



Report on Town Hall discussions on climate change and related socio-economic implications and incentives for medium- to long- term decarbonisation pathways

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Short Description

This report summarises the inputs given by stakeholders at the Town Hall events organized in order to disseminate the European Calculator project results. The report relates to Project Document (DoA) section 10.5 regarding the launch of EUCalc.

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Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgment of previously published material and of the work of others has been made through appropriate citation, quotation or both.

EUCalc policy of personal data protection in regard to the workshops

The EUCalc project defined the procedures in order to comply with the ethical requirements as stipulated in Deliverable 12.1 (Ethics requirements – procedures and criteria to identify research participants in EUCalc – H – Requirements No. 1). All step by step processes in relation to the co-design of the calculator (content of this report), in particular the stakeholder mapping, the facilitation and implementation of the workshops and the follow-up of the workshops, strictly adhere to these procedures. The informed consent procedure in relation to the workshops is based on D9.2 “Stakeholder mapping” and D9.4 “Method for implementation of EUCalc co-design process”. The originals of the signed consent forms are confidentially stored at the coordinators’ premises with no possibility of public access of these documents to externals. Scans of each of the informed consent forms are stored on the internal EUCalc file storage system.



Copenhagen Town Hall, co-hosted by the Danish Agriculture and Food Council: (L to R) Chief Economist Frank Øland, Danish Agriculture & Food Council and Professor Dr. Wusheng Yu, University of Copenhagen. Photo Credit: Gabriela de Souza

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Abbreviation list

4sing	Foresight to Strategy for Security and Sustainability in Governance GmbH
ADAS	UK Environmental Consultancy and Services
BEIS	British Department for Business, Energy & Industrial Strategy
BP	British Petroleum
CCS	Carbon Capture and Storage
COWI	International consulting group, specialising in engineering, environmental science and economics, with headquarters in Lyngby, Denmark
EUCalc	European Calculator
GHG	Green House Gas
IFKA	Hungarian public benefit industry development agency
Ineos	UK based multinational chemical company
RBS	Royal Bank of Scotland
REA	Renewable Energy Association (UK)
SEGES	Danish Food and Agriculture Council
TPE	Transition Pathways Explorer

1 Executive summary

To disseminate and promote the final products of the EUCalc project, the EUCalc's Transition Pathways Explorer (TPE), to the business community and other stakeholders, a series of "Town Hall" presentations and discussions on climate change were planned in centres of excellence with a good geographic spread of country profiles where, we have an EUCalc consortium partner to engage with interlocutors.

The five Town Hall discussions held in Budapest, Rome, Vienna, London and Copenhagen in February 2020 brought together over 260 stakeholders from a wide variety of sectors and countries. Being a European project with partners from Austria, Belgium, Bosnia and Herzegovina, Denmark, Germany, Italy, Netherlands, Switzerland and the United Kingdom, EUCalc was co-created with stakeholders from multiple sectors drawn from European politics, economy and civil society. In order to ensure effective outreach to the target stakeholder groups, the consortium partnered with a co-host in each of the five locations; Kyoto Club in Rome, IFKA in Budapest, Energy Community Secretariat in Vienna, The Leonardo Centre, Imperial College Business School in London and Danish Agriculture and Food Council in Copenhagen.

The Town Hall discussions engaged key decision / policy makers who are active in developing sustainable low carbon pathways within their organisations and beyond: Representatives of the [Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility](#), Innovation and Technology, the [Danish Agriculture and Food Council](#), the [British Department for Business, Energy & Industrial Strategy](#), the [Hungarian Ministry for Innovation and Technology](#), the [World Energy Council](#), [Wien Energie](#), [Bundesbeschaffung GmbH](#), the [Chamber of Economy Vienna](#), [Shell](#), [BP](#), [Ineos](#), the [Budapest Airport Operator](#), [Austria Wirtschaftsservice](#), [RBS Markets and International Banking](#), [REA](#), [Dalberg](#), [Concito](#), [Viegand Maagøe](#), [Seges](#), [Cowi](#), ADAS, the [Energy Community](#), the [Audit Office of Vienna](#), the [Österreichische Kontrollbank](#), [IFKA](#) and other institutions and businesses learned how to use the [Transition Pathways Explorer](#) and discussed its possible application opportunities.

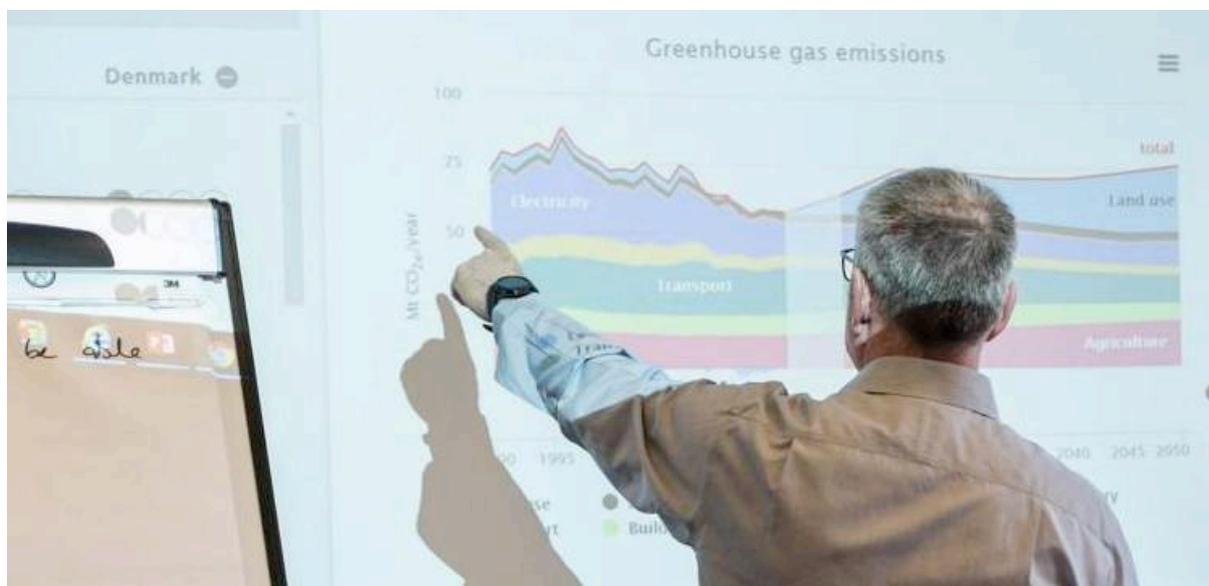
The Transition Pathways Explorer was considered as particularly useful for identifying fact-based pathways and alternative options for politicians and other key decision makers, as well as to match expectations or promises of policy results with calculation reality. The ease of use and the visualisation options for complex calculations could also be of help for displaying sustainable business cases. Politicians do not just get an impression of the climate pathway, but also the social and economic implications.

2 Introduction

Driving effective sectorial policies for achieving the overall objectives of the European Green Deal¹ (carbon neutrality in 2050, but also the protection of biodiversity) will become a pressing necessity in the months and years to come.

Against this background, the [EUCalc](#) research project provides decision-makers with a highly accessible, user-friendly, dynamic modelling solution to quantify the sectorial energy demand, greenhouse gas (GHG) emissions trajectories and social implications of lifestyles and energy technology choices in Europe. As such, it provides granular understanding and means for engagement for a diverse European and National policy makers, businesses, NGOs and other actors of society about a technological and societal transformation in order to reach a carbon neutral Europe whilst remaining mindful of the global dynamics. With the help of the [Transition Pathways Explorer](#) and related e-learning tools, end-users are able to create their own pathways for Europe and assess the impacts of their choices at the European and individual Member State level (plus Switzerland and UK), providing a unique perspective on the role and potential of the Member States and the EU as a whole, in meeting global climate mitigation commitments.

As part of the dissemination component of the project and in order to showcase the Transition Pathways Explorer (TPE) and build awareness among key stakeholders of its potential application and use, the EUCalc team in collaboration with local partners, organised Town Hall events under the title *"The deep decarbonisation of Europe: Opening the "modelling space" for decision makers to accelerate necessary transformation"* in 5 capital cities during February 2020.



Copenhagen Town Hall, co-hosted by the Danish Food and Agriculture Council, Dr. Jem Woods, Imperial College London. Photo credit: Gabriela de Souza

¹ Brussels 11/12/2019 COM (2019) 614 FINAL

2.1 Objectives of the Town Hall events

The overarching objective of the Town Hall was to showcase the EUCalc model using the Transition Pathways Explorer. It was also aimed at enabling participants to discuss and explore possible applications of the tool, in order to assist them in their work related to strategic decision making, towards their decarbonization journey at both European and National level.

In addition, these discussions aimed at facilitating an informed decision on the choice of energy, technology, associated GHG emissions and resources debate for a carbon neutral Europe by 2050.

The stakeholders that had been invited to take part in the Town Hall events had been identified as key decision / policy makers active in developing sustainable low carbon pathways within their organisations. The composition of the stakeholders came from public, civil society and private sectors. The stakeholders were invited by the EUCalc team and local partners (Kyoto Club in Rome, IFKA in Budapest, Energy Community Secretariat in Vienna, The Leonardo Centre, Imperial College Business School in London, and Danish Agriculture and Food Council in Copenhagen).

The structure of the Town Hall consisted of the following components

- Welcome address by the co-host
- Presentation of TPE and My2050
- Country specific results / sector modules developed by partner in the respective country
- Q&A / Mentimeter feedback

2.2 Questions to the stakeholders

During the events, the scope and features of the EUCalc model were explained and key findings about how the net-zero targets could be achieved whilst minimizing wider socio-economic and environmental impacts showcased using the Transition Pathways Explorer.

This was followed by a professionally² facilitated interactive dialogue with participants to enable feedback, to discuss efforts for a fair and effective transition towards carbon neutrality in practice and to explore possible applications of the model in assisting the participants in their decision-making related to energy, resource use and climate change.

The three most important questions were formulated to aid the discussions and used at each Town Hall events. These questions are briefly outlined below:

- Level of knowledge amongst participants about the Calculator?
- Where and how did participants see EUCalc as being “useful”, centred on how each individual stakeholder organisation would utilise the Calculator in decision making related to energy, resource use and climate change?
- Calculator features and whether there were others which they thought should be included?

² 4sing (Foresight to Strategy for Security and Sustainability in Governance) GmbH

3 Setting the scene

Each Town Hall event commenced with a welcome address from the co-hosts (the European Calculator project partner and the National partner) This reflected on some of the critical enabling components needed to achieve Europe’s medium to long-term decarbonisation pathways. The opening address also elucidated the objectives and the scope of the European Calculator project, alongside providing an overview on what the European Calculator is intended for and who are the anticipated target users.

- In Budapest, László Zentkó of PANNON & Tanka Eszter of IFKA;
- In Rome, Andrea Nicolai of T6 & Gianluigi Angelantoni of Kyoto Club;
- In Vienna, Ulrika Lunacek, EUCalc Advisory Board member (welcome message)³, Monika Auer of OEGUT and Dirk Buschle of the Energy Community Secretariat;
- In London, Jeremy Woods of Imperial College London and Livio Scalvini of Leonardo Centre, Imperial College Business School;
- In Copenhagen, Wusheng Yu of University of Copenhagen and Frank Øland of the Danish Agriculture and Food Council.

Stakeholders' introductions were led by a professional facilitator from 4sing GmbH. This involved ice-breaking questions in order to prepare the ground for the rest of the workshop and to identify participant expectations.



Vienna Town Hall co-hosted by Energy Community, Adrian Taylor of 4Sing “animating” the feedback from the audience. Photo credit: Garret Patrick Kelly.

³ See annex 6.4

This was then followed by more detailed presentations of the EUCalc model and its Transition Pathways Explorer, providing initial findings about how the net-zero targets can be achieved, whilst minimizing wider socio-economic and environmental impacts on EU + Switzerland and Member State level.

In Budapest, the EUCalc project coordinator, Juergen Kropp of Potsdam Institute for Climate Impact Research (PIK) in and Miklos Gyalai-Korpos of PANNON Pro Innovations Ltd;

- In Rome, Luis Costa of Potsdam Institute for Climate Impact Research (PIK);
- In Vienna, Luis Costa of Potsdam Institute for Climate Impact Research (PIK) and Hannes Warmuth of OEGUT;
- In London, Jeremy Woods and Onesmus Mwabonje of Imperial College London;
- In Copenhagen, Wusheng Yu of the University of Copenhagen and Jeremy Woods of Imperial College London.



Copenhagen Town Hall, co-hosted by the Danish Agriculture and Food Council: (L to R) Chief Economist Frank Øland, Danish Agriculture & Food Council, Jonathan Buhl, facilitator, 4sing and Dr. Jeremy Woods, Imperial College. Photo Credit: Gabriela de Souza

Discussion and recommendations

This section summarises Town Halls' discussions based on the questions as described in section 2.2.

3.1 Budapest (13th February 2020)

The Budapest meeting was co-hosted by IFKA, a Hungarian public benefit, non-profit limited company for the development of the industry, bringing together the fields of logistics, quality assurance and environmental protection.

A majority of the participants came from the private sector, e.g. the Budapest Airport Operator, and representatives from the Ministry for Innovation and Technology among others.

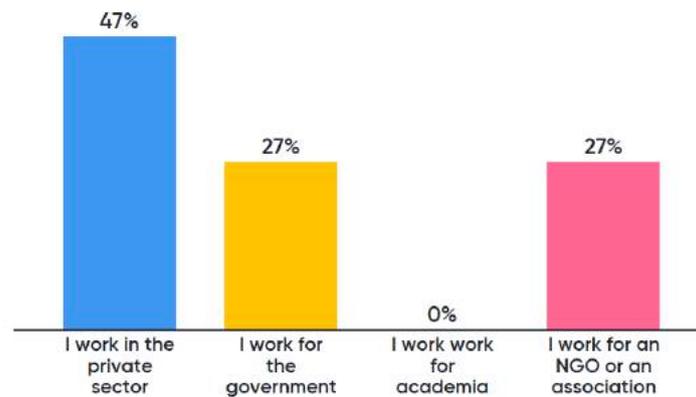


fig i Breakdown of participants in Budapest, as recorded on Mentimeter

László Zentkó of PANNON Pro Innovations Ltd. and Tanka Eszter of IFKA gave a broader overview on the model, and EUCalc project coordinator, Juergen Kropp of Potsdam Institute for Climate Impact Research (PIK) and Miklos Gyalai-Korpos of PANNON Pro Innovations Ltd presented the model and the Transition Pathways Explorer more in detail, with a focus on the electricity supply and balancing module.

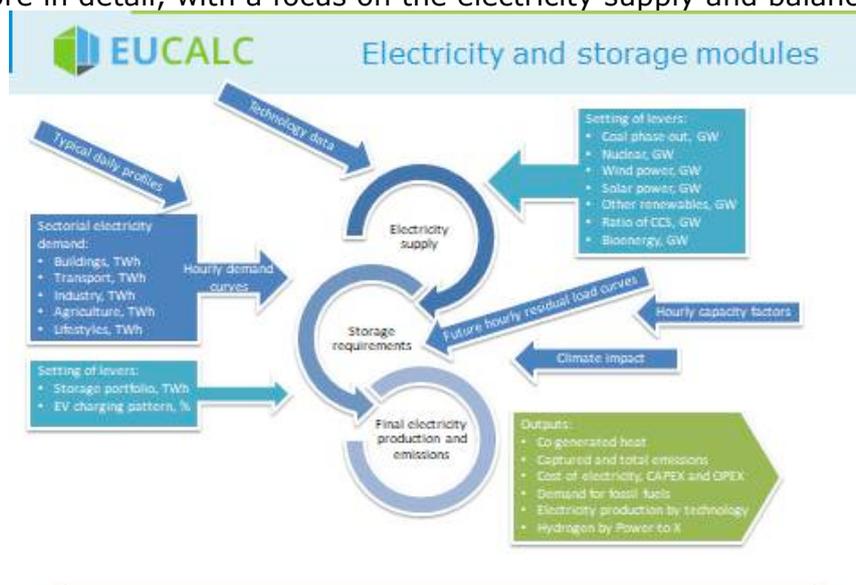


fig ii Slide 6 of Budapest EUCalc Presentation (Gyalai-Korpos)

On the first question **“How familiar are you with the Calculator?”** almost half of the participants responded with “little or no knowledge of EU Calc”:

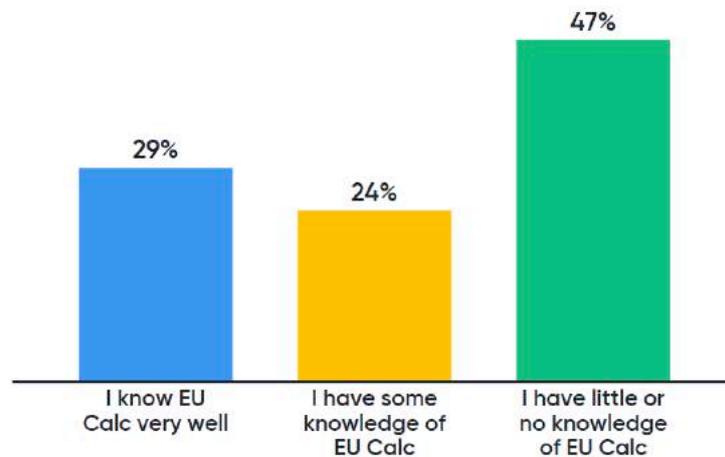


fig iii How familiar are you with the Calculator, % responses by participants in Budapest, as recorded on Mentimeter

In response to the second question **“How will you use the Calculator?”**, the most important aspects to emerge included:

- Certainly, the tool can be used by the target audience of government ministries, to identify fact-based pathways - and not just one pathway, but alternative options. Moreover, it will allow not just an impression of the climate pathway, but also the social and economic implications;
- It was suggested that this could be a useful tool for preparation of events with multiple stakeholders, especially if interviews beforehand could be used to see what participants believed would be needed to achieve a 2°C pathway, and then to see if their expectations actually match what the calculator suggests is needed;
- Finally, for experts in modelling, the multi-layer nature of the tool means they can drill down from the easy to use interface to the complex levels below and change the assumptions (which are all clearly documented) to match their own beliefs.

On the third question regarding **“What else would you like EU Calc to be able to do?”** the stakeholders thought that:

- The tool could be useful for regions, cities/municipalities and businesses. All should be starting to make their own climate plans. This may, however, require fine-tuning of the software to make it relevant for their use;
- Ideally there should be an app version where every citizen can see what would happen to the climate if everybody adopted their preferred levels of ambition;
- A lot more time needs to be spent in communication than just these town halls. One thing is to make people aware that it exists, another is to get them to use it. And this is not just about training. One suggestion was to develop a few real cases where an organisation has used it to support its decisions, and to show case how this helped them come to better decisions and perhaps saved Euros as well.

Finally, two "Ah ha" moments in the workshop were:

- It was clear from using the EU Calc tool that the Hungarian government's assumption that nuclear power is THE solution, does not hold up. Nuclear power does have an impact, but it fails to put Hungary on anything like a 2°C pathway;
- Neither technology nor behavioural change on their own will bring us to the 2°C pathway. Both components are needed!



Budapest Town Hall co-hosted by IFKA. Presentation by Prof. Dr. Juergen Kropp, of Potsdam Institute for Climate Impact Research. Photo credit Garret Patrick Kelly

3.2 Rome⁴ (13th February 2020)

In Rome, the EUCalc presentation and debate was organized in collaboration with Kyoto Club, as part of a larger conference entitled; "*The new paradigms of the climate transition*" looking at the new frontiers of decarbonization and the opportunities for a transition from a system based on fossil fuels to a green, renewable and circular economy. The event was also an opportunity to celebrate the anniversary of the entry into force of the Kyoto Club.



The conference was opened by the Gianluigi Angelantoni Vice President of Kyoto Club, welcoming the participants and reading the speech by the President Catia Bastioli. This was followed by Vito Borrelli Deputy Head of the European Commission Representation in Italy speaking about the European Green Deal and Alessandro Caretoni Director of Division III of DG Energy and Climate at the Italian Ministry of Environment and Protection of the

fig iv Slide 1 of Rome EUCalc Presentation (Costa)

Territory and the Sea presenting the Italian National Energy and Climate Plan.

The EUCalc project presentation by Andrea Nicolai CEO of T6 Ecosystems and demonstration of the key findings using the Transition Pathways Explorer by Luis Costa Environmental Engineer of Potsdam Institute for Climate Impact Research (PIK), provided important insights and elevated an interactive discussion between participants about where Italy stands with its climate policies.

Furthermore, these two presentations touched on the options available for Italy and Europe to accelerate the decarbonisation process and a sustainable transition from an environmental, social and economic point of view. The Transition Pathways Explorer was much appreciated by many of the participants as an important tool to examine the National Energy and Climate Plan, which sets the national targets for 2030 on energy efficiency, renewable sources and emissions reductions, and answer the question if the Plan is in line with the expected targets and environmental, social and economic objectives.

⁴ Due to the fact that the Rome event was not stand alone but part of a larger conference the format was somewhat truncated compared to the other Town Halls



Rome Town Hall co-hosted by the Kyoto Club (from L to R) Dr. Luis Costa of Potsdam Institute for Climate Impact Research, Gianluigi Angelantoni Vice President of Kyoto Club and Alessandro Caretoni Director of Division III of DG Energy and Climate at the Italian Ministry of Environment. Photo Credit: Ana Rankovic/Kyoto Club

With an audience of 80 participants drawn from public, private sector and civil society and about 35 students, the EUCalc model and its Transition Pathways Explorer was complimented not only for its pragmatic, but solid scheme based on levers and levels of ambition that make it easy to understand and use. Similarly, it was noted that the model and the TPE can serve as a learning tool for a wide range of users: politicians, public administration, businesses, researchers, teachers and young people, who want to understand and explore how to achieve carbon neutrality in their country.

Vienna (14th February 2020)

The Energy Community Secretariat, an organisation which brings together the European Union and its accession neighbours to create an integrated pan-European energy market, hosted the event in Vienna, organized by the Austrian partner OEGUT.

Most stakeholders in Vienna were from the public sector, e.g. the Energy Community (EnC), the Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, the Chamber of Economy, the Federation of Austrian Industries, the Audit Office of Vienna. In attendance were also semi-state institutions like the Österreichische Kontrollbank and NGOs and private sector representatives.

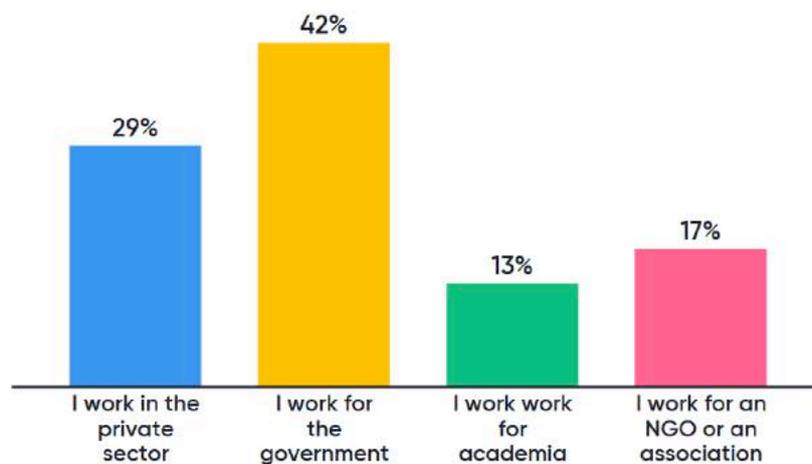


Fig v Breakdown of participants in Vienna, as recorded on Mentimeter

The event was officially opened with a message of welcome from Ulrike Lunacek, Secretary of State for Arts and Culture, in the Ministry of Arts and Culture of the Government of Austria led by Chancellor Sebastian Kurz and EUCalc Advisory Board member – see Annex 6.4 – followed by Monika Auer, General Secretary of OEGUT and Deputy Director and Head of Legal Dirk Buschle of the Energy Community Secretariat set the scene with a broad overview on the model, followed by Luis Costa of Potsdam Institute for Climate Impact Research (PIK) and Hannes Warmuth of OEGUT presenting the industry, manufacturing and production module of EUCalc.

As with previous events the facilitation was professionally “animated” by Adrian Taylor of 4Sing with organisational and coordination of all elements of the event preparation and execution under the auspices of Garret Patrick Kelly and Ana Rankovic of SEE Change Net Foundation.

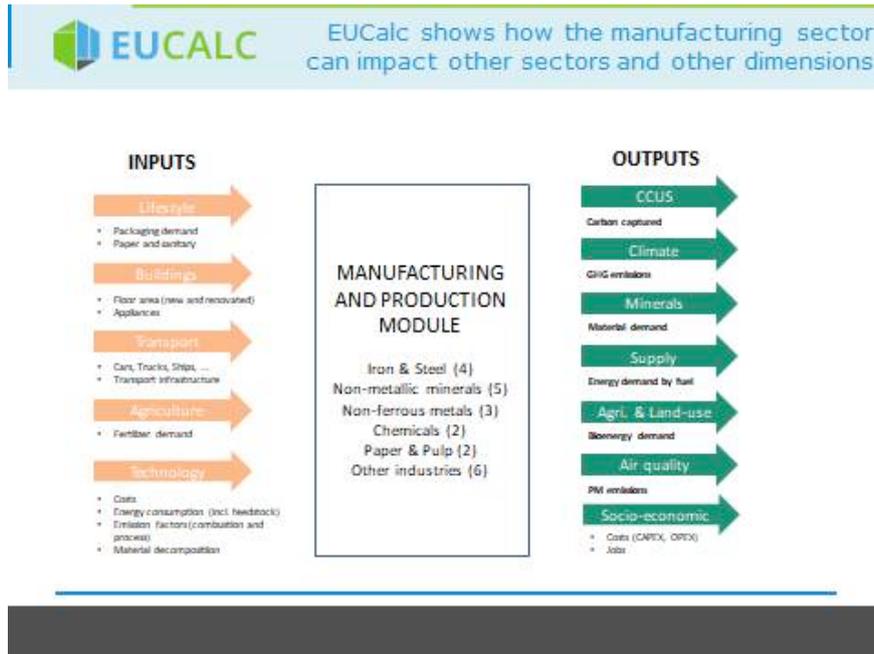


fig vi Slide 9 of Vienna EUCalc Presentation (Warmuth)

On the first question **“How familiar are you with the Calculator?”**, a majority replied with “little or no knowledge of EUCalc”, while 25% of the stakeholders knew the model very well:

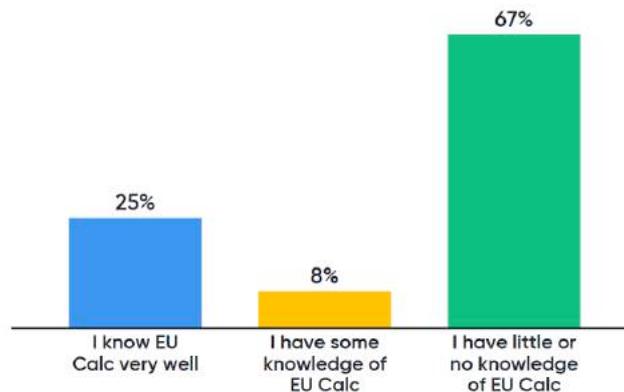


Fig vii How familiar are you with the Calculator, % responses by participants in Vienna, as recorded on Mentimeter

In response to the second question **“How will you use the Calculator?”**, the most important aspects to emerge included:

- As with Budapest, the obvious target of central government was mentioned, as were also, business, regional and local governments, including cities;
- In addition, a special mention was given to journalists - if the right specialist journalists are trained in their use, they will be able to proof political suggestions for realism, and show how national/EU climate action plans add up (or do not);
- There was also a discussion if a sustainable business model could be made for consultants to help end users employ the tool for their needs - thus ensuring that the tool is applied to create social action plans.

On the third question regarding **“What else would you like EUCalc to be able to do?”**, the stakeholders thought that:

- It would be excellent if a "multi-person version" could be developed, so as to simulate ministries negotiating with each other, and so many people could "play at once". (It was noted that this could perhaps just be a question of organising a game around the use of the tool, rather than re-programming it);
- Having other languages available would be useful - not everybody can manage well in English;
- Ideally some learnings from complexity science could be used to indicate which levers at what levels could be "tipping points" that cause substantial changes to occur;
- There was also a wish in Vienna for an "individual" version of the tool, in this case more to map out my day, and see what that would mean if everybody else were to copy my own behaviour.

Finally, an "Ah ha" moment in the workshop was:

- The newly formed Austrian coalition has targeted carbon neutrality by 2040. Even with all levers on maximum ambition level, this cannot be achieved according to the EU Calc model.

3.3 London (27th February 2020)

The London event was hosted by EUCalc partner Imperial College and co-hosted by Leonardo Centre, Imperial College Business School and assembled a multitude of different stakeholders from academia, private sector, NGOs and governmental institutions, such as the Department for Business, Energy & Industrial Strategy, the World Energy Council, the Association for Renewable Energy and Clean Technology. From the private sector a significant number came from companies rather gaining profit from carbon emission intensive production such as Shell, BP and INEOS.

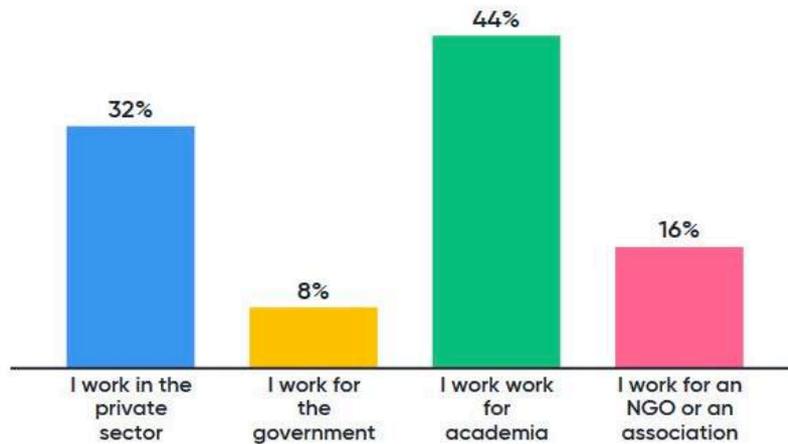


fig viii Breakdown of participants in London, as recorded on Mentimeter

Jeremy Woods of Imperial College London and Livio Scalvini of Leonardo Centre, Imperial College Business School presented the logic of the EUCalc Transition Pathway Explorer, whilst Onesmus Mwabonje of Centre for Environmental Policy, Imperial College London gave a detailed explanation of the calculation model.



fig ix Slide of London EUCalc Presentation (Woods/ Mwabonje)

The hosts were again able to reach out to an audience with little or no knowledge of the EUCalc (First question **"How familiar are you with the Calculator?"**):

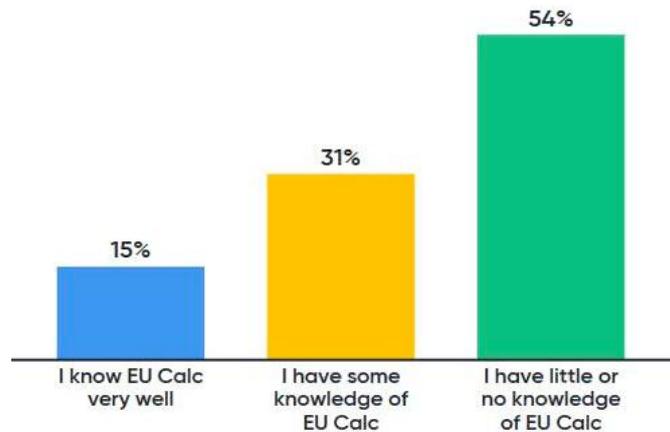


fig x How familiar are you with the Calculator, % responses by participants in London, as recorded on Mentimeter

In response to the second question **"How will you use the Calculator"**, the most important aspects to emerge included:

- As elsewhere, to ensure that robust decisions are made in full knowledge of the consequences they will have, it will also enable government and others to identify the trade-offs (and not just the Carbon trade-offs, also jobs and expenditures) that may exist when opting for particular combinations of ambition levels;
- Moreover, some will want to use it to identify what assumptions have been made by the team, and to compare and contrast this to the users own assumptions. On the one hand this acts as a challenge, on the other a robustness check.



London Town Hall co-hosted by the Leonardo Centre. (Photo L to R) Representatives from Veneet Machand BP, Martin Haigh Shell and Laura Aylett BEIS deep in discussion. Photo credit Garret Patrick Kelly.

On the third question regarding **"What else would you like EUCalc to be able to do?"**, the stakeholders thought that:

- It would be very interesting to see what different organisations made of the assumptions, and if they changed them, in what ways they changed them. If everybody could see what everybody else was assuming, this would already engender an interesting discussion ("Did we miss something important that we have not seen happening") and moreover could encourage others to become more ambitious in their goals. Perhaps it could be possible to create a public library of the different options. This may also imply making it easier to contribute different assumptions than at present;
- For it to be useful for business, it would be even better if one could zoom in on individual sectors;
- As in Budapest and Vienna, a version for individuals - what if everybody copied my footprint - would be appreciated;
- Of course, to have a real impact on the world, the EU is not enough. We also need a US Calculator, a China Calculator, and an India Calculator at very least...

Finally, an "Ah ha" moment in the workshop was:

- Now the UK is no longer part of the EU, does it need to be taken out of the rolled-up EU calculation, after all it will be following a different trajectory, and it would be misleading if it seemed that a particular level of ambition in a lever led to EU carbon neutrality, if it disproportionately hit the UK in one sector.

3.4 Copenhagen (28th February 2020)

The Copenhagen event was hosted by the Danish Agriculture and Food Council and organized with EUCalc partner University of Copenhagen. Most stakeholders represented the private sector, such as the Confederation of Danish Industry and Dalberg, as well as private green consultancies and think tanks such as Viegand Maagøe, SEGES and Concito.

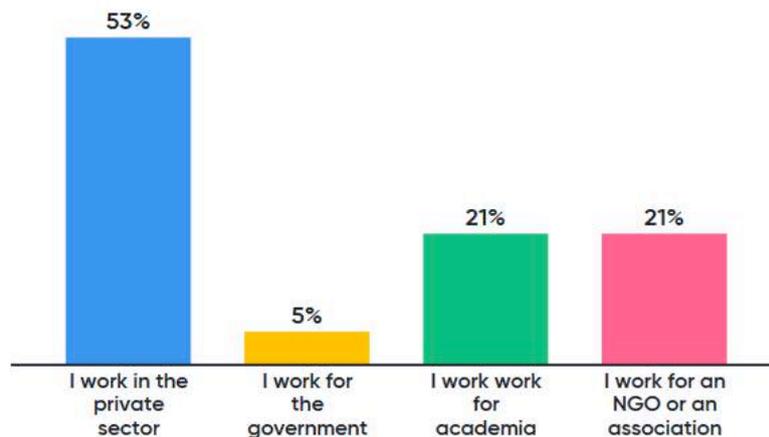


fig xi Breakdown of participants in Copenhagen, as recorded on Mentimeter

Most participants responded to the first question **“How familiar are you with the Calculator?”** with “little or no knowledge of EU Calc”.

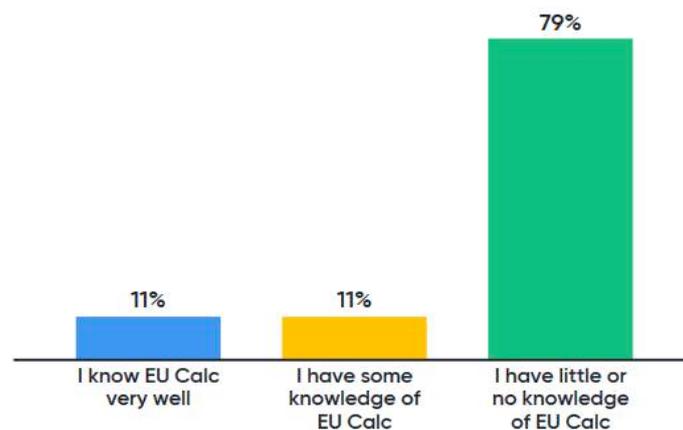


fig xii How familiar are you with the Calculator, % responses by participants in Copenhagen, as recorded on Mentimeter

Frank Øland of the Danish Agriculture and Food Council set the focus on the challenges agriculture faces in the future, considering the behavioural changes in food consumption. Wusheng Yu of the University of Copenhagen presented the functioning of the Transition Pathway Explorer, and Jeremy Woods of Imperial College London introduced the specific options in terms of land use, agriculture and food supply.

In response to the second question **“How will you use the Calculator”**, the most important aspects included:

- The simultaneity of displaying a holistic picture and a detailed view on specific elements and modules was much appreciated, especially when it comes to interacting with the rest of the world and showing the long-term impact of changes made today;
- The treated data and visualisation opportunities were considered as a good opportunity to showcase business cases in the green sector;
- The tool allows you to show to politicians, how targets can be met, based on specific and measurable data and transparent assumptions.



Copenhagen Town Hall, Danish Agriculture and Food Council, Henrik Skovby, CeO Dalberg, Garret Patrick Kelly and Ana Rankovic SEECN, Asger Garnak, Head of Strategic Partnerships Concito. Photo credit: Gabriela de Souza.

On the third question regarding **“What else would you like EUCalc to be able to do?”**, the stakeholders thought that:

- A connection of the model with GHG emissions of the rest of the world would be desirable – what if the EU is only “exporting” the emissions when moving GHG intensive production out of the EU? The model should be able to consider this too;
- Having the ability to show example business cases for some of the standard settings leading to a carbon-neutral EU in 2050. Presenting economic benefits of low GHG emission production and positive economic incentives are more likely to get attention from political deciders;
- Having a set of existing best practices per country or in the EU ready would help as a guideline and inspiration for decision makers, and for individuals too;
- Considering the impact of biodiversity in agricultural practices and land use could show the devastating impact of reduction of biodiversity not only on land use and food production, but also the availability of ingredients for pharmaceutical products;
- Giving examples of concrete economic implications of different pathways would help to understand the consequences better, for example an indication of the meat price;
- Including negative emission technologies (e.g. direct air capture) in the model could give these technologies a push when shown as effective.

4 Lessons and conclusions

The Transition Pathway Explorer proved to be a powerful tool for showcasing how today's decisions' have climate effects in 2050. The stakeholder acknowledged the power of the visualisations and the strong scientific basis. If anything could be added to the model, stakeholder raised the following additions and questions:

- How can the model become more widely known and used?
- Are 2 degrees by 2050 still a realistic goal? Considering the latest developments, GHG emission reduction to achieve a less than 2 degrees global warming will not suffice to stop a self-accelerating global warming.
- How can this model be used to inform the COP26 Agenda?
- How can we showcase and roll out business cases to under pin key pathways?

The intensive discussions with more than 260 stakeholders, representing more than 170 institutions and perspectives, demonstrated a strong need for tools to visualise complex and fact-based cause-effect mechanisms in facilitating the climate debate. The wish for an actualised global model was one of the more regular wishes expressed during the meetings.

From the perspective of the organisers it was striking how interested the participants were in the model and conversely how few of them had previously heard of the model. This would feed into recommendations regarding the need for considering the development of a wider modelling community and specialised training for journalists.



Copenhagen Town Hall, Danish Agriculture and Food Council, Participants ruminare. Photo credit: Gabriela de Souza.

5 Annexes

5.1 Town Halls' agendas

5.1.1 Budapest

9.30	Registration
10.00	<i>Welcome</i> Eszter Tanka, Head of Green Economy, IFKA
10.10	<i>Overview of the EUCalc project</i> Dr. Miklós Gyalai-Korpos, Project Development Manager, PANNON
10.30	<i>Presentation on the underlying methodology, scope and initial findings of the EUCalc model</i> Prof. Dr. Juergen Kropp, Deputy Chair for Research Domain II "Climate Resilience" & Head of Research Area on Urban Transformations, Potsdam Institute for Climate Impact Research
11.45	<i>Facilitated Q&A</i> led by Adrian Taylor, 4sing Interactive dialogue about decarbonization pathways and practical applications of the EUCalc model
12.30	Lunch and networking

5.1.2 Rome



Giovedì 13 febbraio 2020 - ore 09:30-13:00

Spazio Europa - Via IV Novembre 149, 00187 Roma



Con il patrocinio del
MINISTERO DELL'AMBIENTE
DUELLA TUTELA DEL TERRITORIO E DEL MARE

Ore 09,30 - 09,45 Registrazioni e caffè di benvenuto

09,45 - 10,00 *Introduce e presiede Gianluigi Angelantoni*, Vicepresidente - Kyoto Club

10,00 - 10,15 *European Green Deal* Vito Borrelli, Capo f.f. - *Rappresentanza in Italia della Commissione europea*

10,15 - 10,30 *il Piano Nazionale Integrato Energia e Clima* Alessandro Carettoni, Dirigente Divisione III - *Interventi Ambientali, efficienza energetica ed energie alternative - Direzione generale per il clima e l'energia - Ministero dell'Ambiente e della Tutela del Territorio e del Mare*

EUCalc - Explore sustainable European futures

10,30 - 10,40 *The EUCalc project - introduzione* Andrea Nicolai, CEO, T6 Ecosystems

10,40 - 11,00 *Taylor-made decarbonisation scenarios for Europe powered by the EUCalc model* Luis Costa, Senior Researcher, Potsdam Institute for Climate Impact Research (la presentazione verrà tradotta in italiano)

11,00 - 11,15 *Domande & risposte*

11,15 - 11,30 *Coffee break*

11,30 - 11,40 *Le nuove frontiere della de-carbonizzazione* Gianni Silvestrini, Direttore scientifica - Kyoto Club

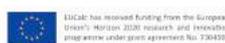
11,40 - 11,50 *Le richieste del Fridays for future*, Andrea Drago - *Fridays for Future Roma*

11,50 - 12,00 *NGO GreenFutura: storie di persone e imprese impegnate nella sostenibilità ambientale per il futuro del Paese*, Annalisa Corrado, Direttore tecnico - Kyoto Club

12,00 - 12,10 *Il contributo della digitalizzazione per lo sviluppo e la sostenibilità* Laura Bruni, Coordinatrice Gruppo di Lavoro Efficienza energetica - Kyoto Club

12,10 - 12,20 *Trasizione e competitività: le opportunità per il sistema Italia* Massimo Beccarello, Vicedirettore Area Politiche industriali - Confindustria

12,20 - 13,00 *Domande & risposte - Conclusioni* Francesco Ferrante, Vicepresidente - Kyoto Club



EUCalc has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730430.

In collaborazione con:



5.1.3 Vienna

9.30	Registration
10.00	<i>Welcome</i> Ulrike Lunacek, State Secretary for Cultural Affairs and Advisory Board Member EUCalc , Monika Auer, General Secretary ÖGUT, Dirk Buschle, Deputy Director and Legal Council for the Energy Community
10.10	<i>Overview of the EUCalc project</i> Hannes Warmuth Scientific Project Manager, ÖGUT
10.30	<i>Presentation on the underlying methodology, scope and initial findings of the EUCalc model</i> Luis Filipe Carvalho da Costa Environmental Engineer turned researcher. Research Domain II “Climate Resilience”, Potsdam Institute for Climate Impact Research
11.45	<i>Facilitated Q&A</i> led by Adrian Taylor, 4sing Interactive dialogue about decarbonization pathways and practical applications of the EUCalc model
13.00	Lunch and networking

5.1.4 London

9.30	Registration
10.00	<i>Welcome</i> Maurizio G Zollo, Professor of Strategy and Sustainability, Head of Department of Management & Entrepreneurship, Scientific Director, The Leonardo Centre, Imperial College Business School
10.10	<i>Overview of the EUCalc project</i> Jeremy Woods, Reader in Sustainable Development, Faculty of Natural Sciences, Centre for Environmental Policy, Imperial College London
10.30	<i>Presentation on the underlying methodology, scope and initial findings of the EUCalc model</i> Morgan Raffray, Researcher, Centre for Environmental Policy, Imperial College London
11.45	<i>Facilitated Q&A</i> led by Adrian Taylor, 4sing Interactive dialogue about decarbonization pathways and practical applications of the EUCalc model

5.1.5 Copenhagen

9.30	Registration
10.00	<i>Welcome</i> Frank Øland, Chief Economist, Danish Agriculture & Food Council
10.10	<i>Overview of the EUCalc project</i> Wusheng Yu, University of Copenhagen
10.30	<i>Presentation on the underlying methodology, scope and initial findings of the EUCalc model</i> Jem Woods, Faculty of Natural Sciences, Centre for Environmental Policy, Imperial College London
11.45	<i>Facilitated Q&A</i> led by Adrian Taylor, 4sing Interactive dialogue about decarbonization pathways and practical applications of the EUCalc model
13.00	Lunch and networking

5.2 Town Halls' questions for discussion (cloud)

<p>How might the modelled scenarios inform COP26 agenda/ambitions?</p>	<p>Dynamic effects. Are inputs all independent? Or do you reflect that, for example, a big reduction in transport behaviour could be connected with changed activity in other sectors.</p>	<p>Is having a 2C scenario still appropriate, given science suggests we need to be aiming for 1.5C or 'well-below 2C' (a nice fluffy term!)</p>
<p>How much expert knowledge do you feel is needed to understand the implications of the four lever levels for all of the available categories? E.g. the biodiversity lever</p>	<p>What kinds of carbon capture technologies can be used to achieve net zero in 2050? And how necessary are those?</p>	<p>Is Methane capture included with in the model. Given it's impact on the long term climate change</p>
<p>How do you reflect inertia? For example, is the decline rate from today credible? For example, if say level 4 ambition for new cars 100% EV in 2030, then it will take until 2040 or later before all cars on the road are EVs.</p>	<p>What social impacts are included in the EU Calculator?</p>	<p>How do you forecast opex and capex vis a vis tech evolution? Does the tool outline the 'perfect pathway', in terms of timeline, feasibility and that is cost-effective?</p>
<p>How can land create such an important carbon sink?</p>	<p>Would you argue that lifestyle change is more important than technological changes in the sense that developing technology doesn't force quick behavioural change, but demand from the public is a big driver of business and technology?</p>	<p>Have you found that significant CCS is required in the industrial sector to reach the target, then? How soon does it need to start?</p>
<p>Does the trade deficit of certain countries mean that the EU exports the pollution to these countries?</p>	<p>What questions were the EU parliament people interested to know the answers to?</p>	<p>Broadly speaking what is the minimum reduction in agriculture emissions that we need to get to net zero 2050?</p>

5.3 Town Hall social media promotional material



 **EUCALC**

EUCalc Town Hall Presentations Budapest, Copenhagen, London, Rome, Vienna

**The deep decarbonisation of the Europe:
Opening the “modeling space” for decision makers
to accelerate necessary transformation**

13th of February 2020
9.30 to 13.00

Spazio Europa
Via IV Novembre, 149 - 00187 Roma

 **Kyoto Club**
16ECOSYSTEMS

 The EUCalc project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730459.

ROME



 **EUCALC**

EUCalc Town Hall Presentations Budapest, Copenhagen, London, Rome, Vienna

**The deep decarbonisation of the Europe:
Opening the “modeling space” for decision makers
to accelerate necessary transformation**

13th of February 2020
9.30 to 12.00 followed by lunch

**E-Mobility Visitor Center - Budapest,
Kis Rókus u. 16-20, 1024 (Millenáris Park)**

 **PPIS**
PANNON PRO INNOVATIONS

 **IFKA**

 The EUCalc project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730459.

BUDAPEST



EUCalc Town Hall Presentations Budapest, Copenhagen, London, Rome, Vienna

The deep decarbonisation of the Europe:
Opening the “modeling space” for decision makers
to accelerate necessary transformation

14th of February 2020

9.30 Registration, 10.00 to 12.30

**Energy Community
Am Hof 4, 6th Floor - 1010 Vienna, Austria**



The EUCalc project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730459.

VIENNA

EUCalc Town Hall Presentations Budapest, Copenhagen, London, Rome, Vienna

The deep decarbonisation of the Europe:
Opening the “modeling space” for decision makers
to accelerate necessary transformation

27th of February 2020

9.30 to 12.30

**Imperial College London, 170 Queens Gate,
South Kensington, London, SW7 5HF, UK**



The EUCalc project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730459.

LONDON



EUCalc Town Hall Presentations Budapest, Copenhagen, London, Rome, Vienna

The deep decarbonisation of the Europe: Opening the “modeling space” for decision makers to accelerate necessary transformation

28th of February 2020

Registration 9.30 to 10.00, Event 10.00 to 13.00

**Danish Agriculture & Food Council
Axelborg, Axeltorv 3 1609 - Copenhagen V**

COPENHAGEN



The EUCalc project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730459.

5.4 Welcome message Ulrike Lunacek, State Secretary for Culture, Government of Austria, and EUCalc Advisory Board Member

Dear participants at the Austrian launch of the EUCalc today...

As an Advisory Board member on the EUCalc Horizon 2020 project I am glad to see that all the hard work has now come to fruition, these kind of endeavours are not easy or certain.

Thinking back, my involvement in this initiative began about two years ago. I met quite a few of you in EUCalc meetings in Brussels and in Sarajevo - and found your project a thrilling one which could really enhance preparation and implementation of energy efficiency and renewable energy projects, which all have the aim of phasing out fossil fuels. Not to mention the unexpected impacts of eating a little less meat and walking a little more instead of driving!

That was before “Fridays for Future” and Greta Thunberg became an important movement, an extraordinary personality which have changed the course governments and also the European Union are taking.

Unfortunately, I cannot be there myself due to my new position in the new Austrian government - in which I have been invited to take up the function of Secretary of State for the Arts and Culture, in the Ministry of Arts and Culture, Public Service and Sports of Deputy Prime Minister Werner Kogler.

However, fighting the climate crisis is also at the core of the work of new government we have here in Austria and as such I wish you great success in your endeavours and look forward to the future cooperation, wherever possible.

All the best
Kind regards
Ulrike Lunacek

