Deliverable 5.10 FINAL COMMUNICATION REPORT

# CIRCUSOL - 776680

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 776680

| | | | | |
|---|---|---|---|---|
| Deliverable 5.10 FINAL COMMUNICATION REPORT | Work Package No. | 5 | Task/s No. | 5.10 |
| Work Package Title | Dissemination, Exploitation and Communication | | | |
| Linked Task/s Title | 5.6. Project dissemination and communication | | | |
| Status | Final | (Draft/Draft Final/Final) | | |
| Dissemination level | PU-Public | (PU-Public, PP, RE-Restricted, CO-Confidential) (https://www.iprhelpdesk.eu/kb/522-which-are-different-levels-confidentiality) | | |
| Due date deliverable | 30-11-2022 | Submission date | 30-11-2022 | |
| Deliverable version | CIRCUSOL - 1.1 | | | |

## Document Contributors

| | | | |
|---|---|---|---|
| Deliverable responsible | ZABALA Innovation Consulting | | |
| Contributors | Organization | Reviewers | Organization |
| Janire Garcia | ZABALA | Susana Garayoa | ZABALA |
| | | Lars Strupeit | LUND |
| | | Bart Mantels | VITO |

## Document History

| Version | Date | Comment |
|---|---|---|
| 1.0 | | |
| 1.1 | | |
| 1.2 | | |

## TABLE OF CONTENT

## INTRODUCTION

**The CIRCUSOL project (Circular business models for the solar power industry**) is an initiative funded by the Horizon 2020 Programme of the European Commission (Industry 2020 in the Circular Economy Call), which main objective is to provide systemic circular business solutions to the solar power industry to achieve higher resource efficiency, thereby supporting a truly sustainable transition towards a low-carbon renewable energy future.

The main aim has been to unleash the full potential of circular business models, in particular product-service system (PSS) models, in terms of real environmental and economic impacts, for the solar power industry and with replication potential for other industries. The specific objectives were:

- Demonstrate **real benefits of PSS business models for resource efficiency in the solar power sector**, by installing **second-life** (defined in this project as re-use, refurbish or remanufacture) photovoltaic (PV) modules (at least 200kWp) and batteries (at least 300kWh) in 3 large-scale demonstrators under PSS contracts in the project; and by simulating the long-term (25-40 years) impact on circular economy KPIs with the diffusion of designed PSS models.
- Demonstrate market potential and business viability of solar power PSS business models, by implementing PSS models in **5 large-scale real-life demonstrators** covering three major end-user segments (residential, commercial and utility) **in three European countries (France, Belgium, Switzerland).**
- Pave way for high supply quality and market confidence in second-life PV panels and batteries by developing **cost-effective labelling and certification protocols**, which will be delivered to standardisation committees and EU Ecolabelling initiatives.
- Underpin economic viability of remanufactured electric vehicle (EV) batteries for stationary renewable applications, by developing an in-depth cost and application **analysis for remanufactured EV batteries.**
- Establish business incentives for circular product designs in the PV supply chain, by bringing the supply chain together to analyse end-of-life (EOL) management needs, circular design options, business impacts and develop business incentives with a co-creative approach.
- Develop validated systemic circular business model innovation methodologies and tools for broader use, including a **Circular Business Model Design framework**, a **co-creation facilitation process**, a system simulation model with an online interactive tool, a circular business experimentation process and an **Asset Database ICT platform.**
- Maximize project impacts to support the societal transition towards a circular economy, by effectively disseminating and exploiting project outcomes to **well-defined target user groups as well as the general public**.

# OBJECTIVES AND APPROACH OF THE DISSEMINATION AND COMUNICATION STRATEGY

The aim of the CIRCUSOL Communication Master Plan was to use research results generated during the project to create value within the target communities/initiatives in the EU. This approach ensures a good positioning of EU industries as benchmark players within the global market place that move new policy forward.

The project promoted the research results and benefits for the enhancement of external awareness and for knowledge building within the targeted industry, end-users and relevant academic communities. The dissemination approach was tailored in line with the nature of each project partner and the respective project objectives,

## A. TARGET AUDIENCE

An early identification of target audiences of the CIRCUSOL project was crucial in order to customise messages and dissemination & communication activities to every different group. The following audience and stakeholders of the sector were identified at European, national and regional levels:

- Solar power industry
- Battery manufacturers
- Other industry sectors (with relation to the solar value chain)
- Policy makers at the European, national and local levels
- International standardisation organizations and EU ecolabelling initiatives
- Investors
- Academic researchers and students
- End-users in the solar power sector, in particular households
- Media outlets and journalists
- General public.

# KEY DISSEMINATION AND COMMUNICATION CHANNELS AND ACTIVITIES

The following sections show the main dissemination and communication channels, tools and materials that were developped for the CIRCUSOL project:

## LOGO & PRESENTATIONS

HQ professional logo, visual guidelines, and professional presentation template that included the project's mission, objective and expected results was created at the beginning of the project. (See Annex 1 for more details on the Visual Guidelines)

## PROJECT WEBSITE

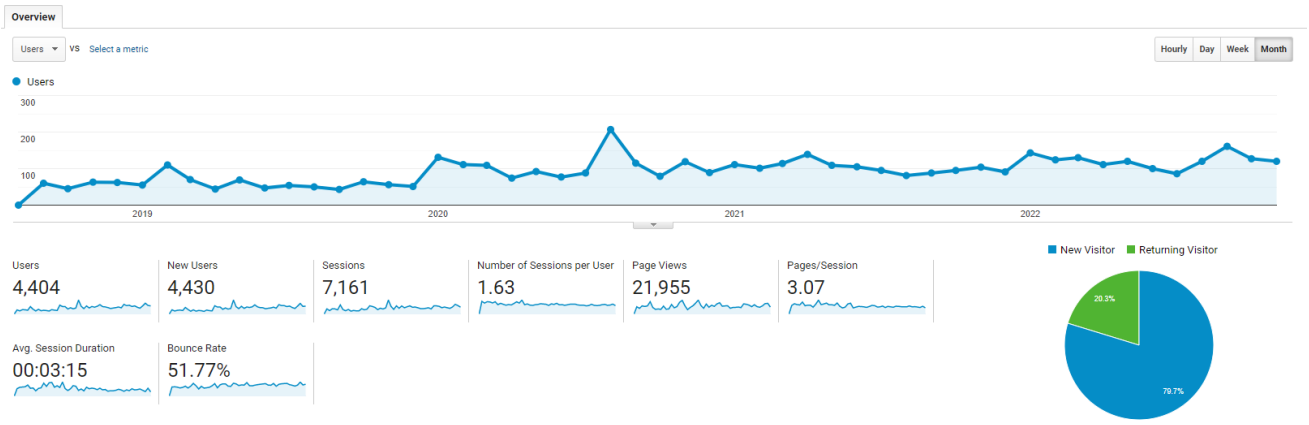
The CIRCUSOL website (**www.circusol.eu**) was created in month 3 of the project (August 2018). As the main communication and dissemination tool of the project, different digital marketing strategies that included visual material as infographics for some social media campaigns, press releases, or presentations were developed to attract the attention of the stakeholders and the general public.

Some of the types of content included in the website are:

- General information about the project.
- Description of all the member organizations of the consortium.
- Information, objectives, work packages and demo buildings included in the project.
- Information about the technologies of the project and the multi-collaborative ecosystem.
- Information about public participation and training programmes.
- Description of events organized within the framework of the project

***Analysis:***

As shown in the figure below, the traffic on the website has been steadily increasing thoughout the 4.5 years of the project. Apart from that, there has also been a good average session duration, indicating that the audience of the CIRCUSOL website has noticable interest in the content.




## VIDEOS & MULTIMEDIA

Audiovisual material was produced and used to be shared on Social Media channels and present CIRCUSOL and its results in events. The following items have been created:

- Presentation of CIRCUSOL: https://www.youtube.com/watch?v=F_gYNjQatVs
- Demonstrator: Waasland-Cohousing: https://www.youtube.com/watch?v=_LVChJjSd70&t=160s

- Demonstrator – Cloverleaf: https://www.youtube.com/watch?v=ncOpiBZieNs&t=2s
- Demonstrator – SunCrafter: https://www.youtube.com/watch?v=pvQNaUXyvEA&t=80s

In addition, other videos have been created and offered to the audience, such as:

- Webinar – Circular supply chains: reducing pollution and waste through cooperation https://www.youtube.com/watch?v=00mxDePy6Zc&t=3846s
- Webinar – Workshop for policymakers https://www.youtube.com/watch?v=beuQb9MkCrA&t=2s
- Teaser for the EU green Week: https://youtu.be/hSxDbUr09Y0
- What is CIRCUSOL about?: https://studio.youtube.com/video/rHeQ4XQGjys/edit

***Analysis:***
The total views of the videos within CIRCUSOL project are: **2,061 views.**

### NEWSLETTERS AND MAILING ACTIONS

A **bi-annual newsletter** containing updates about the project's status, developments and other news has been regularly disseminated. The news have been sourced from the project website, so that traffic is redirected to the webpage. In addition, **mailings** with special information, such as invitations to events or key publications have also been sent out.

The contact list is nourished by a registration form included in the website, an existing contact list of the partners, and thanks to the participation/involvement of the consortium with other EU initiatives, events, fairs, workshops, etc. The mailing database now counts **673 contacts.**

Finally, newsletters have been uploaded in the website as a repository, so that the audience can access previous issues.

***Analysis:***
The following newsletters and mailing actions have been sent:

| | | |
|---|---|---|
| **1** | CIRCUSOL Newsletter | 24 July 2020 |
| **2** | CIRCUSOL Newsletter | 22 December 2020 |
| **3** | CIRCUSOL event (mailing) | 17 May 2021 |
| **4** | CIRCUSOL event (mailing) | 3 June 2021 |
| **5** | CIRCUSOL event (mailing) | 16 June 2021 |
| **6** | CIRCUSOL Newsletter | 20 July 2021 |
| **7** | CIRCUSOL Newsletter | 19 January 2022 |
| **8** | CIRCUSOL Newsletter | 20 July 2022 |
| **9** | CIRCUSOL event (mailing) | 23 August 2022 |
| **10** | CIRCUSOL event (mailing) | 30 August 2022 |

| | | |
|---|---|---|
| **11** | CIRCUSOL event (mailing) | 6 September 2022 |
| **12** | CIRCUSOL event (mailing) | 13 September 2022 |
| **13** | CIRCUSOL event (mailing) | 20 September 2022 |
| **14** | CIRCUSOL event (mailing) | 26 September 2022 |
| **15** | CIRCUSOL event (mailing) | 5 October 2022 |

## SOCIAL MEDIA CHANNELS

Social Media accounts, namely LinkedIn and Twitter have been used to disseminate CIRCUSOL's activities. ZABALA coordinated this task, which required involvement of all project partners. Social media campaigns supported website content creation and attracted visitors to visit the website. New content was periodically created and shared on the Twitter and LinkedIn profiles. Audiovisual assets have also been created, and the content were stored on the CIRCUSOL YouTube channel.

### A. TWITTER:

https://twitter.com/circusol

***Analysis:***

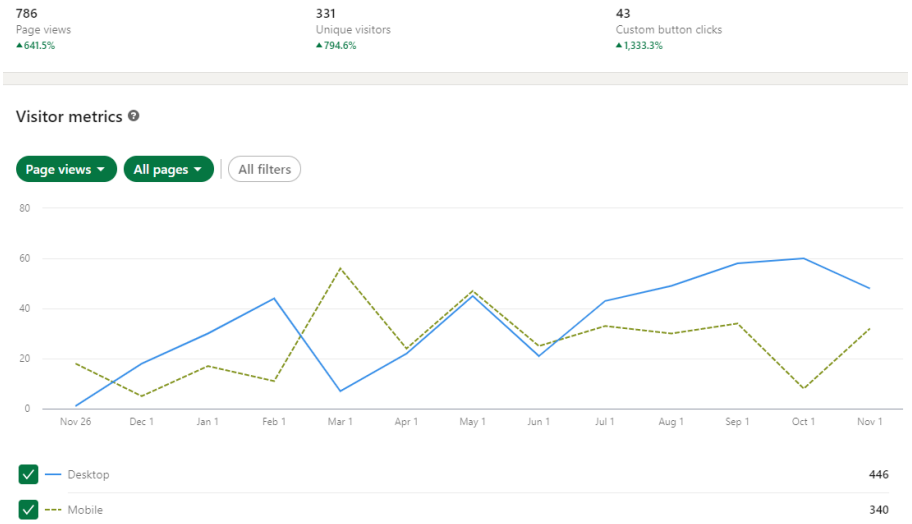
As shown in Annex 2, Twitter has not been as steady as expected in the original plan. Despite that at the beginning of the project the impact in this platforma envisaged a very successful path, CIRCUSOL did not manage to regain the interest that was lost during the stop of physical meetings and activities during the COVID-19 pandemic. Twitter is a platform that is built on immediate messages, hence the lack of news made the audience turn to other sources.

### B. LINKEDIN:

https://www.linkedin.com/company/circusolproject/

The CIRCUSOL LinkedIn profile is a supplement to the website and has helped driving traffic to the site, and has offered a way out to promote the project in a slower way than Twitter. It is a platform that gathers all interested stakeholders.

***Analysis:***




Contrary to Twitter, it can be observed that the data for LinkedIn follows a growth in the community and number of visitors. As already mentioned, LinkedIn allows a more slow-paced engagement with the audience, which was a better fit in the lapse during the pandemic.

### C. YOUTUBE:

https://www.youtube.com/channel/UCtVkJIUWCpgW_wjMSN_EmyA

The strategy for videos has already been explained in section “Videos and Multimedia” (page 5).


**Supporting Communication Material**

Flyers/Leaflets that will contain general project information, best practices and ad-hoc information for events have been produced. This is an example of the general A5 leaflet of CIRCUSOL.

### WORK WITH MEDIA:

**Articles and interviews in specialised magazines**

In the last year, the following specialised articles and materials were published in media:

1. November 2022: “We need to talk about renewables” – Ellen MacArthur Foundation - Read more
2. June 2022: “Data for Circular Solar” – PV Magazine - Read more
3. May 2022: “ Acheter ou louer vos panneaux solaires ?” – LIVIOS magazine - Read more
4. May 2022: “"Design for Circularity" – PV Magazine - Read more
5. March 2022: Gestion des données pour l'economie circulaire dans l'industrie solaire (EN: Data management for circular economy in the solar industry) - Spirit magazine - Read more
6. March 2022: "Un modèle pour simuler l’avenir du photovoltaïque" (EN: "A model for the future of PV") - Spririt magazine - Read more
7. February 2022: “De Klimaatoptimisten Solar-ondernemer Ismaël Ben-Al-Lal gelooft in stralende toekomst: ‘We kunnen nooit te veel elektriciteit produceren’” (Interview to Ismaël Ben-Al-Lal, CEO Futech) in Knack Magazine - Read more
8. January 2022: “Economic and technical feasibility of a storage-as-a-service model using second-life batteries for a commercial end-user” – PV Magazine. Read more
9. August 2021: “Solar Panels face recycling challenge” – ACS central science - Read more
10. Spring issue 2022: “Circusol: towards a circular solar PV” – European Innovation Magazine - Read More
11. CIRCUSOL at PV Magazine’s Virtual Roundtable,.zabala. Read more
12. Wie Suncrafter mit wiederaufbereiteten Photovoltaik-Modulen die Energiearmut lindern will.PV CYCLE. Read more
13. SNAM partenaire de CIRCUSOL-SNAM. Read more
14. «Es braucht handfeste Projekte für die Energiewende» BKW. Read more
15. Ein Pilotprojekt, das neue Massstäbe setzt-BKW Read more
16. Oude autobatterij krijgt nieuw leven als thuisbatterij-FUTECH.Read more
17. Hoe een zonnepanelenindustrie met minder verspilling en een hogere hulpbronnenefficiëntie creëren? – FUTECH.Read more
18. Circusol geeft gebruikte zonnepanelen en batterijen elektrische wagens een tweede leven-
19. FUTECHRead more
20. Nieuwe zakelijke kansen voor de zonnepanelenindustrie-FUTECH.Read more
21. Hoe evolueert de markt van de ‘second-life’ batterijen?-FUTECH.Read more
22. Waarom de afweging tussen duurzaamheid en levensduur belangrijk is voor toekomst PV-sector-FUTECH.Read more
23. Uitdagingen bij tweede leven batterijopslagsystemen-FUTECH.Read more
24. Een tweede leven voor zonnepanelen: loont het de moeite of niet?- FUTECH. Read more
25. Hoe zonnepanelen een tweede leven krijgen-FUTECH.Read more
26. EU richt bondgenootschap op rond circulariteit en duurzaamheid-FUTECH.Read more

27. Hoe de batterij van de toekomst ontwikkelen? FUTECH.Read more
28. Reusing PV modules poses opportunities and challenges- Pv Magazine.Read more
29. Wat doen we met de gigantische afvalberg aan zonnepanelen die er binnen enkele jaren zit aan te komen?-eoswetenschap.eu. Read more
30. Wie Solaranlagen ein zweites Leben bekommen- Blick.ch.Read more
31. How can the solar power sector become more circular?-Circular culture.Read more
32. Interview: How a German startup aims to alleviate energy poverty with circular solar solutions- PV Magazine. Read more
33. Does solar sustainability go far enough?- PV Magazine. Read more
34. Doughnuts are the new green-PV Magazine. Read more
35. 'We will need a solution'. PV Magazine. Read more
36. Akkus einzweitesLeben schenken- Bieler Tagblatt.Read more
37. Zirkuläre Geschäftsmodelle für Photovoltaik und Elektrofahrzeugbatterien- Spirit biel/bienne. Read more
38. Virtual Roundtables Europe 2020-PV Magazine. Read more
39. The weekend read: The sustainable pioneers- PV Magazine.Read more
40. How CIRCUSOL powers a circular economy- revolve,Read more
41. A second life for disused modules and EV batteries – PV Magazine Read more
42. „Circusol" schenkt ausgedienten Solarmodulen und Elektroauto-Batterien ein zweites Leben. PV Magazine -Read more
43. Towards circular business models for the PV sector- list.solar. Read more
44. Die Solarenergie-Industrie muss umweltfreundlicher werden- chemiextra. Read more
45. Proyecto CIRCUSOL de Energía Solar- reformanerr. Read more
46. Oude autobatterij krijgt nieuw leven als thuisbatterij – iLumen. Read more
47. Hoe evolueren naar een circulair (her)ontwerp van zonnepanelen? – FUTECH. Read more
48. Nachhaltige Solarenergie – dank alter Batterien und PV-Module -Berner Fachhochschule.Read more
49. Énergie solaire durable, grâce à d'anciennes batteries et des modules photovoltaïques (PV)- Haute école specialisée bernoise -Read more
50. CIRCUSOL : la réunion du consortium reflète la réussite de la 1ère phase du projet- ZABALA.fr.Read more
51. CIRCUSOL: Consortium meeting reflects on the successful 1st phase of the project - ZABALA. Read more
52. Solar power value chain is designing circular business models -Cordis wire. Read more
53. Snam et Sirea s'associent pour proposer des armoires d'autoconsommation à base de batteries recycles- PV Magazine. Read more
54. CIRCUSOL project: don't miss the Workshop "Batteries: their remaining quality and second life application" in Düsseldorf - CORDIS WIRE. Read more
55. 5 minutes with... Tom Rommens, coordinator, H2020 CIRCUSOL, Belgium-E-waste expo. Read more
56. CIRCUSOL-Energy ville. Read more

57. Creating a more resource-efficient solar power industry-CORDIS WIRE. Read more
58. CIRCUSOL: CIRCULAR SOLAR BUSINESS MODELS TO SUPPORT THE ENERGY TRANSITION
59. EUSEW-Read more
60. Circular business models for the solar energy industry-ZABALA.Read more
61. Waarom een circulaire economie hét antwoord is op het afvalprobleem bij zonnepanelen-FUTECH. Read more
62. Futech levert zonnestroom als dienst aan co-housing gemeenschap-FUTECH.Read more
63. Boeiende workshop Circusol over hergebruik batterijopslagsystemen van elektrische wagens-FUTECH. Read more
64. Succesvolle tweede Consortium Meeting Circusol-FUTECH. Read more
65. Persbericht – Circulaire PSS-bedrijfsmodellen Circusol voorgesteld bij co-housing project Waasland-FUTECH.Read more
66. Beter een goede buur ...Ds DE STANDAARD. Read more
67. Towards a circular solar photovoltaic industry- BERNER.Read more
68. Los nuevos modelos de negocio de economía circular, a prueba en el sector solar europeo
69. energías renovables-Read more
70. El Proyecto Circusol persigue modelos de negocio de economía circular para la industria fotovoltaica. Smart GriDs. Read more
71. Circular PSS business models arrive in Waasland (Belgium) with CIRCUSOL. CORDIS WIRE. Read more
72. Zabala promueve en Europa modelos de negocio de Economía Circular -navarra capital .Read more
73. Circulaire PSS-bedrijfsmodellen Circusol voorgesteld bij co-housing project Waasland-futech. Read more
74. CIRCUSOL's team at the World Circular Economy Forum 2018-Cordis Wire. Read more
75. CIRCUSOL project is now on video-Cordis Wire. Read more
76. Mehr Nachhaltigkeit für die Solarindustrie -bulletin.ch. Read more
77. VITO (Flanders) leads European circular economy project-Invest in flanders .Read more
78. 2018_11_11_EcoPower_CIRCUSOL-Circusol ECOPOWER. Read more
79. Circusol - A new research project, focusing on circular business models for the solar industry
80. Stefan Groesser-Read more
81. Circusol - Int. Forschungsprojekt-Berner Fachhochschule. Read more
82. Die BFH macht die Solarbranche fir für die Zukunft- Berner Fachhochschule. Read more
83. BFH is getting the solar industry fit for the future -Berner Fachhochschule.Read more
84. Circusol: Solar power business models towards a circular economy in Europe.
85. Cordis Wire. Read more

86. Futech lid Circusol consortium omtrent circulaire economie in kader van Horizon2020-Futech.Read more
87. Circusol: Solar power business models towards a circular economy in Europe-Imec.Read more
88. Circusol: Solar power business models towards a circular economy in Europe-Vito.Read more
89. Circusol: Businessmodellen rond zonne-energie voor een circulaire economie in Europa-
90. Vito.Read more
91. Circusol-Construible.Read more
92. Un modulo de negocio circular para la industria solar -Energetica.Read more
93. El proyecto Circusol impulsa la energía solar como modelo de negocio en la economía circular-Energy news. Read more
94. Circusol: Solar power business models towards a circular economy in Europe.Solitek -Read more
95. El sector solar fotovoltaico quiere ser un modelo para la economía circular. Energias renovables Read more
96. Researchers strive to make solar energy sustainable-swiss Info.Read more
97. El Proyecto Europeo Circusol plantea modulos de negocio circulares para la industria de la energía solar. Interempresas - Read more
98. El proyecto Circusol ofrecerá modelos de negocio aplicables en diferentes sectores para apoyar la transición energética-Smartgridsinfo. Read more
99. Circusol: Modelos de negocios de energía solar hacia una economía circular en Europa Ahorro energético. Read more
100. El sector solar fotovoltaico quiere ser un modelo para la economía circular-Idesa. Read more
101. The solar energy sector as a model for the circular economy. Zabala. Read more
102. El sector de la energía solar como modelo para la economía circular -Zabala. Read more
103. Circusol- NavarrA Capital Read more

**Scientific publications:**

CIRCUSOL developed a significant amount of research results that have been disseminated to different key scientific communities. Research and academic partners of the consortium have worked towards the publication of scientific papers in globally recognized scientific conferences and journals.

The publications have been made freely and openly available via online repository with gold open access. Prior to publishing any scientific publication, the CIRCUSOL partner involved contacted the whole consortium for **revision and validation of the publication 30 days in advance.** The publications funded by the project are uploaded to specific bibliographic social networks such as ResearchGate no later than 6 months after its original date of publication.

The accepted peer-reviewed publications from CIRCUSOL are the following:

- Bocken et al. (2019) - A Review and Evaluation of Circular Business Model Innovation Tools (Sustainability paper, LUND): https://zenodo.org/record/3552433#.Xd54oZNKhQI
- Tsanakas et al. (2019) - Towards a Circular Supply Chain for PV Modules: Review of Today's Challenges in PV Recycling, Refurbishment and Re-Certification (EU PV SEC paper, IMEC): https://zenodo.org/record/3555124#.Xd5lio17k2w
- Franco and Groesser (2021) - A systematic Literature Review of the Solar Photovoltaic Value Chain for a Circular Economy (Sustainability paper, BUAS): https://www.mdpi.com/2071-1050/13/17/9615
- Radavicius et al. (2021) - Circular solar industry supply chain through product technological design changes (Insights into regional development paper, Solitek): https://jssidoi.org/ird/article/73
- Strupeit, L., & Bocken, N. (2020). Towards a Circular Photovoltaic Economy: The Role of Service-based Business Models. In N. F. Nissen & M. Jaeger-Erben (Eds.), PLATE Product Lifetimes And The Environment 2019 – Conference Proceedings. TU Berlin University Press
- Wim Van Opstal and Anse Smeets (2022) - Market-Specific Barriers and Enablers for Organizational Investments in Solar PV—Lessons from Flanders: https://zenodo.org/record/7276642#.Y3djgceZM2whttps://jssidoi.org/ird/article/73
- Wim Van Opstal and Anse Smeets (2022) - Circular economy strategies as enablers for solar PV adoption in organizational market segments: Circular economy strategies as enablers for solar PV adoption in organizational market segments | Zenodo
- Wim Van Opstal and Anse Smeets (2022) - When do circular business models resolve barriers to residential solar PV adoption?: When do circular business models resolve barriers to residential solar PV adoption? | Zenodo

In addition, the following ones are in-progress:

- Van Opstal, W., Smeets, A., Strupeit, L., Duhoux, T., & Le Blevennec, K. (2022), Final Report on Co-created Business Models. Circusol. Mol: VITO. Q4 2022
- Van Opstal, W. (nd), Co-operating for Circularity? Perspectives of Citizen Energy Co-operative Members on Circular Solar Business Models. (to be submitted to Annals of Public and Cooperative Economics)
- Van Opstal, W. (nd), Preferences for Circular Business Models and Demographics. The Case of Solar PV. (to be submitted to Journal of Cleaner Production)
- Van Opstal, W. & Smeets, A. (nd), Barriers towards residential PV-adoption and when circular PSS models may resolve them. (to be submitted to Energy Policy)
- Van Opstal, W., Smeets, A., Strupeit, L., Duhoux, T., & Le Blevennec, K. (nd), Circular Business Cocreation. Demonstrator Lessons from Solar PSS Models. (journal to be decided)

In addition, the following Master theses have been developed in

- Godinho Ariolli, D. M. (2021). Moving towards a circular photovoltaic economy in Europe—A system approach of the status, drivers, barriers, key policies and opportunities. IIIEE Master Thesis. http://lup.lub.lu.se/student-papers/record/9061653
- Lundqvist, H. K. T. (2020). Circular economy among Swedish solar PV firms. Lund University, Master thesis http://lup.lub.lu.se/student-papers/record/9018867
- Pham, T. T. L. (2021). The second life—Challenges of repurposing electric vehicle lithium-ion batteries. IIIEE Master Thesis. http://lup.lub.lu.se/student-papers/record/9057026
- Schön, J. L. (2022). Tilting towards a circular photovoltaics sector: Exploring a mission-oriented innovation policy approach. IIIEE Master Thesis.
- Staub, L. (2019). Off-grid Solar Products Going Circular: Exploring the potential for repair, refurbishment and remanufacturing strategies and business models for Solar Home Systems and Solar Lanterns in India. IIIEE Master Thesis. http://lup.lub.lu.se/student-papers/record/8997115
- Pareek, M. (2021). Supply Chain of Second Life PV Modules for Reuse in Europe: Investigating Circular Service Models for Solar Power Industry. Ghent University.
- Verbeure, E. (2019). Legal Considerations, Possibilities and Barriers for Product Service Systems as a Circular Business Model in the Photovoltaic Sector. University of Antwerp.
- Wendzich, L. (2020). The Value of 2nd life solar PV modules: An economic assessment of the competitiveness of rehabilitated solar modules including an environmental impact indicator. Hertie School.

## EVENTS:

Events are one of the most important parts of any dissemination and communication strategy because they allow to connect with different stakeholders and the general public, encourage networking and show the most important developements and results of the project. They also provide excellent content to replicate in the other communication channels and tools.

As we will see next, CIRCUSOL followed every opportunity to make the project known. COVID-19 pulled the brake as no events were ongoing. However, we also observe that once the emergency was over and with the proliferation of online webinars, the D&C strategy was to follow that trend.

### Events organised

**Circular supply chains: Reducing pollution and waste through cooperation – (within the EU GREEN WEEK 2021) – 10 June 2021**

At the EU Green Week 2021, CIRCUSOL organised a partner event raising the issue of how to reduce the environmental impact of solar PV modules and how to develop a circular value chain in the solar PV sector. The session discussed the challenges regarding environmental as well as economic impacts in a wider sense.

**Online Workshop: Towards a circular solar power sector in Europe – 29 September 2022**

The workshop sought to bring together policy makers, industry representatives, experts and other stakeholders to discuss pathways forward towards a circular and resource-efficient solar power sector in Europe. Specifically, the event aimed to provide a platform for open exchange on a number of themes and questions, such as: experience with different circular strategies for solar photovoltaic panels; ongoing standardization initiatives or options and guidelines for a potential future policy framework that could catalyze the transition towards a circular solar power sector in Europe.

**Final Conference**: **Working Breakfast at the European Parliament - 15 November 2022**

Despite the fact that the envisioned KPI of participation for the final project conference was 200 participants, the protocol measures of the European Parliament in Brussels offered us a room for 40 people (even though that the interest by the public was significantly higher), hosted by a Member of the European Parliament (MEP). In spite of this, at the event the engagement from different stakeholders of the solar and batteries value chains, as well as from representatives from EU institutions, research and academia, was highly effective in disseminating the project results and reaching out with the policy recommendations to a high-level audience of business and policy stakeholders.

Thanks to the attention drawn from this event, several representatives from relevant European Commission Directorate Generals (EC DGs) joined the visit to the Belgian demonstrators that took place on 24 November 2022.

**Events attended, followed or where CIRCUSOL has particfipated:**

As aforementioned, international conferences, congresses, workshops, exhibitions and fairs are one of the most effective dissemination and communication actions. The partners' participation and follow up to events has generated significant visibility for the CIRCUSOL project and fostered the engagement with other relevant stakeholders, as well as with sister European projects.

Below the list of events (in bold where CIRCUSOL has been a speaker of some kind):

**2018:**

- Academy of Management Conference (AOM) – 10-14 August 2018
- Vertriebsleitertagung Energie –04-05 September 2018
- Strategic Management Society Conference (SMS) – 22-25 September 2018
- Solar Power International (SPI) and Energy Storage International (ESI) – 24-27 September 2018
- 35th EU PVSEC 2018 – 24-28 September 2018
- Conference on Advanced Building Skins – 01-02 October 2018
- World Circular Economy Forum, Yokohama, Japan – 22-24 October 2018
- World Resource Forum – 25 October 2018
- European Utility week – 06-08 November 2018
- Disruptive innovation Festival – 06-23 November 2018
- EU Raw Materials Week, Brussels – 12-16 Novmeber 2018
- RE-Source 2018, Amsterdam – 20-21 November 2018
- COP24 – Katowice – 03-14 December 2018
- Boosting circularity among SMEs, Brussels – 06-07 december 2018

**2019**

- 2019 EU Industry Days – 05-06 February 2019
- SolarPower Summit – 06-07 march 2019
- Second life of batteries: technical challenges and quality assessment – 11 March 2019
- EU Green Week – 13-17 May 2019
- Intersolar Europe – 15-17 May 2019
- World Circular Economy Forum – Helsinki – 03-05 June 2019
- EU Sustainable energy Week – 17-21 June 2019
- The EU PVSEC Conference – 09-13 Septemeber 2019
- **PLATE conference** – 18-20 September 2019
- European platform for corporate renewable energy sourcing “RE Source 2019" – 02-03 October 2019
- The Raw Material Race Conference – 17 October 2019
- Financing Green and Circular Economy Business – 05-08 November 2019
- **E-WASTE CONFERENCE** – 14-15 November 2019

**2020**:

- Incentivising New Circular Economy Business Models In The Context Of The European Green Deal – 19 March 2020
- Circular Economy Stakeholder Conference 2020 – postponed – 20 March 2020
- PV magazine Virtual Roundtables Europe 2020 – 09-10 June 2020
- EU Sustainable Energy Week 2020 – 22-26 June 2020
- Interdisciplinary Circular Economy Conference 2020 – 21-22 September 2020
- The 2020 SolarPower Summit – 29 September 2020
- Circular economy research & innovation for a green recovery – 01 December 2020

**2021**:

- EU Industry Days 2021 – 22-26 February 2021
- The European Solar Initiative launch – 23 February 2021
- Photovoltaics: Towards a sustainable industry – 09-11 March 2021
- Batteries' recycling: energising the EU green transition – 22 March 2021
- Norwegian Solar Energy cluster on Circular Economy – 15 April 2021
- SolarPower Summit 2021 – 10-12 May 2021
- EU Green Week 2021 – 31 May – 04 June 2021
- Circular supply chains: Reducing pollution and waste through cooperation - EU GREEN WEEK PARTNER EVENT – 10 June 2021
- Intersolar 2021 – 21-23 July 2021
- Circular Economy SMEs across Europe - Good practices from Barcelona to Bottrop – 27 August 2021
- EU PVSEC 2021 – 06-10 September 2021
- European Week of Regions and Cities 2021 – 12-14 October 2021
- Energy Mission conference – 22 October 2021
- The EU Sustainable Energy Week 2021 – 25-29 October 2021
- UN Climate Change Conference - COP26 – 01-12 November 2021
- Enlit Europe 2021 – 30November-02 December 2021
- Closing the Loop on the Global E-Waste Conference – 30 November – 1 December 2021

**2022**:

- Intersolar Ghent – 19-20 January 2022
- Masterclass of Energy by "Wanderful Stream" – 1 February 2022
- Swissolar Conference 2022 – 29-30 March 2022
- "Ecolabels for PV: the missing link for EU-based, green PV manufacturing" - 30 March 2022
- Solar Energy Expo in Warsaw – joint participation with Photorama and Super PV – 25-26 May 2022
- LOOPs webinar series: discussion with CIRCUSOL and SUPER PV – 15 June 2022
- PV magazine Virtual Roundtables Europe 2022 – 28 June 2022

## KPI´S AND MONITORING

ZABALA has compiled all the information about the monitoring of the key performance indicators that were established at the beginning of the project.

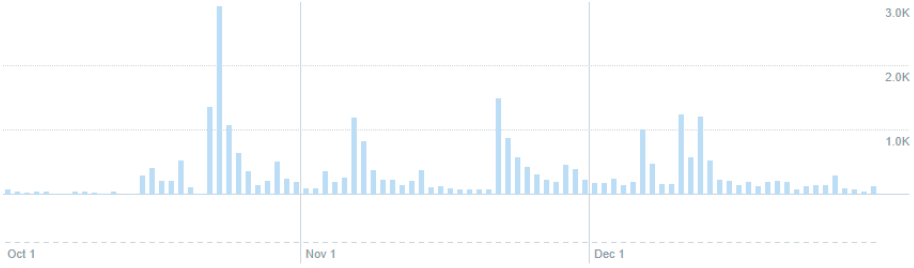
| | Impact in Media | Web | Social Media | Event attendance |
|---|---|---|---|---|
| FORECAST | 5 events for journalists<br>3 articles per demo sites in general Media<br>10 articles/interviews in specialised Media | 40.000 visits<br>2.000 readers for the newsletter | Community of 700 members | Workshop for policymakers: 50 participants<br>Final conference: 200 participants |
| ACHIEVED | Only in 2022, 10 articles have been published in media (see section: "work with media"); all of them being about the demonstrators. The total appearances of the project in media adds to 103 (see section 3) | 22,000 visits website<br>The contact database newsletter/ mailing | 451 members in Linkedin<br>289 members in Twitter<br>Total: 740 | Online workshop for policymakers: 84 attended<br>Final event at the European Parliament with 40 people (maximum allowed by protocol services) |

## ANNEX 1: LOGO AND VISUAL IDENTITY

## ANNEX 2: TWITTER ANALYTICS

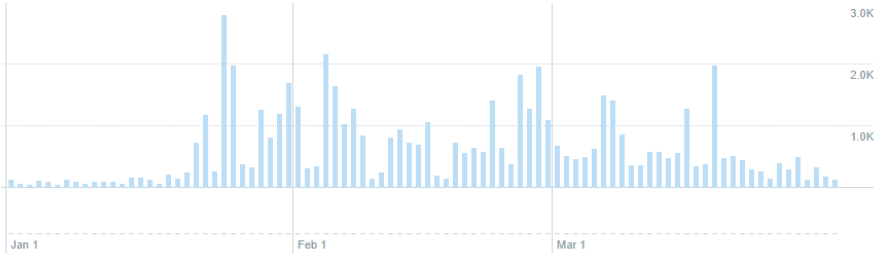
2018:

Your Tweets earned **29.7K impressions** over this **91 day** period

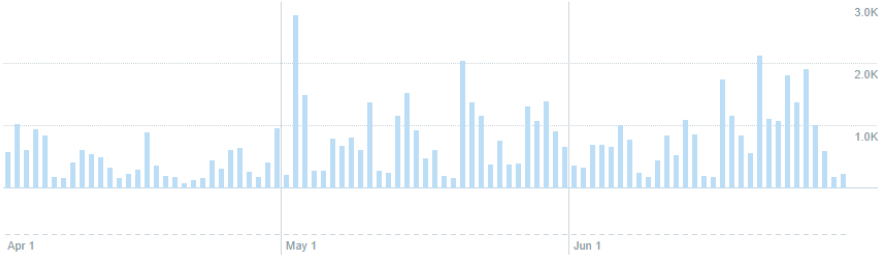



2019:

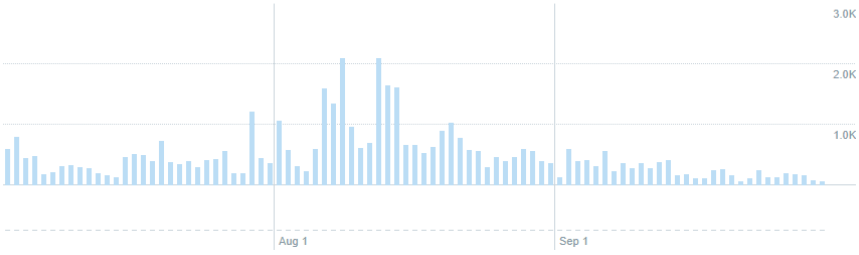
Your Tweets earned **57.8K impressions** over this **90 day** period



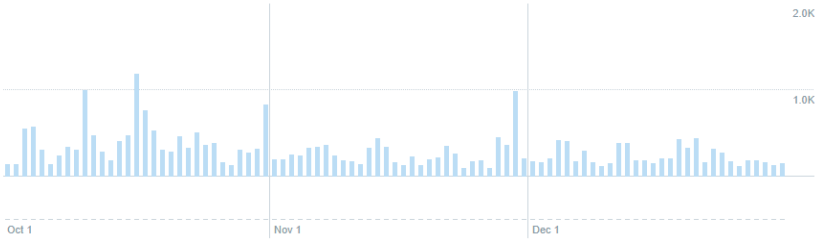

Your Tweets earned **65.2K impressions** over this **91 day** period




Your Tweets earned **45.2K impressions** over this **91 day** period

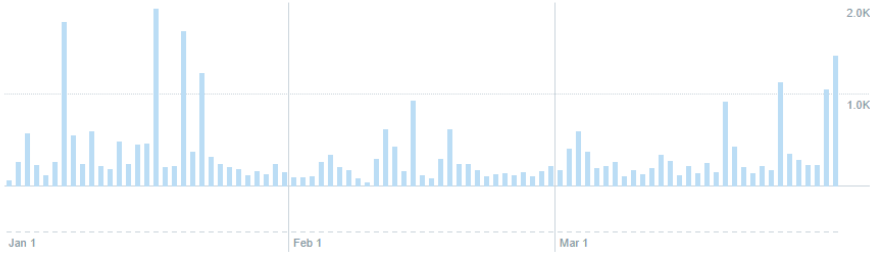



Your Tweets earned **28.1K impressions** over this **91 day** period

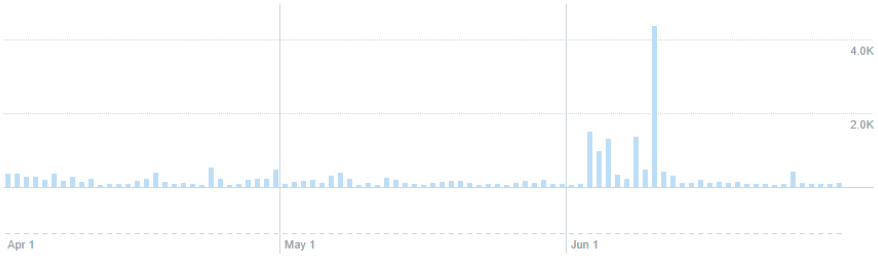



2020:

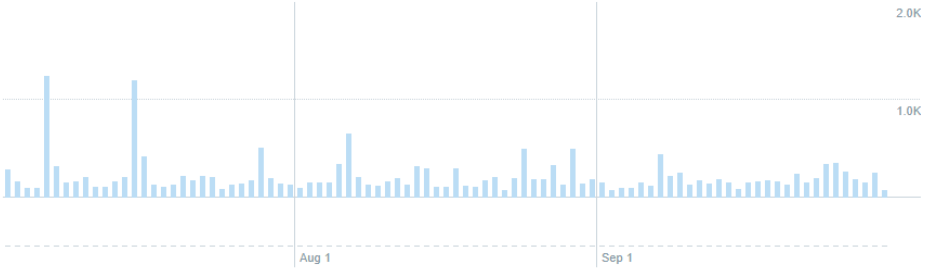
Your Tweets earned **32.3K impressions** over this **91 day** period



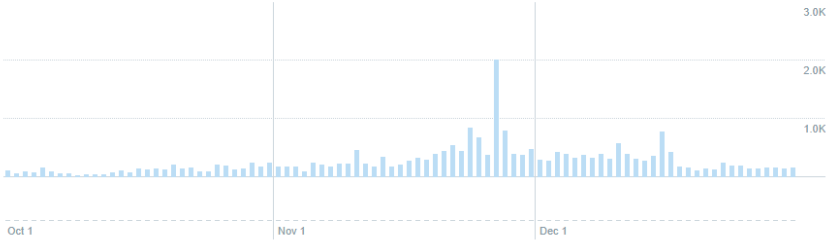

Your Tweets earned **26.6K impressions** over this **91 day** period




Your Tweets earned **20.0K impressions** over this **91 day** period

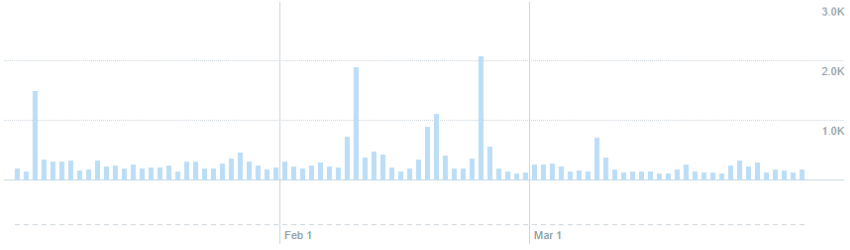



Your Tweets earned **24.8K impressions** over this **91 day** period

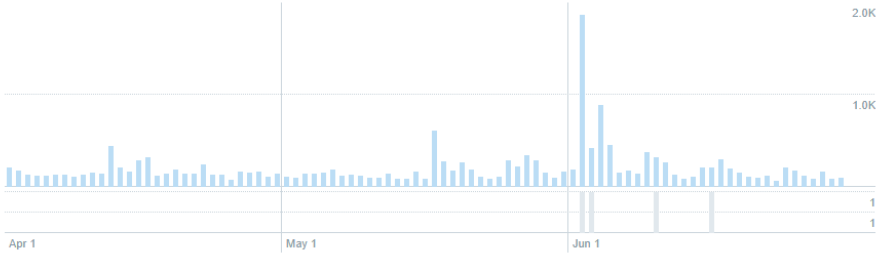



2021:

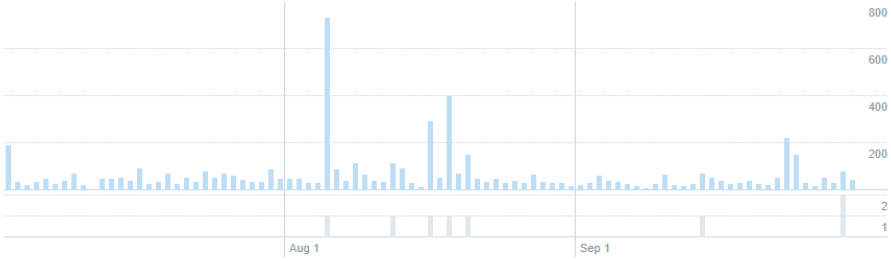
Your Tweets earned **28.6K impressions** over this **89 day** period



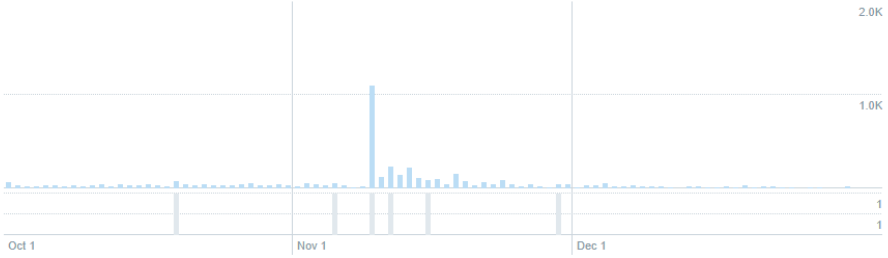
Your Tweets earned **18.5K impressions** over this **91 day** period




Your Tweets earned **5.9K impressions** over this **91 day** period

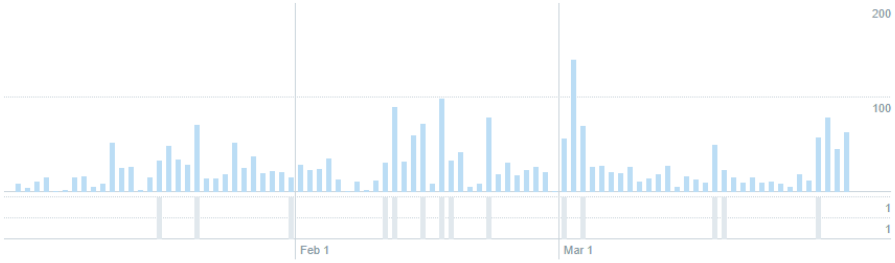



Your Tweets earned **4.8K impressions** over this **91 day** period

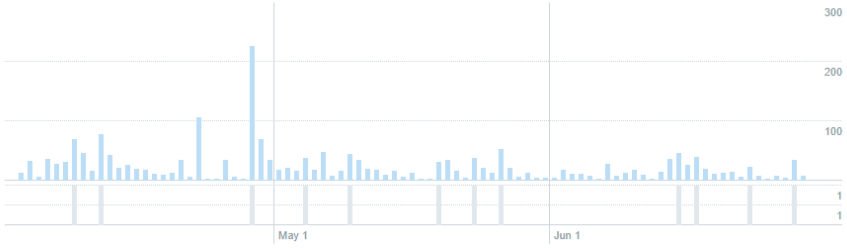



2022:

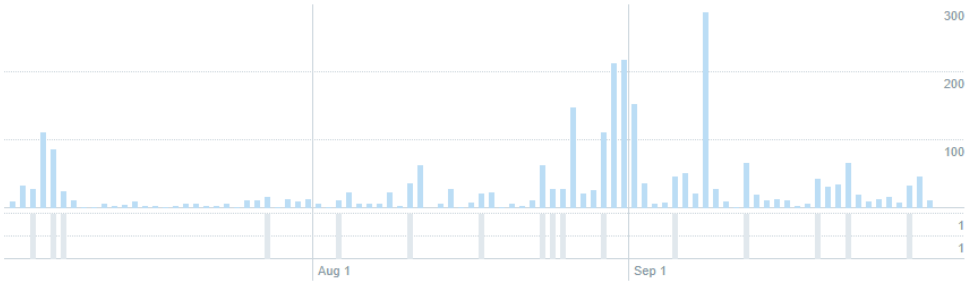
Your Tweets earned **2.5K impressions** over this **89 day** period

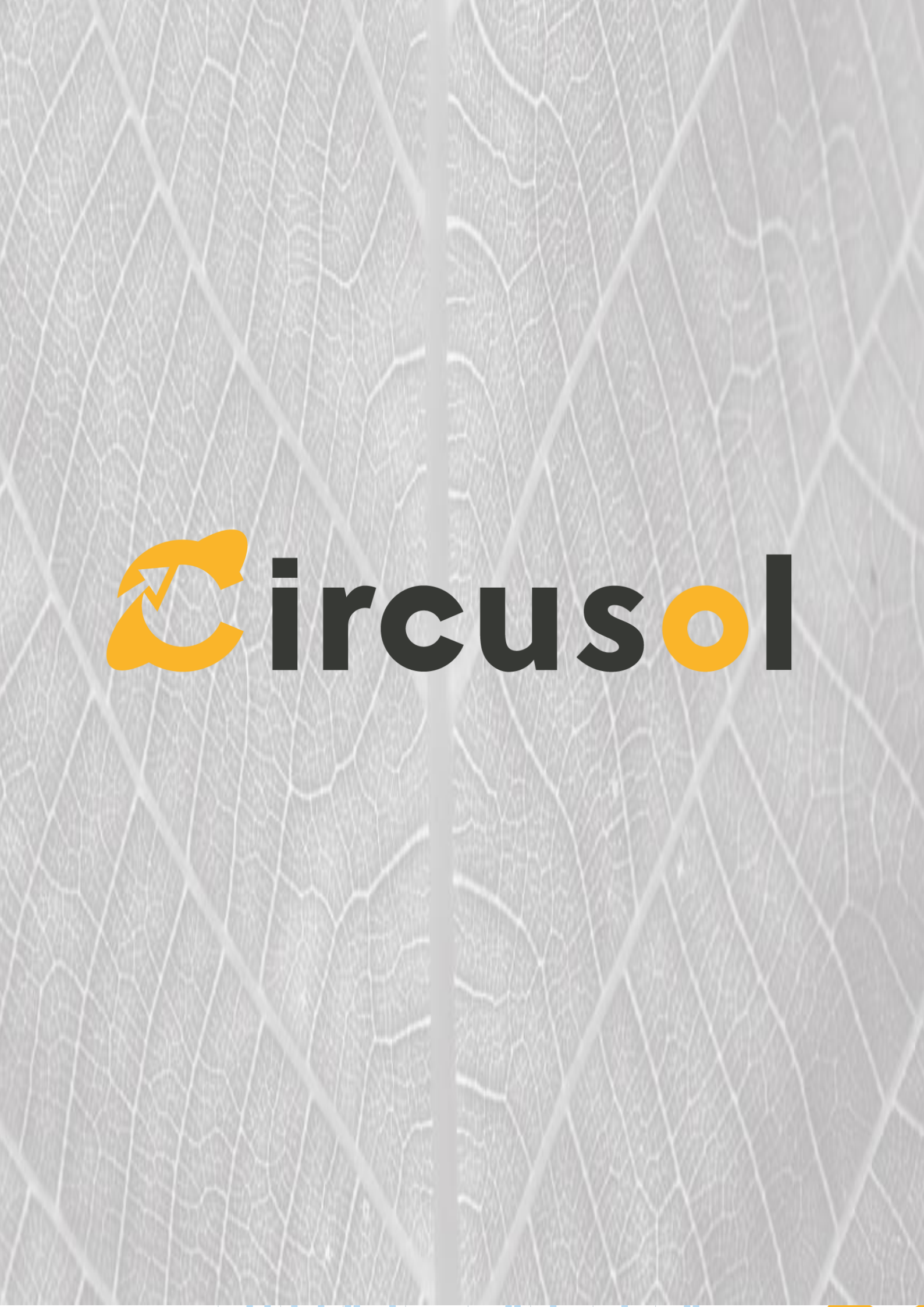



Your Tweets earned **2.1K impressions** over this **89 day** period



Your Tweets earned **2.7K impressions** over this **91 day** period




Circusol