh, once they do so, they receive a certification.

Um, as of 2009, the U.S. EPA has looked at the top 25 cities nationwide, with the highest number of certified buildings, and we have consistently increased our numbers. And we are currently at 303 commercial buildings; that, um, puts us at number 4, nationally. We have exciting that as of this Monday EPA released an Energy Star certification program for multi-family buildings. So we expect our buildings certification number to go up, as the majority of our buildings are multi-family properties. Next slide, please.

In this confusing slide is a great visualization of the difficult process that we actually go through, every year, to provide this disclosure in labeling. Many entities at the city, uh, agency level are involved, as well as different data sets and, um, managing of the data—whether it's merging, verification, cleaning and so forth—to get this out to the public. And so, it's a complicated process that we hope to continue to improve and make more efficient, and provide the data in, a better format that's more accessible to the public. Next slide, please.

And we believe that labeling and certification is only as successful as the other resources that are available. And so, our ongoing efforts must be supported with more information, financing, voluntary programs, education and mandates. To that end, we're exploring an energy asset score program with the Department of Energy, looking at how we can evaluate, not just the amount of energy that's use in a building, but how it's done so with the assets, such as the building envelopes and the mechanical, electrical and hot water systems. Through this program, the building receives a score, as wells tailored retrofit recommendations.

In New York City, we established an energy efficiency corporation, and this entity provides loans and enhances credit to undertake retrofits. And it allows building owners to afford retrofits, uh, uh, when they otherwise

could not do so. Voluntary programs are also excellent in identifying candidates that want to do more, but also want to be recognized. And so, in 2007, we launched the New York City Carbon Challenge, which, uh, brings on universities, hospitals, commercial offices and multi-family buildings to sign on to reduce 30% emission in 10 years; which, in effect, is asking them to reduce their energy usage by 30%. And so, we've seen a lot of success through that.

In terms of education, we've provided a resource called Green Light New York, which is a learning and presentation space for lighting. Lighting is one of the most cost-effective ways to, um, improve a building's energy performance. And so, we wanted to make sure that building owners had a resource to seek when they wanted to understand how a new technology plays out or what information is out there.

And lastly, through mandates, we didn't pass benchmarking, alone. We wanted to make sure that, uh, we had a local energy code that would upgrade our standards every three years, as well as audits and retro-commissioning that allows for, um, action to be made, with guided recommendations. And this is conducted every 10 years. And, we also require lighting upgrades because, um, of the cost-effectiveness, and, um, sub metering in tenant spaces, so that tenants can understand their individual energy usage and make informed decisions. Next slide, please.

And lastly, we believe that the public sector has an important role in motivating the private sector, um, by leading by example. And so, the city of New York established its own goal for 30% reduction by 2017, in 10 years. And, it's, uh, doing well with current level at 19% reduction as of 2012. One example of a great program that we've launched is the Accelerated Conservation and Efficiency Program or ACE. It's fast-track funding for shovel-ready projects, and it's expected to save $25 million per year and reduce 50,000 metric tons of carbon dioxide equivalent.

As I mentioned earlier, city properties also have to annually disclose, so their information is also available online, every year. And lastly, there are additional programs to promote efficient O&M, deploy innovative technologies and encourage competition among facility operators. New York City is a very competitive city, so we see that competition is also a great way to promote energy efficiency. And, that's it. Thank you.

Sean Great. Thank you, Stacy. And now we'll turn it over to Chris.

Chris Good afternoon. Good morning and good afternoon to everyone. I'd just like to give you an overview of the role of energy-saving certification in Ireland and the progress made to date, just in terms of overall statistics. Just terminology, energy performance certificate that's currently used in Ireland is Building Energy Rating, so you'll hear me refer to Building Energy Rating or BER throughout the presentation. In terms of figures, there's almost half a million homes, at the moment, have a BER and EPC. And there are 600 and just under 680 experts or assessors who issue certificates, and just 8.5 thousand certificates published last month, for homes, for apartments and homes. I haven't included the figures for other buildings, but I can provided those too, if people are interested, afterwards.

So approximately 30% of residential buildings in Ireland have a Building Energy Rating. And I've given a screenshot, there, of the breakdown, by energy grade, of the ones published to date. So, uh, we have a lot of information, in terms of our dashboards of analysis by, both by across the whole number of EPCs or BERs published, but also by different age and, and by different areas. So we can analyze the data, and it's very useful, in terms of policy analysis.

In terms of one of the things that Roger referred to, earlier on, in his presentation was about the importance of using a, not just, folks, the methodology or the tool you're going to use to do the calculation, but also to look at what you're going to do and the systems that hang around that. This is a little busy screenshot. But in brief, the decision was made, uh, when Building Energy Rating was introduced and planned in Ireland, that we must have a central register; that all certificates or BERs must be stored in a central register which is managed by Sustainable Energy Authority of Ireland, who are the issuing authority, under legislation, for managing the whole process. So that means that each of these each of the certificates, we have all of the information stored centrally, and it's very good in terms of informing future policy.

We also have, for example, that we can, it's a self-service model, so all of the people who are trained experts, engineers and architects, who are publishing certificates, they, um, can publish them themselves. They have a log-in, and they can access the system. And various checks, in-line checks, are carried out on the files that are processed. It links, also, to external services like the national electricity Service, where you can confirm the address for building properties. And it also links, importantly, to a financial system because it enables us to invoice and direct and debit people's accounts for publishing certificates.

An important part of the methodology or the approach is just a bit of background about this one we touched on. Standards is that the calculation standard for homes is based around the EN13790 and also, international standards, where they are available. So to provide as much guidance as possible where people are using values, in the calculation, to support, say,

a property for a window or for a wall construction that would get, try to get consistent results. So this chart here, is an extract from the Dwelling Energy Assessment Procedure and Methodology document, which are both available, which is available on our website, to describe the procedure in further detail.

An important aspect for the system, a role of it is that we publish and extracted the whole database, automatically, every night, to our website. So we remove any private information, and then that information. The rest of the database is made available for policy research and policy use. So for example, people can visit our website and either extract a small number of the records on screen, or they can extract the full half million records and analyze as they wish, in terms of the energy use. And All of the way through to the construction, the window construction, the wall construction, heating type, age, efficiency, all the parameters are available. And it's very important in terms of informing policy, in terms of research and also assessing the impact of future policy measures.

So the national Central Statistics Office or the national statistics agency in Ireland, they combine it with other data. And they've published, recently started publishing quarterly information bulletins about building an energy rating and commenting on the efficiency and change of efficiency of dwellings over time. So it will link to other, policy measures, as well.

Important approach taken in Ireland is, it's self-financing. So the operation of the central register and all of the BER or EPC systems, is under the enabling legislation is self-financing. So, for example, all of the income generated, such as the fee charged for publishing certificates and, also, for registration and annual renewal, that money is taken. And you can see, for last year, the income was approximately €3 million. And that was used by SCAI at the issuing authority for all the system's design and development, which is the software tools, also the cost of practice, the whole administration behind the system, and all of the business process, the website updates and energy awareness campaigns that promote the uptake of the requirement for Building Energy Rating, and the support and maintenance for licensing all the backups. So it is a full-time, 365-days-a-year-operating system and, all the time, available. People even publish certificates on Christmas day. It's got a backup, and it's got failover and backup, off-site backup. So it's a very resilient system, in terms of its operation.

A significant investment, too, has been our quality assurance, in terms of auditing of the assessors to make sure they're following the rules and conventions, so you get the consistent results. We have examination requirement for every two years. All of the assessors must re-sit an examination, to make sure that their skills are kept up to date, knowledge kept up to date, too.

This is a snapshot from one of our dashboards which enables, in terms of policy analysis, to look at, further, the EPCs or Building Energy Ratings published so far, by different age bands, what is the profile for the Building Energy Rating. So in this case we selected age band E, and for residential, that's 1967-77 year of construction. And we can see the profile. The most frequently occurring is D2. It lets us analyze, by different years of construction, what is the age band profile, and then you can analyze what will be the impact of different policy interventions to that profile. And you can design policies and, also, update policies, measure their impact afterwards.

And now that we have a Building Energy Rating scheme in place, we have looked at, we have a parallel scheme called Better Energy Homes, which is to support homeowners to improve the energy efficiency in their homes. And part of that is also to build a capacity skill base of contractors and builders to install energy-equipment to the right standard and quality and assume market uptake. And the incentive is a cash grant, and it's fixed, regardless of house size. So it's more benefit to the smaller homes than it is to a larger home. And part of the process is that the Building Energy Rating is mandatory. It's part of the grant scheme, so it links in that you must have a BER, as part of the grant scheme. So therefore, we capture all of the information about homes that are current. Their status, following the energy upgrade, is recorded on a central database. So it very, a lot of useful information in terms of policy and analysis. And approximately... Last year, approximately one-quarter of all EPCs published were for, under the grant scheme. And there's further information of that on our website.

But the grant scheme, in conjunction with that, we have a Better Energy Warmer Home scheme, which is available for fuel-poor homes where people can't invest in energy efficiency in their own homes, um, themselves. And we provide, through a different mechanism, community-based organizations, those certain range of energy upgrades for free, where there's no investment required by the homeowner because they're not in a position to make that investment. I just put, uh, here, listed here, some of the overlying statistics about the scheme. So, for example, the number of grants paid is just under 400,000. The total amount, under the scheme, paid to date is €166 million. So there's a lot of investment being made, and you can see the type of measures, the improvements that have been applied under the Better Energy Home scheme. Further information on those schemes that I've just mentioned is available, also the Building Energy Rating guide for homeowners, our analysis about understanding people's approach to energy efficiency, which we published and, also, impact of the better energy homes.

In terms of what the future looks like, I know it was only a brief run-through of the operation of the register and its impact in making of policies. One of the, the challenge, I think, instead of, for us, instead of really, indeed, to be recast, is to realize the ambition about major

renovations. So there's a requirement in the energy performance buildings directive recast which says buildings undergoing a major renovation of either 25% of the building envelope or 20%, 5% of the value, of the value of the property, must have a major upgrade applied to them. We're working through the building regulations, at the moment, to review of those, to see what would be the impact of that and what requirements would be required from that. This is following on as part of the work for what's called the cost-optimal calculations which are part of the recasts, which assess the current level of requirements in building regulations across all of the EU member states.

That, I expect, combined with other measures, will have a significant impact because it will mean there will be a trigger when people are considering major upgrades of their buildings, that they'll be required to carry a whole-building analysis and could potentially, if the (Inaudible1:02:31.6) is considering insulation upgrades, they could potentially be required, also, to look at the various systems—the lighting, the heating, the cooling systems within the building—at the same time and upgrade those to a certain level, too. So that's a major challenge, I think, ahead for us. But I hope that that's given you an overview of the current role of the central certification scheme in Ireland.

Sean Thank you, Chris. Sorry about that. I was still on mute. Uh, and thank you for the presentations. So, at this point, I do just want to remind the audience, if you have any questions for the panelists, you may go ahead and enter those into the Questions pane, and, uh, I will present those to them. We did receive a number of questions from the audience, so far, so I will go ahead and start with those. And I just want to let the panelists know a lot of these questions are just general questions for everyone, so please feel free to unmute your audio device and respond to anything that you want to discuss. And so, the first question we have was covered in the presentations, but it's just asking for a little more discussion on some of the key lessons that you've learned, that you would recommend for application to developing countries, specifically for governments with an emphasis on policy instruments in the building sector.

Roger Uh, can I, should I come in here first? I think one of the, one of the (Inaudible 1:04:34.4), in a way, between Ireland in the UK is the use Ireland makes, as Chris very clearly demonstrated, of the database of EPCs to support policy. I think the UK has, perhaps, over-restrictive, uh, rules on access to data. And I think that is holding back, if you like, the sort of analysis that, that is happening in Ireland, which clearly is so useful for policy support.

Sean Great. Thank you, Roger. And anyone else want to add to that?

Chris If I could just say, Chris Hughes, here. If I could just add to Roger's comments. Yes, the central register, if you're going to design a labeling scheme, I would strongly encourage any country considering this, a region having this to have a central register. There are benefits to this. I know of at least one major European member state that doesn't have a central register, and they, the challenge is how do you first start measuring what the current state of building stock is? How do you analyze it? You don't know what the current efficiency levels or the current opportunities are out there. How can you measure the policy (Inaudible 1:05:53.7) the success or design policy, measures afterwards?

And it's amazing that, if I look back over the last five years, that now we have other people taking what you might say is SEAI information, like our Central Statistics Office or our national statistics agency, who are not focused on energy, at all. But they combine it with all kinds of, uh, information they have access to, like household size, income and all kinds of other things, and they can make use of that information to inform larger policy decisions. We can also have our energy modeling group within SEAI take that information and turn it into research. For example, they've shown that it does have an impact on price. Only a small impact, so far, but it does have an impact on price. So it's important that, and, also, you can measure compliance. If you have the central register, you can measure compliance. So it is very, very important. So not just focus on the tool, of how you're going to calculate whether it's an A to G rating, but how are you going to gather the information afterwards and use that information.

Sean Great. Thank you, Roger and Chris. And we move on, now, to the next questions. And, this is for those of you that have, worked in the UK and just asks that "if you have any information on the renovation rate in the UK among old buildings."

Roger Roger Hitchin, here. Very difficult to get a hold of reliable information. Again, it almost touches back on the, on this database issue, of seeing how the, um, the profile of the EPCs changes over time. Though, there are some numbers around, but they are not very strongly based, I would say, personally.

Adrian Adrian, here. I'd like to comment on that. Indeed, Roger is right. It's very hard to give an answer to what's the renovation rate in, uh, the UK or, indeed, any country across Europe. But, um, there are a number of questions that that simple question raises. The first is, what should the renovation rate be if we're to achieve ambitions around a low-carbon future. And, uh, we estimate that should be around 3% per year by 2020, and from there, onwards. Whereas, today, the best information for Europe, as a whole, is that the renovation rate is hovering around 1%, so it's a very major step-up that's needed in the European Union.

The second key question that this raises is what do we mean by a "renovation." I know that Sophie touched on that, and the work of the

GBPN throws light on it. But generally, it seems to us, here at EuroACE and, indeed, in the Renovate Europe campaign that we run, that the, um, general depth of renovation is a very shallow renovation. So we are not currently with the 1%, even capturing the cost-effective potentials in each project that's undertaken. So this question about rate of renovation is key for developed region like EU and, I think, the USA. But certainly, we are way below the rates and depths that we need to be if we're going to have an impact on climate mitigation.

Sean Great. Thank you both. I'll move on, now to the next question and it asks—

Peter Hello this is Peter Graham from the (1:09:29.4) Just to add a little bit to that discussion and give you some figures. In France, they're estimating they need to renovate about 400,000 buildings a year, to make their energy reduction targets in existing building stock. And so, part of the challenge is to provide consistent information to investors in building renovation, and certification and labeling is part of the answer. And we look from the perspective of driving towards the deep path that Sophie mentioned at the beginning of the webinar, we also need to see how the certification and labeling schemes work in conjunction with holistic policy package of rent [managery] and also voluntary measures.

Roger Uh, this is Roger Hitchin. I'd just like to, I do have another comment here, really, which is that, in all this discussion, the efficiency of the systems and equipment tends to get pushed down the list a bit, and I would say not, not taken into account. But actually, most of the building services that are in a building might last 10, 20 years. So you've got an inherent 5% to 10% turnover rate there, which is, which is rather different from the, sort of, 1%, maybe up to 3%, for the whole building. So at that level, there is scope to renovate at the technical system level, um, quite apart from the, the possibilities of dealing with building envelope issues.

Sean Great. Thank you, everyone. And so, the next question that I have for, again, for every panelist, uh, whoever would like to address it, “What do you think about the role of public-private partnerships in deploying energy efficiency in the building sector?”

Roger Distinct silence. Roger Hitchin, here. I'll just throw out a thought here. I mean, in principle, it sounds like a really good idea. Um, leaving aside the question of PPPs specifically for energy efficiency, the concept has, let's, shall we say, not got a good press, at the moment on the (Inaudible 1:12:11.8) scene, in the UK, if anywhere.

Stacy In New York City, we've seen a lot of success with, uh, public-private partnerships and, um, both inviting the private sector to weigh in on mandates and what is an appropriate target that the private sector thinks is feasible, in terms of energy efficiency as well as voluntary programs in which, um, the private sector works towards a common goal and gets input and feedback from the public sector. So it's definitely something that's been working in New York City and something that we think is crucial to continue to move forward in energy efficiency.

Adrian Yes, Adrian Joyce, here. I would also agree with Stacy on that, that PPP is a potentially important driver to help, particularly, deep renovations. But, uh, again, we have to be careful what we mean by PPP, and public-private partnerships can take all sorts of forms. And I would put it that those forms are not only financial partnerships, but maybe, process or, policy partnerships, as well. So it's a big subject area of PPP. And with the many economies around the world feeling cash-strapped but yet, a lot of private money still in the, available, PPPs are going to be an increasing tool used, I think, for reaping the energy efficient potential in our building stock. So we need to keep an eye on this one.

Sean Great. Thanks, again, everybody. And now, this question is for Roger and asks, "How would a country with no financial aid or incentives be able to implement a labeling scheme similar to the one in the UK and, more specifically, uh, organize and train a workforce who could assure transparency and credibility?"

Roger Yeah, it's obviously difficult. I mean, Chris has pointed out that, once you've got it up and running, um, make it self-financing. That is assuming, of course, that you've got a regulatory system in place which requires assessors to exist and, therefore, gives them a market where they can actually earn some money and contribute to the cost of the certificates. There are there are aid schemes that are actually supporting this. So I mentioned, in my, my first slide, very quickly—because I knew I was likely to overrun, that I'm involved with, um, a program to implement the EPBD in some of the countries which are just outside the European Union. Um, and these are basically being funded by the, mainly by the European Bank of Reconstruction and Development because it is seen as a-an important mechanism for helping these countries', economies, especially their energy economies, to actually come to a bit more in line with the countries which have actually invested in them.

So I don't have an easy answer to that. I mean, there's plenty of, there's plenty of experience around Europe, now, for how to do it and how not to do it. So knowledge is not, not so much an issue. But you do, and I think, once you've got the system up and running, there is potential to keep it self-financing. What is needed is an injection of cash and expertise to actually get the whole thing up and running. And, as I say, I've seen examples where it happens. Obviously, sort of geo-political reasons for the European Union, the EBRD to want to support these activities in countries

close to Europe. And I guess, uh, though, aid agencies that are supporting other countries could well take the same view.

Sean Great. Thank you, very much. And next question, uh, asks, "In relation to the financing issue of renovation, are there any strong, um, methodological concepts for step-by-step renovations to reach ambitious energy performance targets?"

Roger Yeah, yeah, Chris touched on this in a, to a degree, I think, in his final part of his presentation, didn't you, about the use of applying, um, sort of, cost-optimality concepts to deciding, for major renovation, how far you could justify going. But then comes the next issue of can you get the money to this, where the paybacks may be long. But, I mean, I think there is a, sort of, a way into the question there.

Chris Yep. So if you were interested, further, in the topic, on the, I think it's on the EuroBuild website, the, each of the concerted action which brings all member states or whatever together. But part of the EU requirement is that all the EU member states had to complete these reports which, in fact, looks at their own building regulations. And so, what was the gap between the current building regulations and cost-optimal, which is the achievable deep renovation you could have in, across both new and existing buildings, the central requirements. And all those reports, national reports, are published on a website on a, I can send you a link to the organized actions. The discussion of where those reports are available. So if you want really detailed on how you go about doing the calculations of future energy prices, cost of measures and all of the rest that should be considered, that information is all available.

Sean Great. Thank you, Chris. And then, moving on to the next question, it asks, "In your opinions, uh, what types of incentives are more successful, financial or non-financial?"

Adrian Adrian Joyce, here. Incentives are oft discussed here in the EU. And, um, there seems to be quite a strong link between culture and incentive type. What I mean is, in some cultures, it's a, a return on your tax bill, is seen as a great incentive. In other countries in Europe, it's a cash payback. So you make your investment, but you get a certain sum back into your bank account or as a check. So incentive schemes have got to be designed, with the local characteristics in mind.

And incentive schemes are both a blessing and a danger. What I mean here is, of course, when a well-designed incentive scheme is introduced, you see a peak in the rate of renovation and the number of renovations taking place for the measures that are being incentivized. But countries and governments tend to only implement incentive schemes for short periods of time. So this has very major negative impacts on, on market development because you find companies entering the market to satisfy an appetite which has been created by an incentive that's attractive. But then

the, it starts to cost the government money, so they say, “Oh, this is costing more than we thought. We'll cut it.” And then they stop the scheme, and the businesses that were established to, uh, serve the scheme then go bankrupt. And you get a very uncomfortable rotted culture effect in the economy.

So incentive schemes have got to be very carefully designed and, in our opinion, need to be designed to be medium to long term. And certainly, if there's going to be a phase out of an incentive scheme that must be done in a very planned and deliberate way, so as not to have these negative market that I've just referred to. So these are some thoughts about incentives, far from the whole, uh, subject.

Stacy I also agree that financial incentives need to be carefully designed, but also, um, just information-wise, easy to understand. We have a lot of incentives that are available through a state energy authority, as well as, um, local utilities. However, uh, they overlap. People don't know whether it's applicable for their particular building size or, uh, building type. And so, there's too much different, disparate information out there, and it's almost overwhelming. And so, we see that there are incentives out there, but the uptake is not as high as it could be because of this issue of, just, confusion. And so that’s an issue that we want to address and streamline and make sure that there's a centralized message for all building owners to understand what's applicable and what's out there and so forth.

Peter Peter Graham here. I'd like to chip on, on incentives, as well. We did some work with the Economists Intelligence Unit, a year or so ago, looking at, um, what kind of incentives large property developers would need for policymakers to get them to invest more, and more rapidly, in, in, uh, energy-efficient buildings, both new and existing. And, uh, we... That... What was kind of overwhelming, in the responses, was the, the develop ministry were looking for incentives like tax breaks. And when we compared that with the kind of incentives that governments were generally providing, they were more in the forms of subsidies. So there was a bit of a slight mismatch between what industry thought were the most important option incentives and what was generally being offered, um, on the policy side.

Sean Great. Thanks, again, everybody, and we have time for one more question. We'll just need to keep the responses a little brief. We have, well, we have about five minutes left for this one. Um, so this question is for everybody, and it asks, uh, they can see that there's a difference between the EU and U.S. labeling schemes. Uh, labeling is mandatory in the EU and are generally voluntary in the U.S. “How important is it for the labeling schemes to be mandatory in a region?”

Roger Well, Roger Hitchin, here. Perhaps, I can start this.

Adrian Adrian Joyce—

Roger Go on, Adrian.

Adrian To start with, thanks, Roger. I was going to say that part of my background in, is as a practicing architect. So I've been close to the market, and I've been active in the construction sector across four member states in the European Union for about 30 years, in total. And in our part of the world, I have never seen a step change in the way buildings are specified, designed and built, unless it was driven by regulation. And that's because the construction sector, see, is a very conservative sector. It does, it tends to have a lot of an inertia to change. And we, therefore now believe that effective labeling and certification schemes must be mandatory because if they're not, they simply don't have the positive impacts and effects that we see that they can have. So Roger, over to you.

Roger Yeah, yeah, well, I, it's sort of in the same area. I think you have to see voluntary labeling and mandatory labeling as two different ends of the market transformation procedure. Mandatory labeling is really to deal with the poor buildings, the poor products and to make sure that people stop building really bad buildings, for example. Voluntary labeling is much more for the other end of the market, for the early adapters, for people who want to be seen to be in the forefront. And then, they can be very successful in their own terms, but they take a long time to diffuse across the whole market. So I don't think there's an either/or necessarily. One of the advantages of a graded labeling scheme is that you can introduce minimum requirements at the bottom end. But you can hope to encourage people, uh, specifies of new buildings, in particular, let's say, to say, “Ah, yes, but my building's a little A++,” and, you know, get some kudos from that.

Stacy In New York City, uh, we currently don't require mandatory certification, but we do have mandatory benchmarking disclosure and, in that process, labeling. And so we see that mandatory labeling is required because, unless you are a building that is performing well and want to be, um, rewarded and publicly recognized for that, there is no, real strong incentive to take on the resources and time to do the labeling. Mandatory labeling has, also, additional benefits in that the government provides resources and conducts outreach and, on the whole, supports building owners throughout, through the process, especially those who've never done it before, whereas a voluntary program is kind of more on the building owner's part to be proactive. So we've seen, um, a lot of great benefits coming from, um, mandatory labeling for large buildings. And, uh, we want to look to expand that to more buildings in the future.

Chris In our country, you have—

Roger Well—

Chris Sorry, Roger. Go ahead.

Roger Well, I was just going to, to make a quick comment, which strikes me, is that when mandatory labeling and minimum performance requirements were introduced in the UK, I was quite close to the help line. And for the first year, 18 months, we got a lot of queries which really boiled down to the fact, "I've got this terrible energy rating, and I've done everything that I should've. And there's something wrong with your software." And that usually was because people who were doing it hadn't actually understood what was important, in energy terms. And I think, if there's been one big impact in the UK, it is that the people who actually, um, have to deal with these issues are much more energy literate than they used to be because we don't get those sort of questions anymore.

Stacy That's correct. We've seen the same thing in New York City, where we had a benchmarking help center, and for the first year, we were flooded with phone calls. And by the fourth or fifth year it's pretty standard now.

Sean And I believe—

Chris I was going to—

Sean Chris had something to add.

Chris Yes. I was just going to add that I think one of the roles of government and government agencies is to intervene where there's been market failure. And one of the benefits of the mandatory labeling, and especially when, then, it moved on to actually include the mandatory inclusion of BER or EPC information in all advertisements from January of last year, is we've seen a step change in terms of volumes of information available now. So all advertisement for sale, in it, at least, have all the information available. So the information is available now, at a much earlier stage, for our consumers who might be interested in making a decision. And so, I think you ultimately have to have a mandatory scheme if you want to have success in terms of understanding and improving energy forms of buildings.

Sean Alright. Thank you, everybody. And, uh, that is all the time that we will have for the discussion. Uh, so appreciate the questions, and thank you, panelists, for addressing those. And now I'd just like to ask the audience to take a very quick minute to answer three brief questions that we have regarding the webinar. It just helps us evaluate the performance and improve for the future. So, uh, the first question is, uh, "The webinar content provided me with useful information and insight." And the next question is, "The webinars presenters were effective." And then, the final question is, "Overall, the webinar met my expectations."

Great. Thank you, very much, for answering our survey. And again, on behalf of the Clean Energy Solutions Center, I would just like to extend a thank you to the panelists and to our attendees, for participating in today's webinar. And we very much appreciate your time. I do invite the attendees

to check the solutions center website if you'd like to view the slides and listen to a recording of today's webinar, as well as any previously held webinars. Additionally, you'll find information on other upcoming webinars and training events.

I'd also like to remind you that we are now also posting webinar recordings to the Clean Energy Solutions Center YouTube channel. Please allow for about a week for the audio recordings to be posted. And I invite you to inform your colleagues and those in your networks about solutions center resources and services, including the no-cost Ask an Expert policy support. And so, with that, I hope everyone has a great rest of your day, and we hope to see you, again, at future Clean Energy Solution Center events. And this concludes our webinar.