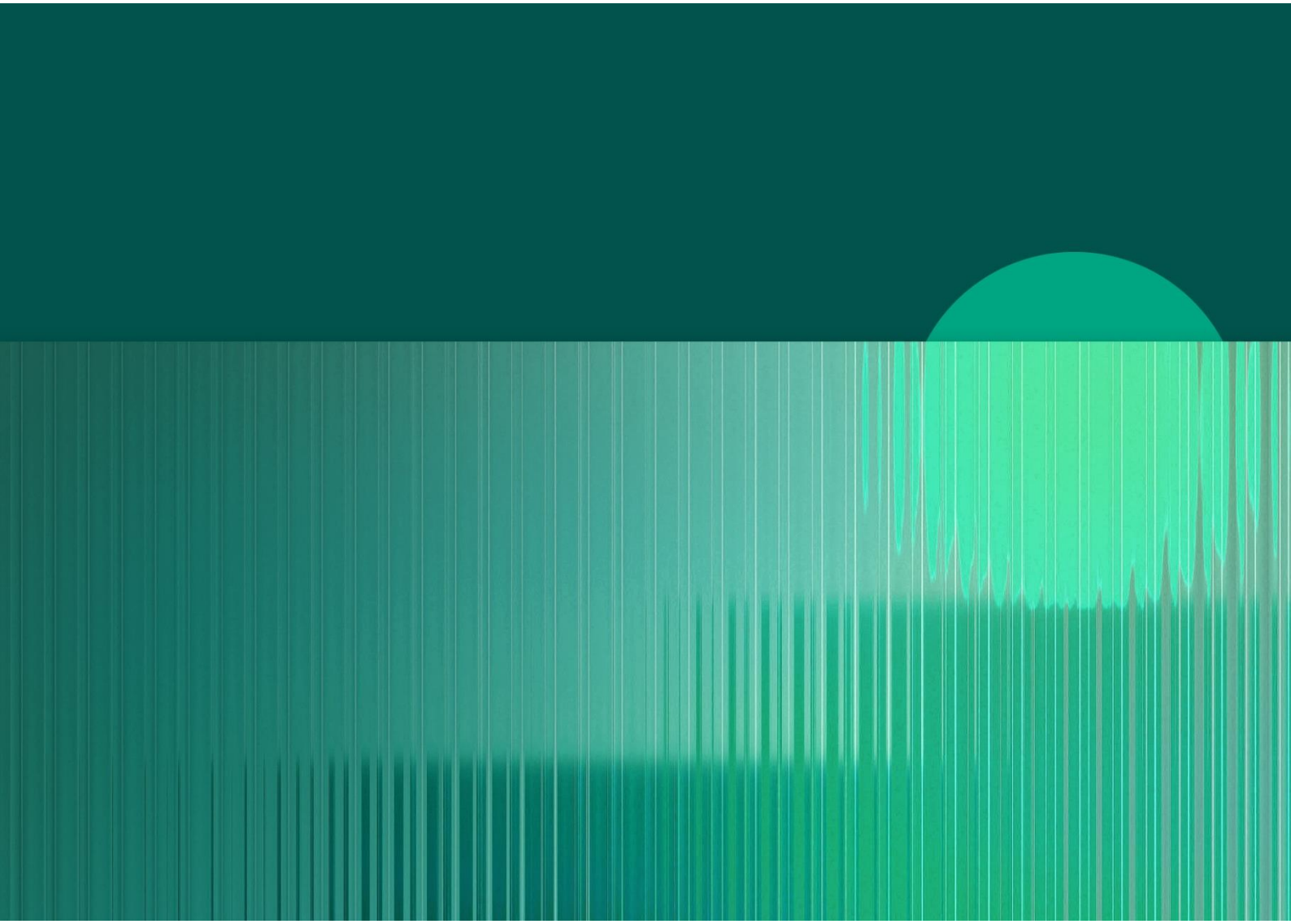

Conclusions on the virtual thematic event (D2.5)

Energytran

Research infrastructures cooperation for energy transition between European and Latin American and the Caribbean countries.

This project has received funding from the European Union's Horizon research and innovation programme under grant agreement No 101131725

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Content

1. Introduction

This document summarizes the key takeaways from the Virtual Thematic Event: "Exploring Innovative Technologies, Policies, and Practices," held on June 26th and 27th, 2024. The event focused on strengthening EU-Latin America cooperation in the energy transition, aiming to address one of the key goals of the Energytran project: promoting cooperation and the exchange of best practices between both regions. This collaborative approach seeks to leverage the expertise and resources of both regions to advance towards a sustainable energy future.

The event brought together experts from Europe and Latin America to engage in discussions centered around three main areas: technological advancements, regulatory frameworks, and successful practices in the transition towards a sustainable energy future. This multifaceted approach underscores the understanding that a successful energy transition requires a holistic perspective that goes beyond purely technical solutions.

This summary will highlight the technological and regulatory aspects discussed throughout the five panels of the event, while also touching upon the social and environmental impacts, as these dimensions are crucial for ensuring a just and equitable transition. The event served as a valuable platform for knowledge exchange, fostering collaboration opportunities, and contributing to a shared vision of a sustainable energy future for Europe and Latin America

2. Event Description: Exploring Innovative Technologies, Policies, and Practices

The main goal of the event was to strengthen the cooperation between the European Union and Latin America in the area of energy transition. The event was structured around five thematic panels, each addressing a key aspect of the energy transition:

- **Panel 1: Knowledge Exchange in Scientific Cooperation between Europe and Latin America and the Caribbean:** This panel, moderated by the Organization of Ibero-American States (OEI), focused on the importance of scientific cooperation to address common challenges in the energy transition, including the exchange of technological knowledge and the significance of research infrastructures.
- **Panel 2: Challenges and Opportunities in the Energy Sector:** Moderated by the National Center for High Technology (CeNAT) in Costa Rica, this panel analysed the current state of the energy sector in both Europe and Latin America and the Caribbean, as well as the perspectives and challenges of transitioning to clean energies. Topics discussed included alternative sources of clean energy, technological development, energy models, and opportunities in electric mobility, hydrogen, and wind farms.
- **Panel 3: Environmental and Social Impact of the Energy Transition:** Moderated by the National Council of Scientific and Technical Research of Argentina (CONICET) and the National University of San Martín (UNSAM), this panel examined the social and environmental implications of the energy transition, aiming to find answers for a just and equitable transition. Challenges for a just energy transition were discussed, including how the impacts manifest in local communities and what strategies governments and international cooperation can adopt to address them.
- **Panel 4: Emerging Technologies for Energy Sustainability:** This panel, moderated by the Pontifical Catholic University of Chile (PUC), focused on emerging technologies with the potential to drive energy sustainability, including green hydrogen and sustainable lithium extraction. Challenges and opportunities in the production of green hydrogen were discussed, as well as the need for suitable carriers for its transportation, the importance of collaboration and regulation, direct lithium extraction technology, and the diversification of value-added production in Latin America and the Caribbean.

- **Panel 5: Applications of Solar Thermal Energy:** This panel, moderated by CIEMAT-Solar Platform Almería (Spain), explored the various applications of solar thermal energy and its role in diversifying the energy matrix. Technological challenges and opportunities in solar thermal energy were discussed, including its use for electricity generation, process heat, and in rural areas. The role of solar thermal energy in energy policy was also analysed.

Structure of the "Conclusions and Closing" section:

The event concluded with a block dedicated to summarizing the discussions and drawing general conclusions. This block was divided into three parts:

- **Synthesis and main conclusions of the panels:** Representatives from each panel presented a 9-minute summary of the main conclusions.
- **General conclusions of the event:** This section, with a duration of 22 minutes, included a debate among the members of the Energytran project, seeking a transversal perspective that integrated the different themes addressed.
- **Acknowledgments and closing:** The event ended with a brief space for thanking the participants and organizers.

Participation and Attendee Satisfaction:

The participation was: 349 registrations. 190 attendees: 128 on the first day and 136 on the second day. Average connection time per day: 165 minutes. The post-event survey indicates that most of the 52 respondents represented the research (69.2%) and policymaking (23.1%) sectors. The survey results suggest a high degree of overall satisfaction with the event. For example, 61.5% of respondents were "Very satisfied" with the summary and conclusions of Panel 4 on "Technologies for Energy Sustainability".

3. Panel 1: Knowledge Exchange in Scientific Cooperation between Europe and Latin America and the Caribbean

Panel 1, titled "Knowledge Exchange in Scientific Cooperation between Europe and Latin America and the Caribbean," focused on the importance of scientific cooperation to address shared challenges in the energy transition. This summary will cover the technological aspects discussed during the conversation.

- Moderator: Paula Arranz.

Actualmente se desempeña como Gestora de proyectos de investigación en la Dirección General de Educación Superior y Ciencia de la Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura.
Anteriormente ha trabajado durante 16 años con Naciones Unidas concretamente con la UNESCO, el PNUD, y ACNUR en Perú, Ecuador, Níger, Marruecos, Nueva York y Senegal, en diversos proyectos para el desarrollo y la Cooperación internacional en materia de Patrimonio natural y cultural, así como asilo, migración y gobernanza.
Cuenta con una maestría en Economía Internacional y Políticas para el Desarrollo de la Universidad de la Sorbona de París, Francia.

Paula Arranz Sevillano
Organización de Estados Iberoamericanos ,OEI, (España)

- Participants:
    - Juan Vázquez Zamora.

Juan Vázquez Zamora, es Jefe Adjunto para América Latina y el Caribe en el Centro de Desarrollo de la OCDE. Ha sido coordinador de varias ediciones del informe *Perspectivas Económicas de América Latina*, y es autor de diversas publicaciones sobre América Latina y el Caribe. Es experto en Economía del Desarrollo, y en particular está especializado en temas relacionados con los mercados laborales, educación y competencias, protección social, instituciones y gobernanza. Antes de vincularse con la OCDE, trabajó en la Comisión Europea, el Banco de España, y el Banco Interamericano de Desarrollo. Tiene una maestría en Economía Internacional por el Colegio de Europa, en Bélgica, y una Maestría en Desarrollo Internacional en la Universidad Complutense de Madrid.

Juan Vázquez Zamora
Organización para la Cooperación y el Desarrollo Económicos (OCDE)

- Sabina Guaylupo.

Sabina Guaylupo es Project manager del Proyecto EU LAC RESINFRA Y EU LAS RESINFRA PLUS.
Pertenece a la FECYT, Fundación Española para la Ciencia y la Tecnología, fundación dependiente del Ministerio de Ciencia, Innovación y Universidades, en el departamento Internacional, y es la responsable de la oficina iberoamericana de FECYT .
Licenciada en Derecho por la Universidad Complutense de Madrid, Máster en Altos Estudios Internacionales, lleva más de 15 años trabajando en gestión de proyectos financiados por los consecutivos Programas marco europeos de investigación e innovación, en diversas áreas, entre ellas en Infraestructuras de investigación, TIC, y en la mayor parte de ellos, en colaboración con América Latina.
Además, es miembro de varios "advisory boards" de proyectos de cooperación con LATAM, así como participante en diversas plataformas e iniciativas.

Sabina Guaylupo
Fundación Española para la Ciencia y la Tecnología (FECYT)

- Karina Pombo.

Karina Pombo, desde 2020 hasta enero del 2024 ha sido Directora Nacional de Promoción de la Política Científica, Encargada de la cooperación internacional en ciencia, tecnología e innovación en el Ministerio de Ciencia, Tecnología e Innovación de Argentina.
Cuenta con más de 28 años de experiencia en Relaciones Internacionales gestionando programas internacionales y asesorando en estrategias de cooperación en ciencia, tecnología e innovación (CTI) y diplomacia científica. Ha trabajado como consultora para la OEA y la Unión Europea.
Actualmente presta asesoría para la internacionalización de empresas tecnológicas, es consultora en diplomacia científica en la OEI y realiza capacitaciones en diplomacia científica, innovación y comunicación internacional.
Es Licenciada en Relaciones Internacionales por la Universidad de Belgrano; Especialista en Integración Regional (por la FLACSO), tiene un Máster en Gestión de la Comunicación en las Organizaciones (Universidad Austral), y actualmente, está desarrollando una tesis sobre Diplomacia Científica en Argentina.

Karina Pombo
Observatorio Iberoamericano de Ciencia, Tecnología y Sociedad (OCTS), de la OEI

3.1. Technological Aspects

Cooperation in research infrastructures emerged as a crucial element for knowledge exchange and the energy transition.

- **Importance of Collaboration**: Sabina Guaylupo, project manager of the EU-LAC RES INFRA PLUS project, highlighted the need for joint and complementary development of research

infrastructures between Europe and Latin America and the Caribbean. This development must consider the needs and capacities of both regions to ensure balanced and beneficial collaboration.

- **Benefits of Cooperation**: Building a joint strategy allows for adaptation to common standards, facilitates researcher training, expands access to facilities, services, and data, and promotes synergies and complementarities between the two regions. It was noted that the European Union has a more advanced collaboration framework in infrastructures through the European Strategy Forum on Research Infrastructures (ESFRI), while Latin America and the Caribbean still face challenges in collaboration due to a lack of knowledge about existing infrastructures and financial support.
- **Researcher Exchange**: The importance of facilitating the exchange of researchers between the two regions was emphasised. This exchange should not be limited to technical researchers but should also include infrastructure managers and directors to share management experiences and collaboration models. The importance of training highly skilled human capital in Latin America was highlighted to make the most of new technologies.
- **Access to Infrastructures**: The possibility for Latin American researchers to access European infrastructures was highlighted as a key factor in advancing the energy transition in the region. The need to expand access opportunities, which are often limited for researchers outside Europe, was mentioned. The Energytran project, as an example of collaboration, aims to facilitate knowledge and experience exchange between research infrastructures in both regions.

Concrete Examples:

- **Energytran Project**: An example of scientific collaboration in the field of energy transition that seeks multidisciplinary solutions and promotes cooperation between European and Latin American institutions. The project includes mobility for researchers, technical assistance for indigenous and rural communities in the use of green energy, and the development of an inventory of research infrastructures in both regions.
- **EU-LAC RES INFRA PLUS Project**: Aims to establish a sustainable bi-regional collaboration framework in the field of research infrastructures. This project works on identifying existing infrastructures, promoting collaborations, capacity building, and creating a joint roadmap. The importance of this project in creating a communication channel between the technical side and political decision-makers was highlighted.

3.2. Regulatory Aspects

Panel 1 mainly focused on the technological aspects of scientific cooperation between Europe and Latin America and the Caribbean for the energy transition. Although the need for a regulatory framework to facilitate this cooperation was mentioned, the summary highlighted these points related to regulation:

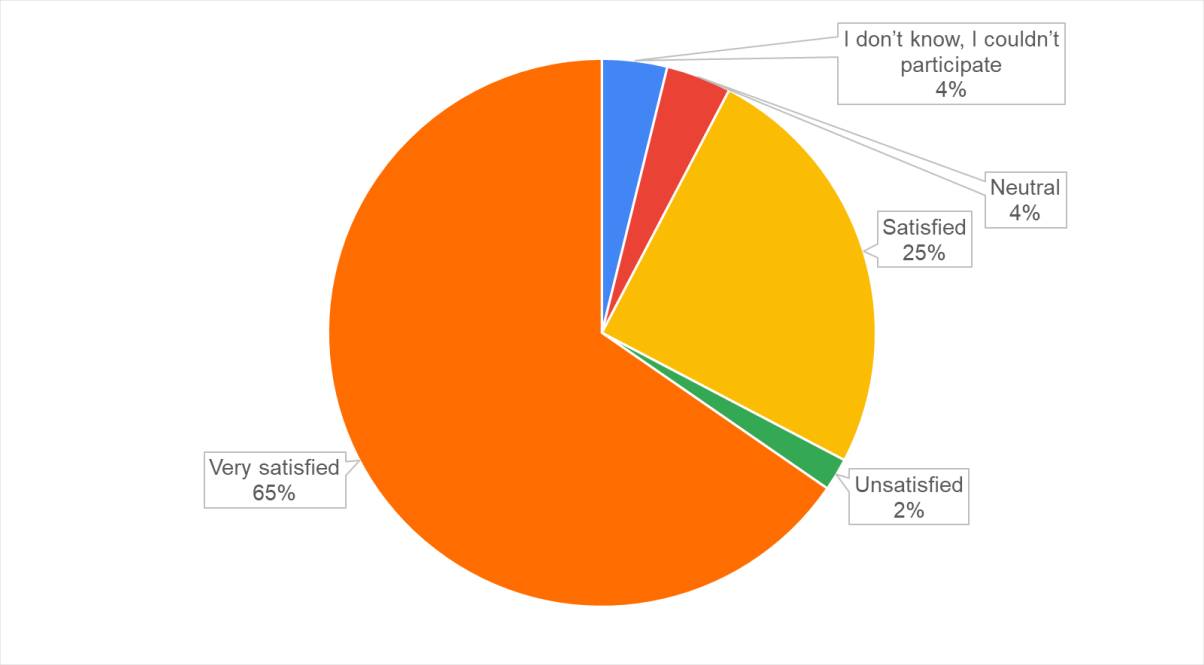
- **Continuous Political Dialogue**: The need for ongoing political dialogue between the two regions to create a stable framework for collaboration was stressed.
- **Visibility and Communication**: The importance of giving greater visibility to existing research infrastructures and improving communication between the two regions was noted.
- **Identification of Needs**: The need to establish mechanisms for both regions to communicate their needs and objectives regarding cooperation in research infrastructures was raised.

3.3. Satisfaction Survey

The general event survey includes a specific question regarding attendees' satisfaction with Panel 1: "How satisfied are you with Panel 1 'Knowledge Exchange in the Scientific Cooperation between Europe and Latin America and the Caribbean'?". Out of a total of 52 responses:

- 90% of respondents were satisfied or very satisfied with Panel 1.
- 4% were neutral.
- The remaining percentage (6%) is divided between dissatisfied, very dissatisfied, and those who were unable to attend or do not recall.

These results suggest that, overall, attendees of the thematic virtual event considered Panel 1 on knowledge exchange in scientific cooperation to be positive and useful.



4. Panel 2: Challenges and Opportunities in the Energy Sector

This panel discussed the challenges and opportunities of the energy sector in the context of the transition to clean energy, addressing issues such as decarbonization and the adoption of new consumption models

- Moderator: Alan Josué Campos Gallo

Allan Josué Campos Gallo, CeNAT-CONARE (Costa Rica)

Es Ingeniero Electromecánico y Máster en Administración de Negocios. Tiene patentes inscritas y está publicado como inventor en la Oficina de Patentes de los Estados Unidos de América. Laboró, durante 7 años, como analista tecnológico en Casa Presidencial del Gobierno de Costa Rica. Además, fue Gerente de Post-Ventas de Volvo Centroamérica. Ha sido profesor de Física y Mecánica en varias universidades de Costa Rica durante 24 años. Es Director del Área de Gestión Ambiental del CENAT/CONARE desde 2011 y durante 22 años ha sido gestor de proyectos y eventos nacionales e internacionales en temas tecnológicos, de innovación y de vinculación, en esta institución.

- Panellists:
  - Yendry Corrales Ureña

Yendry Corrales Ureña, LANOTEC - CeNAT (Costa Rica)

Yendry Corrales Ureña es investigadora en el Laboratorio Nacional de Nanotecnología en Costa Rica desde 2016. Tiene un doctorado en ciencias de materiales con énfasis en nanotecnología de la Universidad Estatal de São Paulo en Brasil, y es ingeniera química de formación. Ha trabajado en institutos como Fraunhofer IFAM en Bremen, Alemania, y el Instituto Adolphe Merkle en Suiza. Su investigación se centra en nanomateriales, ciencia de superficies y materiales híbridos para aplicaciones energéticas.

  - Ignacio Gil

Dr. Ignacio Hernando Gil, Institute for Systems and Computer Engineering, Technology and Science - INESCTEC, (Portugal)

Dr. Ignacio Hernando Gil es investigador senior en sistemas eléctricos de Potencia en INESC TEC, Portugal. Anteriormente, fue profesor asociado de ingeniería eléctrica y electrónica en el Instituto de Tecnología Industrial, ESTIA (Francia), profesor asociado en la Universidad de Bath (Reino Unido) e investigador doctor en la Universidad de Edimburgo (Reino Unido). También trabajó en industria con PassivSystems y National Grid, Reino Unido. Ha participado en múltiples proyectos industriales y académicos y tiene una amplia investigación en modelado de riesgos y análisis de redes activas de distribución, tanto como en el impacto agregado de las tecnologías de redes inteligentes en la calidad del suministro eléctrico. Su última investigación incluye la optimización de la gestión energética en microrredes y sistemas de centros de energía integrados en edificios. Dr. Hernando Gil es miembro senior del IEEE desde 2021. Tiene una licenciatura en Ingeniería Industrial de la Universidad Politécnica de Madrid (España), una maestría en energía de la Universidad Heriot-Watt (Escocia, Reino Unido) y un doctorado en Ingeniería Eléctrica de la Universidad de Edimburgo (Escocia, Reino Unido).

- Fernando Lizana

M.Sc. Fernando Lizana, Experto en Redes Nacionales de Distribución de Energía y Energías Renovables, (Costa Rica)

Fernando Lizana es ingeniero en electrónica, egresado del Instituto Tecnológico de Costa Rica. Cuenta con una maestría en energías renovables de la Universidad de Zaragoza, y un postgrado en gestión de proyectos de Investigación y Desarrollo del Instituto Politécnico de Valencia, España. Tiene una trayectoria de más de 20 años de trabajo en el Instituto Costarricense de Electricidad. Fungió como coordinador del departamento de Investigación en Energías Alternativas de la Gerencia de Electricidad, y del departamento de Innovación y Sostenibilidad de la Gerencia General. Actualmente se desempeña como coordinador de Planificación de la Distribución Eléctrica.

- José Henrique Querido Maia

Dr. José Henrique Querido Maia , Instituto Politécnico de Setúbal - IPS (Portugal)

José Maia é Doutorado em Eng. Eletrotécnica e de Computadores, desempenhando as funções de Prof. Coordenador no Instituto Politécnico de Setúbal. Tem desenvolvido atividades maioritariamente nas áreas das Energias Renováveis, dos Veículos Elétricos e do armazenamento de energia, tanto ao nível do Ensino, da Investigação e da colaboração com empresas. É atualmente responsável pela pós-graduação em Motorização de Veículos Elétricos e Híbridos.

4.1. Technological Aspects

The information presented during Panel 2 address various technological aspects related to the energy transition in Europe and Latin America and the Caribbean:

- **I Technological development and maturity:**
  - The difference in the **level of technological development between Europe and Latin America** is recognised. Europe has advanced in the implementation of clean energy, facing new challenges that become opportunities for development. Latin America, on the other hand, has great potential but needs to mature its technological development processes, especially in the area of patents.
- **II. Infrastructure and energy models:**

- The need to assess and modernise **energy generation and transmission infrastructures**, both nationally and regionally, is highlighted. Costa Rica is mentioned as a successful model for clean electricity generation, adaptable to other countries. The importance of regional integration to share strategies, resources, and technologies is emphasised.
- The need for a **more flexible electricity system**, based on variable renewable energies, is identified. This involves decarbonising energy sources, adapting electrical systems at all levels, and understanding growth limits. Microgrids are mentioned as an option for energy management.

- **III. Energy storage:**
  - **Energy storage** is recognised as a critical challenge, especially given the volatility of renewable energies. Batteries are mentioned as an option, but more research and innovation are needed in this field.
- **IV. Specific technologies:**
  - **Green hydrogen**: Its potential in maritime transport and the decarbonisation of islands is discussed. It is noted that research and development funding in Europe increasingly considers green hydrogen as a key energy vector.
  - **Solar thermal energy**: The challenges and opportunities of concentrated (CSP) and non-concentrated solar thermal energy are presented.
    - **CSP:** The need to reduce costs, improve efficiency, and increase storage capacity is highlighted.
    - **Non-concentrated solar thermal energy:** The importance of developing low-cost, accessible systems for vulnerable and rural communities is emphasised. The need for more training for professionals in applying these technologies is mentioned.
  - **Demand management**: It is proposed as an important strategy to optimise energy use. Examples such as managing the charging of electric vehicles and cold production for refrigeration units are mentioned.
- **V. Role of academia:**
  - **Academia and research centres** are recognised as key players in knowledge transfer and the promotion of R&D&I in clean technologies. Their role in seeking sustainable solutions and building technology that responds to local needs is highlighted.

In summary, Panel 2 explored a variety of technological aspects related to the energy transition, highlighting both the challenges and opportunities this process presents for Europe and Latin America.

4.2. Regulatory Aspects

During the panel, several relevant points regarding regulation and the institutional framework for the energy transition were discussed.

- **Need for an appropriate regulatory framework:** The conclusions of Panel 2 mention the need for "an assessment and modernisation of energy generation and transmission infrastructures," which implies an adaptation of the regulatory framework to new technologies and energy models. During the debate, José Maya highlights the importance of regulation in the development of new

technologies, specifically mentioning the need to "operationalise energy storage" and the creation of a regulatory framework for this type of technology.

- **Adaptation of market models:** Fernando Lizana, in his intervention, emphasises the importance of market models and their influence on the energy transition. A study by the International Renewable Energy Agency (IRENA) is mentioned, analysing the processes of market liberalisation since the 1990s and their impact on the adoption of clean energy. It is inferred that market models and regulation must be adapted to encourage investment in renewable energy, integrate new technologies, and allow new players to enter the energy sector.
- **Public policies and incentives:** The panel summary highlights the need for "integration between the EU and LAC to complement strategies, resources, and technologies," suggesting the importance of regulatory cooperation and the development of joint policies. The cases of Chile and Colombia are mentioned, where policies are being implemented to promote green hydrogen and attract investments. This underscores the importance of public policies and incentives for the development of new technologies and the energy transition.

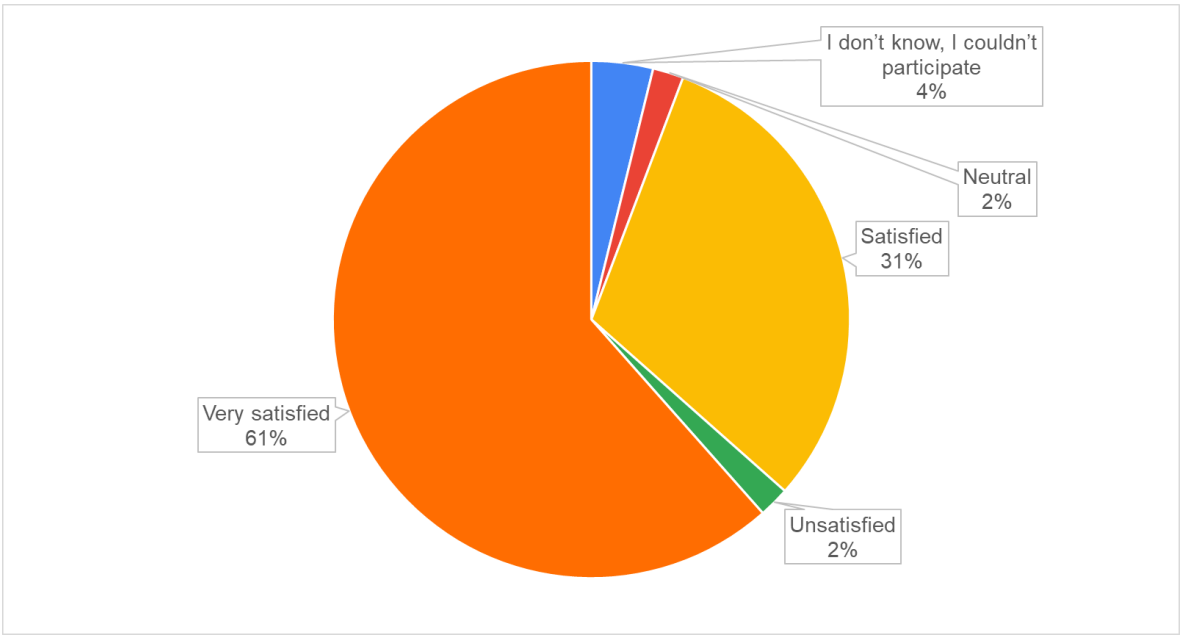
In summary, the panel discussion offers relevant information on the importance of regulation, market models, and public policies in the energy transition. It can be concluded that the adaptation of the regulatory framework, the creation of appropriate incentives, and international cooperation are crucial elements for the success of the transition to a more sustainable energy model.

4.3. Satisfaction Survey

The general event survey includes a specific question regarding attendees' satisfaction with Panel 2: “How satisfied are you with Panel 2 “Challenges and Opportunities in the Energy Sector”?”. Out of a total of 52 responses:

- 92% of respondents were satisfied or very satisfied with Panel 2.
- 2% were neutral.
- The remaining percentage (6%) is divided between dissatisfied, very dissatisfied, and those who were unable to attend or do not recall.

These results suggest that, overall, attendees of the thematic virtual event considered Panel 2 to be positive and useful.



5. Panel 3: Environmental and Social Impact of the Energy Transition

This panel focused on the analysis of the social and environmental impact of the energy transition, seeking to identify strategies to mitigate negative impacts.

- Moderator: Martín Obaya.

Martín Obaya, CONICET-UNSAM (Argentina)

Investigador del Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) y vicedirector del Centro de Investigaciones para la Transformación, de la Escuela de Economía y Negocios de la Universidad de San Martín (CENIT-EEyN-UNSAM). Es licenciado en Economía (Universidad de Buenos Aires), con maestría en Relaciones Internacionales (Università di Bologna, Italia). En 2014, obtuvo su doctorado en Monash University (Australia). Sus proyectos de investigación actuales se focalizan en el estudio de la gobernanza y los procesos de aprendizaje tecnológico en el sector de recursos naturales, principalmente el litio.

- Participants:
  - Carlos Monge Salgado.

Carlos Monge, Publish What You Pay Coalition y Centro de Estudios y Promoción del Desarrollo (Perú)

Antropólogo por la Pontificia Universidad Católica del Perú y Doctor en Historia Latinoamericana por la Universidad de Miami. Es investigador asociado del Centro de Estudios de Promoción del Desarrollo (DESCO, Lima), Integrante del Consejo Directivo del Seminario Permanente de Investigación Agraria (SEPIA, Lima), Presidente de la Junta de la coalición global *Publish What You Pay* (PWYP), y consultor independiente. Sus temas de interés son la población rural, el gobierno de los territorios, las industrias extractivas, el calentamiento global y la transición energética.

  - Melisa Escosteguy.

Melisa Escosteguy, CONICET-INENCO-UNSa (Argentina)

Licenciada en Antropología por la Universidad Nacional de Salta y estudiante de doctorado en la Universidad de Buenos Aires. Actualmente, se desempeña como becaria doctoral del Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) de Argentina, en el Instituto de Investigaciones en Energía No Convencional (INENCO) en la provincia de Salta. Su investigación está conectada a la justicia energética y la ecología política de la minería de litio en el norte de Argentina.

- Eloy Sanz.

Eloy Sanz, Presidencia del Gobierno (España)

Doctor en Ingeniería Química y profesor titular en la Universidad Rey Juan Carlos. Su investigación se centra en el almacenamiento de energía solar térmica y tecnologías de captura y almacenamiento de CO2, con más de 30 artículos publicados y varios premios de investigación en su haber. Actualmente, es Subdirector de Políticas Medioambientales en el gabinete de la Presidencia del Gobierno.

5.1. Technological Aspects

Although there is no dedicated section on technological aspects within Panel 3, the presentations and discussions do mention how the technologies used in the energy transition can have social and environmental implications.

- **Raw material extraction**: Carlos Monge, in his presentation, mentions the need to "negotiate the conditions for the exploitation of the necessary minerals (strategic, critical) for the transition." This involves considering the environmental and social impact of mining lithium, copper, cobalt, and others necessary for the manufacture of clean technologies such as solar panels, batteries, and wind turbines.
- **Territories and local communities**: Melisa Escosteguy focuses on the impacts of lithium mining in Argentina. While she does not delve into specific technological aspects, her analysis highlights the need to assess how the technologies used in extraction affect local communities and their ways of life.
- **Impact of energy production**: Although the main focus of the panel is not on energy generation technologies, it is acknowledged that the implementation of certain technologies, such as the construction of large hydroelectric dams or the expansion of large-scale solar energy, can

generate significant environmental and social impacts, such as the displacement of communities or the alteration of ecosystems.

- **Need for an integrated approach**: The importance of considering technological aspects in the context of an integrated approach is emphasised, one that also includes social, environmental, economic, and governance dimensions.

In summary, Panel 3 highlights the importance of considering the social and environmental implications of the technologies used in the energy transition. It is acknowledged that the choice of technologies and their implementation must consider not only energy efficiency but also their impact on local communities, ecosystems, and social justice

5.2. Regulatory Aspects

The presentations and discussions within Panel 3 do provide relevant information on how regulation and the institutional framework play a crucial role in achieving a just and sustainable energy transition.

- **Regulation for a just transition**: Carlos Monge, in his presentation, highlights the importance of a regulatory framework that promotes a just energy transition. This involves:
    - **Regulation of extractive activities**: Monge stresses the need to "negotiate the conditions for mineral exploitation," which implies establishing clear and strict regulations for mining, ensuring respect for the rights of local communities and environmental protection.
    - **Citizen participation**: The importance of "free, prior, and informed consultation" in energy projects is mentioned, which implies the existence of a regulatory framework that guarantees citizen participation in decision-making processes.
    - **Equitable distribution of benefits**: According to Monge, a just energy transition must also ensure that the benefits are distributed equitably, which may require regulations for the distribution of tax revenues from energy activities.
- **Regulation for environmental protection**: Throughout the panel, the importance of "environmental standards and instruments" in the development of energy projects is mentioned. While specific regulations are not detailed, the need for a solid regulatory framework that guarantees environmental impact assessments, mitigation of negative impacts, and biodiversity conservation is inferred.
- **Technical assistance in regulatory matters**: Carlos Monge suggests that Europe can provide technical assistance to Latin America to "design and implement regulatory reforms and protocols" in environmental and citizen participation matters. This underscores the importance of international cooperation in strengthening regulatory capacities in developing countries.

In summary, Panel 3 highlights the crucial importance of a solid and just regulatory framework for a sustainable energy transition. The need for clear regulations on resource extraction, citizen participation, environmental protection, and equitable distribution of benefits is inferred. International cooperation is also considered an important factor in strengthening regulatory capacities and promoting a globally responsible energy transition.

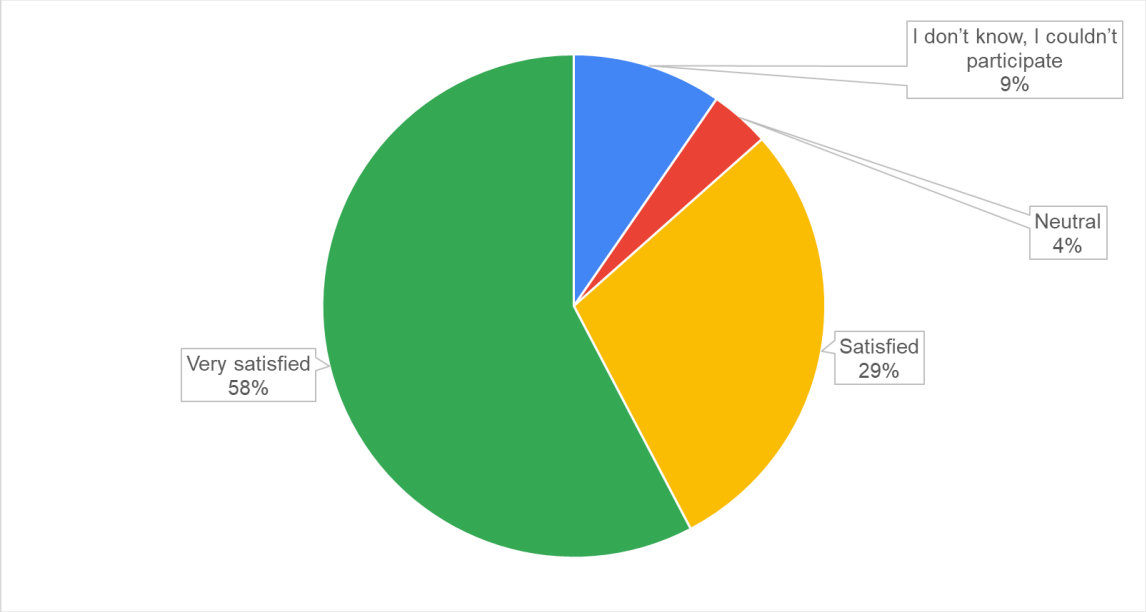
5.3. Satisfaction Survey

The general event survey includes a specific question regarding attendees' satisfaction with Panel 3: How satisfied are you with Panel 3 “Environmental and Social Impact of Energy Transition”? Out of a total of 52 responses:

- 87% of respondents were satisfied or very satisfied with Panel 1.
- 4% were neutral.

- The remaining percentage (9%) is divided between dissatisfied, very dissatisfied, and those who were unable to attend or do not recall.

These results suggest that, overall, attendees of the thematic virtual event considered Panel 3 on Environmental and Social Impact of Energy Transition.



6. Panel 4: Emerging Technologies for Energy Sustainability

This panel focused on the presentation and analysis of emerging technologies that can contribute to energy sustainability.

- Moderator: Alvaro Videla.

Profesor Asociado del Departamento de ingeniería de Minería de la UC, director del Centro de Energía UC. Master of Science y Ph.D. Universidad de Utah. Su área de investigación es: consumo energético en los procesos mineros, optimización de procesos de extracción minera, análisis de tecnologías y oportunidades en minería, diseño de soluciones para la optimización de procesos de extracción, materiales críticos para la transición energética, almacenamiento de energía con sales fundidas, baterías de litio, optimización de procesos y eficiencia energética.

Associate Professor, UC Department of Mining Engineering, Director of the UC Energy Center. Master of Science and Ph.D. University of Utah. His area of research is: energy consumption in mining processes, optimization of mining extraction processes, analysis of technologies and opportunities in mining, design of solutions for the optimization of extraction processes, critical materials for energy transition, energy storage with molten salts, lithium batteries, process optimization and energy efficiency.

Alvaro Videla
Research Associate Professor PUC (Chile)
Director of the Energy Center UC (Chile)

- Participants:
    - Felipe Huerta.

Ph.D. Imperial College London (2021), y magíster (2016) UC. Profesor asistente en el Departamento de Ingeniería Química y Bioprocesos de la UC, unidad en la que dicta fenómenos de transporte y operaciones unitarias. Además, el año 2019 obtuvo el premio John. S. Archer Award a la excelencia en investigación en geociencias e ingeniería del petróleo. Asimismo, sus áreas actuales de investigación son la modelación y simulación de fenómenos de transporte, líquidos criogénicos, intensificación de procesos y almacenamiento de energía.

Ph.D. Imperial College London (2021), and Master (2016) UC. Assistant Professor in the Department of Chemical Engineering and Bioprocesses at UC, unit in which he teaches Transport Phenomena and Unit Operations. Additionally, in 2019 he received the John. S. Archer Award for Research Excellence in Geosciences and Petroleum Engineering. Also, his current research areas are modeling and simulation of transport phenomena, cryogenic fluids, process intensification and energy storage.

Felipe Huerta

Department of Chemical Engineering and Bioprocesses, PUC (Chile).

- Juan Carlos Fierro.

Profesor de Ingeniería Química en el Tecnológico Nacional de México en Celaya, donde su grupo investiga la síntesis de catalizadores metálicos soportados y su caracterización en condiciones de reacción mediante técnicas espectroscópicas. Obtuvo su licenciatura en Ingeniería Química en la Universidad Autónoma de San Luis Potosí (México) y su doctorado en la Universidad de California, Davis (EE.UU.). En la actualidad, el Profesor Fierro-González es Vicepresidente de la Academia Mexicana de Catálisis. También es líder de la Red Temática para el Desarrollo de la Cadena de Valor de Minerales Estratégicos en México.

Professor of Chemical Engineering at the Tecnologico Nacional de Mexico in Celaya, where his group investigates the synthesis of supported metal catalysts and their characterization under reaction conditions by spectroscopic techniques. He obtained his B.Sc. degree in chemical engineering from the Universidad Autónoma de San Luis Potosí (Mexico) and his Ph.D. from the University of California, Davis (USA). Currently, Prof. Fierro-Gonzalez serves as Vice-president of the Mexican Academy of Catalysis. He is also the leader of the Thematic Network for the Development of the Value Chain of Strategic Minerals in Mexico.

Juan Carlos Fierro

Thematic Network for the Development of Strategic Minerals Value Chain (Mexico)
Tecnológico Nacional de México - TECNM (Mexico)

- Robert Szolak.

Jefe de Departamento de Productos de Síntesis Sostenibles en la División Tecnologías del Hidrógeno en el Instituto Fraunhofer de Sistemas de Energía Solar, Friburgo de Brisgovia, Alemania. En 2015, asumió como jefe de equipo en el Departamento de Procesos Termoquímicos, donde estableció el grupo de "Desarrollo de Procesos" en la división de "Tecnologías de Hidrógeno", con enfoque en la reducción de emisiones, catálisis y uso de combustibles renovables en diversas aplicaciones. Actualmente, se dedica a evaluar la cadena de procesos de los productos Power to X (producción, transporte, uso) en términos de economía, ecología y tecnología.

Department Manager of Sustainable Synthesis Products in the Division Hydrogen Technologies at the Fraunhofer Institute for Solar Energy Systems, Freiburg im Breisgau, Germany. In 2015, he took over as team leader in the Thermochemical Processes Department, where he established the "Process Development" group in the "Hydrogen Technologies" division, with a focus on emissions reduction, catalysis and the use of renewable fuels in various applications. Currently, he is dedicated to evaluate the process chain of Power to X products (production, transportation, use) in terms of economy, ecology and technology.

Robert Szolak

Sustainable Synthesis Products (Germany)
Fraunhofer Institute for Solar Energy Systems ISE (Germany)

6.1. Technological Aspects

Panel 4: "Emerging Technologies for Energy Sustainability" focuses on the exploration of new technologies, particularly green hydrogen and sustainable lithium extraction, to drive the transition toward a more sustainable energy system.

- **Green Hydrogen: Importance of developing new technologies:** The panel highlights the need to accelerate research and development of more efficient and cost-effective technologies for green hydrogen production. PEM electrolysers are mentioned as a promising technology, though their costs remain high. ○ The need to develop solid oxide electrolysers is emphasized, as they can utilize waste heat from industrial processes, improving efficiency and competitiveness. **Collaboration and regulation:** The importance of collaboration between hydrogen producers and consumers is emphasized, as well as the need to establish clear regulations for the production, transportation, and use of this energy source.
- **Sustainable Lithium Extraction: Direct Lithium Extraction (DLE) Technologies:** DLE technologies are presented as a more sustainable alternative to traditional evaporation techniques for extracting lithium from brines. The environmental advantages of DLE are highlighted, such as reduced water and energy consumption. It is recognized that DLE implementation is still limited, but these technologies are expected to minimize the environmental impacts of lithium production. **Challenges and opportunities in lithium production:** Different lithium extraction methods are analysed, considering their advantages, disadvantages, and environmental impacts. Australia and Chile are mentioned as the main lithium producers, using pegmatites and brines, respectively. The need to invest in research and development to adapt extraction technologies to the specific characteristics of lithium deposits is acknowledged, with the aim of minimizing environmental impacts.
- **Additional Technological Aspects: Electrification:** The panel also addresses the challenges and limitations of electrification as the sole solution for the energy transition. ○ It is recognized that not all industrial processes, long-distance transport, and heating can be fully electrified. The need to explore complementary alternatives to electrification, such as green hydrogen, is highlighted in order to achieve full decarbonization of the energy system.

In summary, Panel 4 focuses on technological advancements in green hydrogen and lithium extraction as key to energy sustainability. The panel analyses technological challenges, the importance of collaboration and regulation, and the need for an integrated approach combining different technologies to achieve a successful energy transition.

6.2. Regulatory Aspects

Although Panel 4 focuses on emerging technologies for energy sustainability, the panel does mention important regulatory aspects related to the development and implementation of technologies such as green hydrogen and lithium extraction.

- **Need for an adequate regulatory framework**: It is mentioned that the lack of a clear and specific regulatory framework for new technologies, such as green hydrogen production and Direct Lithium Extraction (DLE), may delay their development and large-scale implementation. This implies the need to establish standards and regulations that address: Technical standards for the production, storage, transportation, and use of green hydrogen. Regulation of water and waste management in lithium extraction, especially for DLE technologies. Incentives for investment in clean technologies and the creation of a market for green hydrogen.

- **Importance of international collaboration**: The importance of international cooperation in the development of clean technologies and the creation of a more sustainable global energy system is highlighted. This includes: Knowledge exchange and best practices in regulation and technological development. Cooperation in research and development projects for clean technologies. Establishment of trade agreements to facilitate the trade of green hydrogen and other renewable energy-related products.
- **Human capital development**: The panel mentions the need to train specialized human capital in new technologies for energy sustainability. This implies: Investing in education and training in areas such as green hydrogen production, energy storage system management, and sustainable lithium extraction. Creating professional and technical training programs to prepare the workforce for the new demands of the energy sector.

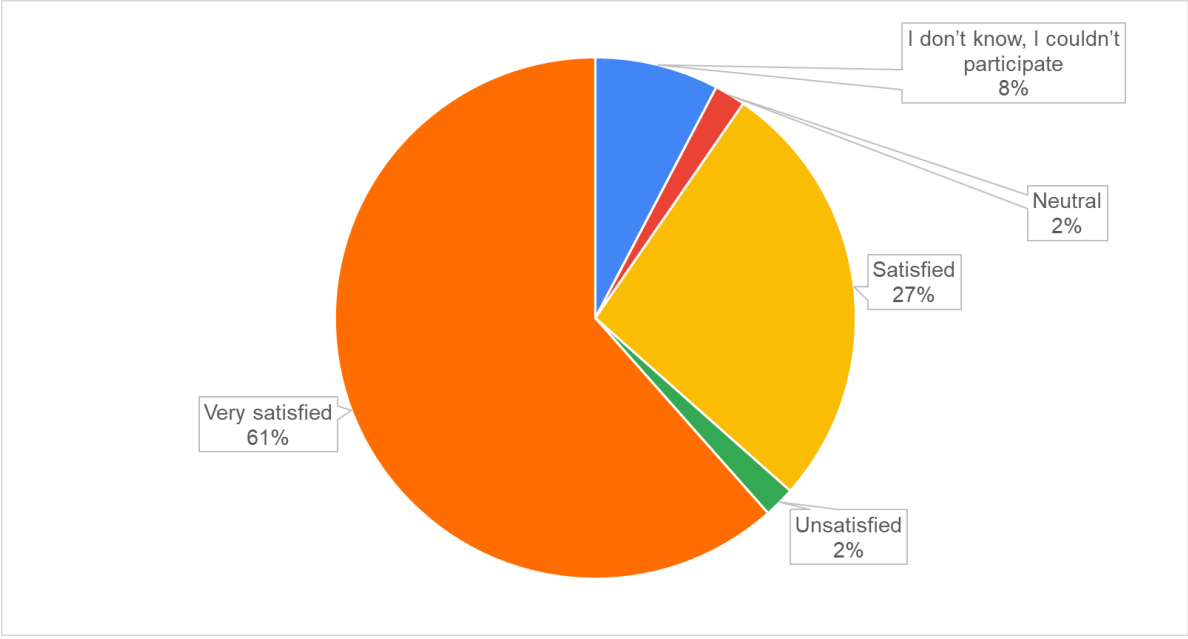
In summary, Panel 4 underscores the crucial importance of an adequate regulatory framework to drive the development and implementation of emerging technologies for energy sustainability. It recognizes the need to establish clear standards, promote international collaboration, and invest in the training of specialized human capital to fully harness the potential of these technologies

6.3. Satisfaction Survey

The general event survey includes a specific question regarding attendees' satisfaction with Panel 1: How satisfied are you with the synthesis and conclusions of Panel 4 “Technologies for Energy Sustainability”? Out of a total of 52 responses:

- 88% of respondents were satisfied or very satisfied with Panel 1.
- 2% were neutral.
- The remaining percentage (10%) is divided between dissatisfied, very dissatisfied, and those who were unable to attend or do not recall.

These results suggest that, overall, attendees of the thematic virtual event considered Panel 4 Technologies for Energy Sustainability to be positive and useful.



7. Panel 5: Applications of Solar Thermal Energy

This last panel addressed the applications of solar thermal energy, analyzing the technological challenges and opportunities in this field.

- Moderator: Ricardo Sánchez Moreno.

Doctor en Química Medioambiental por la Universidad de Londres y Licenciado en Químicas por la Universidad de Almería, se unión a la unidad de dirección de la Plataforma Solar de Almería en 2012. Desde entonces su actividad ha estado vinculada a la gestión y coordinación de proyectos del Programa Marco Europeo y, a la gestión de grandes infraestructuras de investigación de CST. De 2014 a 2022 participó en la gestión del Programa Conjunto de CSP (Joint Programme on CSP) de EERA (European Energy Research Alliance), el cual pasó a coordinar en el año 2022. Desde 2021 está además vinculado a la Unidad de Materiales para CST de la Plataforma Solar de Almería, donde investiga sobre la mejora en la eficiencia y durabilidad de los espejos utilizados en el campo solar para las diferentes tecnologías CST.

Ricardo Sánchez Moreno
CIEMAT-Plataforma Solar Almería (España)

- Participants:
  - Clotilde Noemi Sogari.

Licenciada en Ciencias Físicas , Doctora en Ciencias Area Energías Renovables. Docente- investigadora de la Facultad de Ciencias Exactas de la UNNE con 35 años de antigüedad. Directora del Grupo de Investigación de las Energías Sustentables y Cuidado del Medio Ambiente (GIESMA). Co responsable de la Red Iberoamericana de Investigación para la aplicación de las Energías Renovables y Cuidado del Ambiente (Red RIBERA) de la AUIP. Participa y dirige proyectos de investigación y transferencia tecnológica en temas vinculados a la aplicación de la energía solar térmica y de biomasa con grupos de investigación de Brasil, Uruguay, Perú, España y Alemania.

Clotilde Noemi Sogari
Universidad Nacional del Nordeste (Argentina).

  - Alejandro Luis Hernández.

Licenciado en Física y Dr. en Ciencias, área de Energías Renovables. Profesor Titular de la Facultad de Ciencias Exactas de la UNSa, con 32 años de experiencia en docencia e investigación en Energía Solar. Director del Instituto de Investigaciones en Energía no Convencional (INENCO) y del Grupo de Eficiencia Energética en Edificios (G3E) del INENCO. Asesor en proyectos de aprovechamiento de la energía solar para la calefacción de edificios y asesor en diseño y dimensionamiento de instalaciones de calentamiento solar de aire. Participó en el diseño solar del Hospital Bioclimático Materno Infantil de Susques, Prov. de Jujuy y del Colegio Secundario de Montaña de El Alfarcito, Prov. de Salta. Desarrolló colectores solares calentadores de aire para calefacción de edificios de vivienda e industriales.

Alejandro Luis Hernández

Instituto de Investigaciones en Energía No Convencional – INENCO (Argentina), Universidad Nacional de Salta – UNSa (Argentina), Consejo Nacional de Investigaciones Científicas y Técnicas - CONICET (Argentina)

- Manuel Blanco.

CEO y socio fundador de SunVanguard Dynamics, asesor tecnológico de BlueSolar Filters y científico senior del DLR. Doctor en Física Aplicada por la Universidad de Massachusetts y Doctor en Ingeniería Industrial por la Universidad de Sevilla, con casi cuatro décadas de experiencia en energías renovables, especialmente en tecnologías termosolares. Ha liderado con éxito proyectos y actuaciones de alto impacto en numerosos países, particularmente en España, Estados Unidos, Botsuana, Australia y Chipre. También ha fomentado la innovación con patentes y el desarrollo de software de código abierto como Tonatiuh, FluxTracer y Tonatiuh++. Comprometido con la transición global hacia las energías renovables, aportando a cada proyecto una combinación de conocimiento técnico, visión estratégica y dedicación inquebrantable a su éxito.

Manuel Blanco

Bluesolar Filters S.L. (España), SuVanguard Dynamics S.L. (España), Centro Aeroespacial Alemán – DLR (Alemania)

- Xavier Lara.

CEO de AELIUS Energies y CTO de SolStor Energy. Ingeniero Industrial por la Universidad Rovira i Virgili, BSc Hons en Astronomia por la University of Central Lancashire (UK), con más de 25 años de experiencia en renovables, habiendo liderado proyectos termosolares en España, India, Marruecos, UAE y China, focalizado en este momento en el renacimiento termosolar en US, con CSP y eTES , así como en la producción de hidrógeno y amoniaco verde. Ha desempeñado cargos directivos en empresas como ACWA Power, NextEra Energy y Florida Power and Light (FPL), Pacific Green (PGTK). Su experiencia abarca desde la reducción del coste nivelado de electricidad (LCoE) en grandes proyectos hasta la venta de ingeniería básica y de detalle a nivel internacional. Fue director ejecutivo de Empresarios Agrupados (EA). Recibió el IEA SolarPACES Lifetime Achievements Award en 2022, en reconocimiento a sus contribuciones a la termosolar.

Xavier Lara

AELIUS Energies (España), SolStor Energy (USA)

7.1. Technological Aspects

Panel 5, titled "Applications of Solar Thermal Energy," focuses on exploring the various applications of this technology for clean energy generation and its role in the energy transition. The presentations and discussions provide a wide range of information on key technical aspects of solar thermal energy.

- **Concentrated Solar Thermal Energy (CSP):**

  I. **Central Tower Systems:** Central tower systems are described as a widely used CSP technology. These systems use heliostats (movable mirrors) to concentrate solar radiation onto a receiver located at the top of a tower. The heat generated in the receiver is used to heat a working fluid, which in turn drives a turbine to generate electricity.

  II. **Challenges and Opportunities:** Challenges and opportunities in the development of CSP technology are identified, including:

  a) **Efficiency Improvement:** The importance of research to improve the capture, concentration, and conversion efficiency of solar energy in CSP systems is mentioned.

  b) **High-Temperature Receivers:** High-temperature receivers are highlighted as a promising research area, as they enable more efficient power cycles. Particle receivers and sodium receivers are mentioned as examples.

  c) **Thermal Storage:** The thermal storage capability of CSP technology is emphasized as a significant advantage over other renewable energies. The need to expand the portfolio of storage materials and improve the reliability of existing systems is noted.

  d) **Integration with Other Technologies:** The importance of integrating CSP with other technologies, such as photovoltaic, wind, and green hydrogen, is discussed to create more resilient and flexible energy systems.

  e) **Digitalization:** The potential of digitalization, artificial intelligence, and drones to optimize the operation and maintenance of CSP plants, thereby reducing costs, is recognized.

- **Non-Concentrated Solar Thermal Energy:**

  I. **Applications:** Various applications of non-concentrated solar thermal energy are presented, such as water heating for domestic and industrial use, space heating, agricultural product drying, and water distillation.

  II. **Bioclimatic Buildings:** The role of non-concentrated solar thermal energy in the construction of bioclimatic buildings, which harness solar energy to reduce energy consumption and improve thermal comfort, is highlighted.

  III. **Challenges and Opportunities:** Challenges and opportunities in the development of non-concentrated solar thermal energy are analysed, including:

  a) **Cost Reduction:** The need to reduce the costs of solar thermal systems to make them more accessible to vulnerable communities is mentioned.

  b) **Simplicity and Accessibility:** The importance of developing simple technologies, using affordable and readily available materials, is emphasized to facilitate their adoption in different contexts.

  c) **Training and Education:** The necessity of training the population in the design, installation, and maintenance of solar thermal systems is underscored to ensure their proper functioning and durability.

  d) **Adaptation to Context:** The importance of adapting technologies to climatic conditions and the specific needs of each region is noted.

In summary, Panel 5 provides a detailed view of the technological aspects of solar thermal energy, both concentrated and non-concentrated. It analyses the different technologies, their applications, challenges, and opportunities, highlighting their potential to contribute to the transition towards a more sustainable energy system.

7.2. Regulatory Aspects

The presentations and discussions within Panel 5 do address the importance of energy policy and mention several relevant regulatory aspects for the successful implementation of solar thermal energy.

- **Need for Supportive Energy Policies:** The importance of government energy policies promoting solar thermal energy is highlighted, recognizing its advantages for decarbonization and the creation of more resilient energy systems.
- **Incentives and Regulations:** Specific examples of policies that can drive the adoption of solar thermal energy are mentioned, such as:
    - **Tax Incentives and Grants:** To make solar thermal systems more economically accessible.
    - **Financing Programs:** To facilitate investment in solar thermal energy projects, especially in rural communities.
    - **Energy Efficiency Regulations:** That establish requirements for the use of renewable energies in buildings, thereby boosting the demand for solar thermal systems.
- **Creation of a Clear Regulatory Framework:** The need for a transparent regulatory framework that provides security to investors and promotes the development of the solar thermal energy supply chain is mentioned.
- **Local Content and Job Creation:** The importance of energy policies considering local content and job creation in the solar thermal energy industry is emphasized.

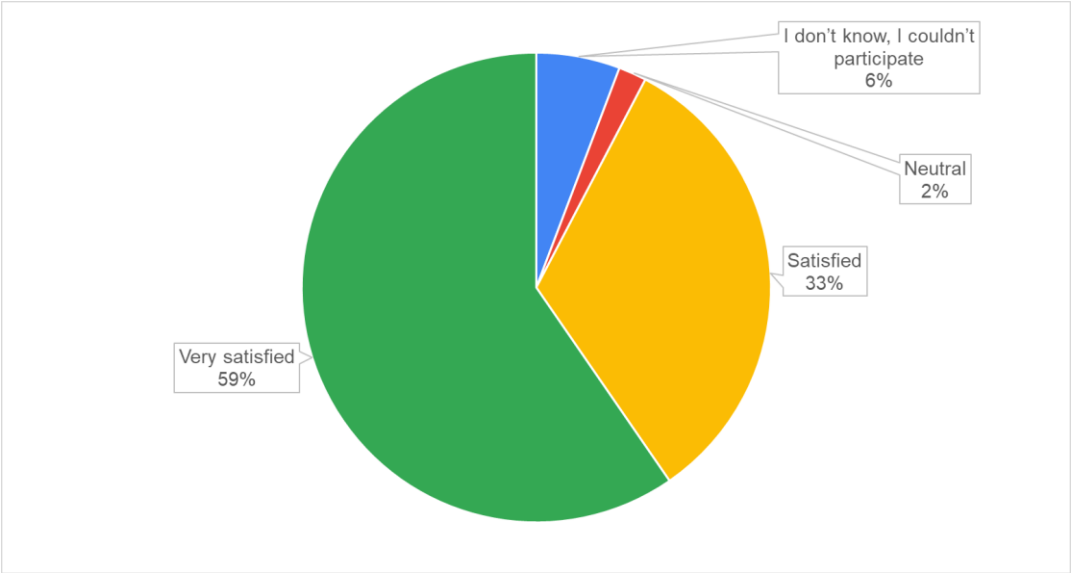
In summary, the importance of energy policies and an appropriate regulatory framework for driving the implementation of solar thermal energy is recognized. Concrete examples of supportive policies, such as tax incentives and energy efficiency regulations, are mentioned as key to overcoming economic barriers and promoting the adoption of this clean technology.

7.3. Satisfaction Survey

The general event survey includes a specific question regarding attendees' satisfaction with Panel 5: How satisfied are you with the synthesis and conclusions of Panel 5 “Applications of Solar Thermal Energy”? Out of a total of 52 responses:

- 92% of respondents were satisfied or very satisfied with Panel 1.
- 2% were neutral.
- The remaining percentage (6%) is divided between dissatisfied, very dissatisfied, and those who were unable to attend or do not recall.

These results suggest that, overall, attendees of the thematic virtual event considered Panel 5 on Applications of Solar Thermal Energy to be positive and useful.



8. Summary of Conclusions and Closing

8.1. Block 1: Conclusions and Closing: Synthesis and Key Conclusions of the Panels

Block 1 of the section "Conclusions and Closing" of the event "Technology and Energy Transition: Strengthening Europe-Latin America Cooperation in the Energy Transition" was dedicated to presenting the syntheses and main conclusions of the five panels that comprised the event. Below is a summary of each panel:

Panel 1: Knowledge Exchange in Scientific Cooperation between Europe and Latin America and the Caribbean

- **Key Conclusions:**
  - Scientific cooperation is essential for generating and transferring knowledge and technologies in the field of energy transition, regardless of the level of development of the countries.
  - The energy transition is not just an ecological crisis but a systemic crisis that requires cooperation between Europe and Latin America and the Caribbean.
  - Collaboration among different actors, including policymakers, civil society, the private sector, and academia, is fundamental for the success of the energy transition.
  - The need to create cross-sectoral alliances involving all stakeholders in the quadruple helix (academia, public sector, private sector, and civil society) was highlighted.
- **Key Points:**
  - The RES INFRA II project, a scientific cooperation initiative between Europe and Latin America, was presented.
  - The importance of scientific diplomacy for the energy transition was emphasized.
  - The need to address gender gaps in green transition sectors was identified.

Panel 2: Challenges and Opportunities in the Energy Sector

- **Key Conclusions:**
    - Europe has developed strategies for the energy transition, but the transformation presents technological, cultural, environmental, strategic, and social challenges.
    - Latin America and the Caribbean have great potential in clean energies but face difficulties in transforming their energy matrix.
    - A thorough analysis of each sector and region is required to determine the best alternatives for clean generation.
    - Integration and complementarity between the European Union and Latin America are essential for a successful energy transition.
    - Costa Rica, despite its success in renewable energy generation, faces social and economic challenges.
- **Key Points:**
    - The current situation of the energy sector in the European Union and Latin America and the Caribbean was discussed.
    - The challenges of decarbonization and raw material acquisition were analysed.
    - Opportunities in electric mobility, hydrogen, wind farms, and marine generation were explored.
    - The role of academia and research centers as drivers of R&D in clean technologies was highlighted.

Panel 3: Environmental and Social Impact of the Energy Transition

- **Key Conclusions:**
    - The energy transition must be socially just and equitable, considering the impacts on local communities.
    - Implementing strong public policies and a global justice approach is crucial for ensuring a successful transition.
    - The participation of local communities in decision-making is fundamental to ensure the acceptance and success of renewable energy projects.
    - Experiences in Latin America, especially regarding consultation rights and the implementation of prior, free, and informed consultation, can be valuable for Europe.
- **Key Points:**
    - The social challenges of Latin America and the Caribbean in the context of the energy transition, such as poverty, inequality, and environmental degradation, were analysed.
    - Examples of best practices in renewable energy implementation in Spain were presented, highlighting the importance of socioeconomic integration, participatory site selection, and compensatory measures.
    - The case of lithium mining in Argentina was discussed, showing the challenges and tensions that can arise with local communities if social and environmental impacts are not adequately addressed.

Panel 4: Emerging Technologies for Energy Sustainability

- **Key Conclusions:**
    - The development of emerging technologies, such as green hydrogen and sustainable lithium extraction, is crucial for energy sustainability.
    - A systemic approach that considers environmental, social, economic, and governance aspects is required for a successful energy transition.
    - Creating a robust observation system that provides reliable information on the different aspects of the energy transition is essential.
- **Key Points:**
    - The challenges and opportunities of the emerging green hydrogen industry were discussed.
    - The importance of sustainable lithium extraction for the energy transition was analysed.
    - The need for an appropriate regulatory framework to promote the development and implementation of these technologies was highlighted.

Panel 5: Applications of Solar Thermal Energy

- **Key Conclusions:**
    - Solar thermal energy, both concentrated (CSP) and non-concentrated, has great potential to contribute to the energy transition.
    - Support for research and development of CSP technology is required to improve its efficiency, reduce costs, and expand its implementation.
    - Non-concentrated solar thermal energy offers solutions for water heating, space heating, agricultural product drying, and other applications, especially in rural areas.
    - It is crucial to develop energy policies that encourage the adoption of solar thermal energy, including tax incentives, financing programs, and energy efficiency regulations.
- **Key Points:**
    - The challenges and opportunities of CSP technology were presented, including improving efficiency, developing high-temperature receivers, thermal storage, and integration with other technologies.
    - The applications of non-concentrated solar thermal energy and its importance for the construction of bioclimatic buildings were discussed.
    - The need to reduce costs, simplify technology, provide training, and adapt solutions to local contexts for greater adoption of solar thermal energy was emphasized.

In summary, Block 1 of "Conclusions and Closing" provided a concise overview of the key points and main conclusions from each panel. The challenges and opportunities of the energy transition, the importance of international cooperation, the need for supportive energy policies, and the crucial role of technological innovation were highlighted.

8.2. Block 2: General conclusions of the event

Block 2 of the event, titled "General Conclusions of the Event," focused on an open debate among the partners of the EULAC ENERGYTRAN project. This debate, moderated by José (EU-Solaris ERIC) and Adrián Bonilla (National Technological Institute of Mexico), aimed to connect the themes addressed in the

five panels and draw global conclusions about cooperation in the energy transition between Europe and Latin America and the Caribbean.

Below are the most relevant points from the debate:

- **Relevance of Local Context in the Energy Transition:** It was emphasized that the energy transition must adapt to local realities, considering the specific needs, resources, and challenges of each region. The case of Costa Rica was mentioned, which, despite its success in renewable energy generation, faces socio-economic challenges.
- **Importance of Cooperation and Knowledge Exchange:** The debate highlighted the need to strengthen cooperation between Europe and Latin America and the Caribbean for a successful energy transition. The significance of sharing best practices, technologies, and governance models to drive innovation and develop solutions tailored to the needs of both regions was underscored.
- **Systemic and Inclusive Approach:** It was emphasized that the energy transition is not limited to technological aspects; it requires a systemic approach that considers social, economic, environmental, and governance factors. The importance of involving all relevant stakeholders in the process, including academia, the public sector, the private sector, and civil society, was highlighted.
- **Training and Human Capital:** The need to invest in training specialized human capital in clean technologies and energy policies was recognized. The importance of equipping workers, technicians, and professionals to drive innovation and implement renewable energy solutions was mentioned.
- **Regulation and Governance:** The importance of having clear, stable, and predictable regulatory frameworks that provide security to investors and promote investment in renewable energies was emphasized. The necessity of designing efficient market mechanisms and implementing public policies that encourage the adoption of clean technologies was discussed.
- **Importance of the Social Dimension:** The debate highlighted the need to approach the energy transition from a social justice perspective, ensuring that the benefits of the transformation reach all sectors of society. The necessity of considering impacts on local communities, especially in areas where raw materials for renewable energies are extracted, was mentioned.
- **The Role of Science and Technology:** The crucial role of science, technology, and innovation in finding solutions to the challenges of the energy transition was acknowledged. The importance of research and development of clean technologies, as well as creating robust information systems to monitor progress and make informed decisions, was emphasized.

In summary, Block 2 of the event "Technology and Energy Transition" provided a space for open and constructive dialogue where partners of the EULAC ENERGYTRAN project could share perspectives, identify challenges and opportunities, and outline general conclusions regarding cooperation in the energy transition between Europe and Latin America and the Caribbean. The importance of a comprehensive, inclusive approach adapted to local realities for advancing towards a sustainable energy future was highlighted.

8.3. Block 3: Acknowledgments and closing

Block 3 of the "Technology and Energy Transition" event was dedicated to acknowledgments and the closing of the thematic virtual event.

Acknowledgments:

- **Participants and Attendees:** Thanks were extended to all participants of the EULAC ENERGYTRAN project for their commitment, effort, and contributions to the event. Special gratitude was expressed to the audience for their interest, active participation, and questions throughout the two days of the event.
- **Organizers and Sponsors:** The joint efforts of the Organization of Ibero-American States (OEI) and EU-Solaris ERIC in organizing the event were recognized, highlighting the cooperation and collaborative effort that made the event successful. The European Union was thanked for its financial support of the EULAC ENERGYTRAN project.
- **Project Partners:** A special mention was made of each of the partners in the EULAC ENERGYTRAN project: LifeWacth ERIC, UNNE, IPS, PUC, CENAT, UNSAM, INESC TEC, OEI, CSIC and EU-Solaris ERIC. The value of cooperation among these institutions in achieving the project's objectives was highlighted.

Closing:

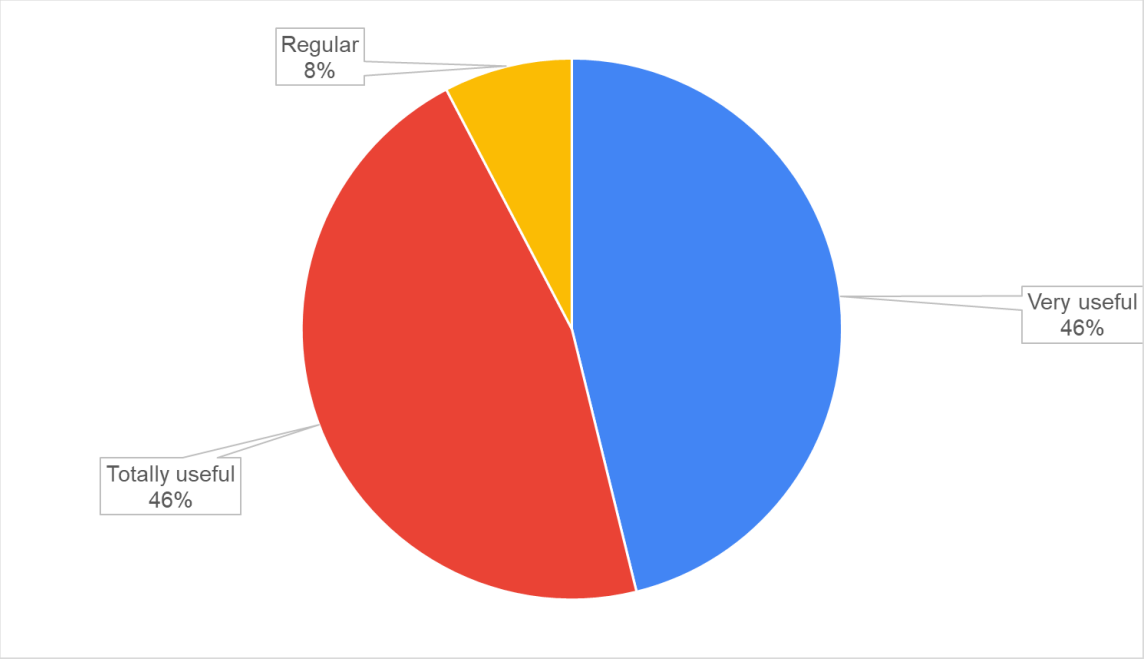
- **Final Message:** The importance of cooperation between Europe and Latin America and the Caribbean in advancing towards a just, equitable, and sustainable energy transition was emphasized. The thematic virtual event was noted as a successful example of collaboration, knowledge exchange, and networking among project partners and the scientific community.
- **Upcoming Events:** The audience was invited to participate in upcoming events of the EULAC ENERGYTRAN project, mentioning that the next event will focus on the social impact of the energy transition and will be coordinated by CSIC (Spain).
- **Farewell:** The event concluded with a message of optimism and hope, highlighting the importance of international cooperation in addressing the challenges of the energy transition and building a sustainable energy future for all.

Block 3 of the event served to express gratitude to all those involved in the thematic virtual event and to reaffirm the commitment of the EULAC ENERGYTRAN project to cooperation and knowledge exchange for a successful energy transition. The community was invited to continue participating in the project's activities and to contribute to the dialogue and collaboration between Europe and Latin America and the Caribbean.

8.4. Satisfaction Survey of the Virtual Thematic Event

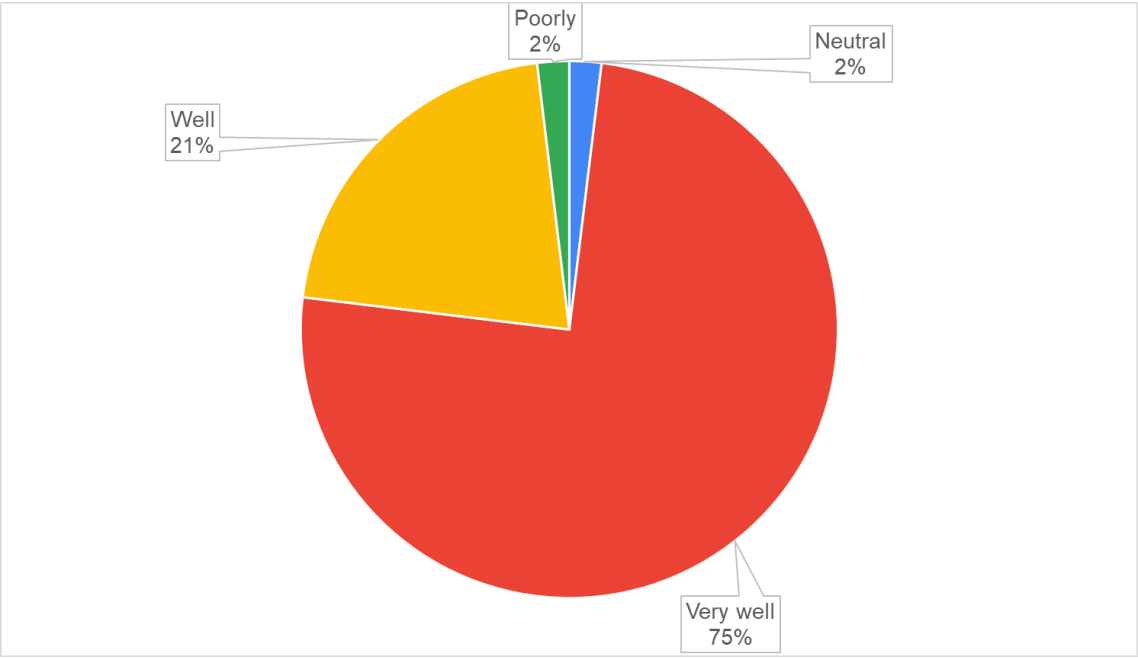
The general event survey includes a specific question regarding attendees' satisfaction with the event: " Were topics discussed in the Virtual Thematic Event useful to identify critical issues related to technology for the energy transition?” Out of a total of 52 responses:

- 92% of respondents were useful or very useful.
- 8% were regular.



Also included “Please, assess how this Virtual Thematic Event addresses the exchange of knowledge between European and Latin-American countries on technology in energy transition?” Out of a total of 52 responses:

- 96% of respondents were well and very well.
- 2% were neutral.
- 2% were poorly



These results suggest that, overall, attendees of the thematic virtual event considered the event to be positive and useful.

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