POSTGROWTH S.A.
-Vigo-



Methodological report

Lessons learned from the project Postgrowth S.A.: Vigo

Citizen science on a just blue economy
and offshore wind on the south-west coast of Galicia

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AT A GLANCE

Executive summary

Postgrowth S.A.: Vigo was the second edition of the Postgrowth S.A. series and a citizen science project aimed at generating knowledge about a just and sustainable blue economy from Vigo. The research focused on the offshore wind development planned for the south-west coast of Galicia. Secondary school students and teachers took part in the fieldwork, the analysis and the transfer of results.

The action was coordinated by the Post-Growth Innovation Lab at the Universidade de Vigo, with funding from FECYT and the collaboration of Vigo City Council. Seven schools in the municipality took part, including public, state-funded private and private schools, with 310 students and more than 15 teachers. The core of the work took place in 60 in-person sessions in 12 groups between October 2024 and May 2025.

7 schools	**310** students	**60** sessions in 12 groups	**5** dimensions of analysis
101 interviews conducted	**22** document analyses	**341** survey responses	**24** municipalities receive the agenda

The main lesson

Working on a root case from several dimensions and with several methods produces a systemic view of a complex problem. When the topic is specialised, this design needs more intensive thematic training, quality control of fieldwork from the outset, clear rules on the use of artificial intelligence and a phase in which students take part in the synthesis across dimensions.

The project studied a single root case, the deployment of offshore wind, from five complementary dimensions, namely ecology, economy, society, ecological transition and open science. Each school worked on one dimension, combining semi-structured interviews, document analysis and an online survey. The fieldwork gathered 101 interviews, 22 document analyses and 341 survey responses. The review of the material detected interviews without audio and material invented or altered with artificial intelligence, and 12 interviews were excluded from the analysis.

On 3 June 2025 the students presented five scientific posters, one per dimension, at the international conference III SIBECOL and XVII AEET Meeting, held in Pontevedra. The five dimensions converged on the same diagnosis. The main problem lies in governance, with low effective participation, little equity among actors, insufficient anticipation of cumulative impacts and limited transparency. The team synthesised the results into a policy agenda with ten lines of action and a social recommendations guide, sent to 24 coastal municipalities.

The project showed that a technical and seemingly distant topic can become a school research project with socially useful results. It also made its costs visible. The topic felt distant to many students, access to specialist informants was difficult, the interviews took a great deal of time,

some students did not fully understand what they were asking, and the synthesis across dimensions was left to the professional team.

CHAPTER 1

What is the project?

Purpose and meaning of the project

Postgrowth S.A.: Vigo is a social science citizen science project aimed at generating knowledge about how a just and sustainable blue economy could take shape in Vigo and its coastal surroundings. Within this framework, the research focused on a relevant and controversial issue, offshore wind and its possible deployment on the south-west coast of Galicia.

The choice of topic reflects an underlying idea. Energy transitions are technological processes and also territorial, economic, ecological and political ones. For this reason, as well as asking whether a technology is renewable, it is necessary to analyse how decisions are made, who takes part, who bears the costs, who receives the benefits and which alternatives are left out. The acronym S.A., Social Actions, took the form here of actionable knowledge, translated into public proposals, outreach materials and methodological learning.

Territorial and social context

Vigo concentrates a significant part of the maritime, fishing, port, logistics, industrial and scientific fabric of Galicia. The possible expansion of offshore wind raises questions that cut across this system, such as the impacts on fishing and shellfish harvesting, the effects on biodiversity and landscape, industrial opportunities, the distribution of benefits, the legitimacy of the energy transition and the quality of public information.

The project was thus situated between a global debate, decarbonisation and the roll-out of renewables, and a specific territory with its own actors, conflicts, expectations and memories. Working with lower and upper secondary students brought in a generational perspective, that of those who will live in adulthood with the effects of the decisions being made today about the sea, energy and the blue economy.

Project objectives

- Immerse ESO and Bachillerato students in a real process of social research and citizen science on a complex socio-ecological problem.
- Generate useful knowledge about offshore wind and, more broadly, about the conditions for a just and sustainable blue economy in Vigo and its surrounding area.
- Document and analyse the methodological process to identify successes, limitations and improvements in school citizen science projects on specialised topics.
- Connect classroom learning with spaces for public transfer, academic discussion and proposals for institutional action.

Participation, reach and main outputs

Indicator	Confirmed figure
Participating schools	7
Participating students	310
Teachers involved	More than 15 people

Indicator	Confirmed figure
In-person sessions in the core process	60 sessions in 12 groups
Analytical dimensions of the case	5
Interviews conducted	101, of which 89 were included in the analysis
Document analyses	22
Survey responses	341
Posters presented at the conference	5
Attendance from schools at the conference	171 people
Municipalities that received the agenda and the guide	24

The seven participating schools were IES O Castro, IES A Guía, IES República Oriental do Uruguai, IES Coruxo, Colegio Compañía de María, Colegio Amor de Dios and CPR Mercantil. In addition to the research process, the project produced teaching materials in five modules, manuals for each dimension, ethical and legal documentation, five results reports, five posters, a policy agenda, a social recommendations guide, a dedicated website and certificates of participation for students and teachers.

CHAPTER 2

How was the project organised?

Governance structure and division of roles

Overall coordination was the responsibility of the Post-Growth Innovation Lab at the Universidade de Vigo. The professional team defined the methodological framework, produced the theoretical and practical materials, ensured ethical and legal compliance, supported the schools, carried out the preliminary analysis of the data and synthesised the results for the policy agenda and the social guide. A person hired with FECYT funds ran the sessions in the schools and collected the monitoring data.

Teachers integrated the project into classroom routines, maintained continuity between sessions, adapted timing and pace to each group and supported students in demanding tasks such as finding informants, conducting interviews and preparing the posters. Students took part in understanding the problem, choosing the dimension, collecting data, part of the validation of results and the transfer to an academic audience. Experts from the coastal sector and members of the public took part as interviewees and survey respondents.

Collaboration network

The support network included the Universidade de Vigo, Vigo City Council, the seven schools, earlier initiatives linked to Postgrowth S.A., the Unidade de Cultura Científica e Innovación of the university, Eco-Étika, CIDEL Galicia, research groups such as MAPAS Lab at CIM-UVigo, the conference organiser, and science fair spaces. Recruitment combined information sent through the City Council, the project email, phone calls, in-person visits and ongoing relationship-building, a combination that was essential for a technical topic with dispersed actors.

Overall timeline

Phase	Period	Activities	Purpose
1. Launch and preparation	July – September 2024	A1 – A2	Set up the network of schools, communication, the website and the core materials.
2. Opening and contextualisation	October – December 2024	A3 – A6	Open the process in the classroom, train in citizen science and frame offshore wind.
3. Fieldwork design	January – February 2025	A7	Prepare interview guides, informant profiles and the survey.
4. Data collection and preliminary analysis	February – April 2025	A8 – A9	Conduct interviews, surveys and document analyses and review the corpus.
5. Joint analysis and transfer	May – June 2025	A10 – A13	Discuss results in the classroom and present the posters.
6. Synthesis, agenda and close	June – November 2025	A14 – A15	Produce the agenda, the guide, the evaluation and the final outputs.

Resources and funding

The project had a total budget of 87,500 euros. A sum of 43,000 euros was requested from FECYT and 28,000 euros was awarded. The funding was complemented by significant in-kind support, such as school and university spaces, coordination time, standard equipment, administrative support, collaboration with the scientific conference and relationship-building with schools and organisations. The materials were simple, and coordination, methodological support and monitoring required sustained commitment.

CHAPTER 3

How was it done? Methodology step by step

Methodological principles

The project was designed as a co-creative citizen science process aimed at generating actionable knowledge about the blue economy in Vigo and its coastal surroundings. The root case was defined by the team from the start, the possible deployment of offshore wind on the south-west coast of Galicia. Co-creation consisted of opening this case up to five complementary dimensions and involving students in the empirical research on each one.

The notion of justice, central to the topic, was not defined in advance. The team presented offshore wind in terms of its technological aspects and its role in replacing fossil sources, and mentioned justice issues only as topics that students could explore. As the interviews progressed, students began to ask who decides where the wind turbines are installed, who bears the burdens and who receives the benefits.

The approach combined semi-structured interviews, document analysis, an online survey and in-person classroom work. This combination triangulated evidence on a highly technical topic and sustained learning through modular materials and moments of collective validation. The experience also showed that, with specialised topics, the traceability of the material is essential for detecting quality problems and inappropriate uses of digital tools.

Operational summary of the fifteen activities

Act.	Timing	Main content	Immediate result
A1	July 2024	Project launch	Visual identity, website, ethical documents and recruitment of schools
A2	Sept. 2024	Preparation with teachers	Teaching material, coordination meetings and legal basis
A3	October 2024	Session 1. Introduction and citizen science	First map of questions and concerns
A4	After A3	Structuring the problem	Root case and five dimensions of analysis
A5	Late 2024	Session 2. Research methods and topic	Common grounding in methods, blue economy and offshore wind
A6	After A5	Voting and allocation of dimensions	One dimension per school and specific materials
A7	January – February 2025	Session 3. Research design	Interview guides, informant profiles, survey and logistics
A8	February – April 2025	Fieldwork	101 interviews, 22 document analyses and 341 surveys
A9	April 2025	Preliminary analysis and quality control	Codes, organisation of the corpus and detection of issues

Act.	Timing	Main content	Immediate result
A10	May 2025	Session 4. Collective analysis	Validation and refinement of results by dimension
A11	May 2025	Session 5. Conference preparation	Key findings selected and tasks assigned
A12	May 2025	Organising participation in the conference	Five posters and logistics
A13	3 June 2025	Student participation in the conference	Public presentation and academic discussion
A14	June – July 2025	Cross-cutting comparison of dimensions	Common synthesis of the case
A15	Summer – autumn 2025	Policy agenda, social guide and close	Ten lines of action and final outputs

Launch and preparation (A1 and A2)

In July 2024 the project visual identity was created, the Postgrowth S.A. website was adapted to host the new edition and the ethical and legal documentation was prepared for working with underage students and with interviewees. The coordination team contacted schools by email, phone and visits, and participation was open and voluntary. In September the teaching material was distributed to teachers, divided into five modules on citizen science, blue economy and offshore wind, and timetables and groups were adjusted.

First session. Opening the process (A3)

The first session, in October 2024, introduced the project and citizen science and opened up the topic. Time had to be spent making understandable a subject of study that felt distant to many students. Through open questions, examples, visual materials and guided conversation, a first map was built of doubts, perceptions and interests regarding the blue economy, energy transition, the sea, territory and offshore wind.



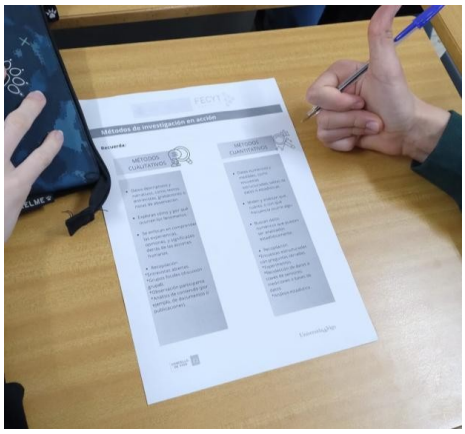
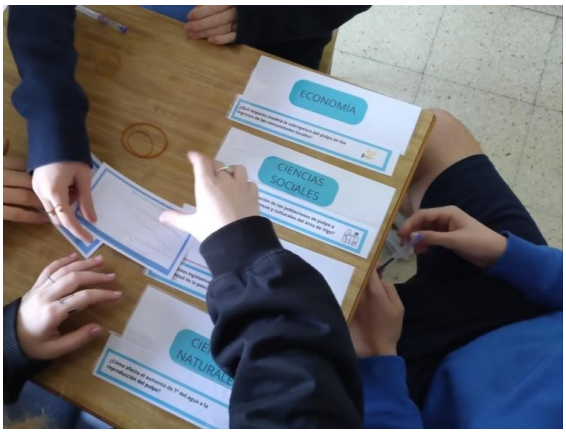
First session in the assembly hall and work with sticky notes to map questions and concerns.

Structuring the problem (A4)

The team systematised the questions and concerns in order to organise a single root case into manageable and comparable dimensions. The result was the definition of five dimensions, ecology, economy, society, ecological transition and open science, which reduced complexity without breaking the coherence of the case.

Second session. Research training (A5)

The second session provided a common grounding in how to research and what to research. It covered the blue economy, offshore wind, the main controversies and the tools of the project, namely the interview, document analysis and the survey. The session stressed that the aim was to analyse whether the deployment process could be considered responsible and just, without starting from a prior position.

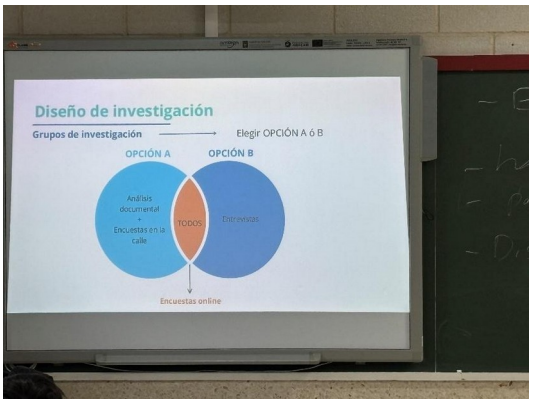
Materials from the second session on research methods and dimensions of analysis.

Voting and allocation of dimensions (A6)

The schools voted for the dimension they wanted to work on and the team communicated the allocation by email, seeking a balance between the number of participants, feasibility and the scope for in-depth work. IES Coruxo worked on the economic dimension, IES A Guía on ecological transition, IES República Oriental do Uruguai on open science, IES O Castro and Colegio Compañía de María on the social dimension, and Colegio Amor de Dios and CPR Mercantil on the ecological dimension. Each dimension received a manual with theoretical content, methodological guidance and ethical reminders.

Third session. Research design (A7)

Between January and February 2025 the team brought draft interview guides, proposed informant profiles and guidance for document analysis and, in open science, for the online survey. Students discussed and adapted the questions, organised the groups and planned the fieldwork. Time was short in some schools. In one of them the session lasted 35 minutes, decisions about groups and interviewees were made in a hurry and the resulting sample left out social associations, so the perspective of the most vulnerable coastal residents never entered the analysis.



Third session. Groups choosing the research design.

Data collection (A8)

Between February and April 2025 students carried out the fieldwork in small groups, with teachers and the team available to answer questions. The interviewees came from the fishing and shellfish sectors, the shipbuilding and energy industries, public administration, academia, environmental organisations, tourism, the teaching profession and the general public. At the same time, files, official documents and planning materials were reviewed, and the open science dimension launched an online survey with open and closed questions. This phase connected students with expert and affected voices, and revealed unequal access to key informants, a heavy time burden and uneven quality of material.

Preliminary analysis and quality control (A9)

The team coded interviews and documents with NVivo, grouped the material by dimension and prepared an initial interpretive scaffolding to take back to the classroom. This review detected significant issues. In some cases no audio was submitted even though the interview was reported as completed. In others, comparing audio and transcript revealed artificially constructed material, with answers invented using artificial intelligence, reconstructed conversations or generated dialogues that were then read aloud. There were also recordings in which the technical content of the answers did not match the voice or profile of the respondent. The corpus was reviewed more carefully, the weight of some materials was reduced and 12 interviews were excluded from the analysis.

Fourth session. Collective analysis (A10)

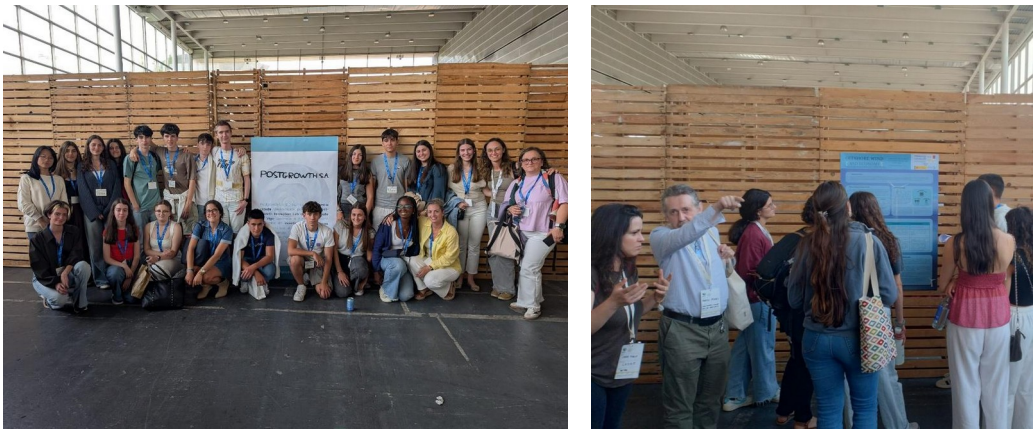
The fourth session brought the preliminary results to the classroom to discuss, validate and refine them. In one session, the team draft attributed local opposition to offshore wind to a lack of information, and the group corrected this reading by explaining that the fishermen interviewed knew about the projects but had had no voice in the decisions. The session also revealed limitations. Some students still lacked a grasp of the topic or of the meaning of some questions, which reduced their ability to assess the quality of the interviews and interpret the findings independently.



Fourth session. Organising the evidence by analytical criteria.

Preparation for and participation in the conference (A11, A12 and A13)

In May the main findings for each dimension were selected, tasks were assigned and the five posters were designed. On 3 June 2025, at the III SIBECOL and XVII AEET Meeting held in Pontevedra, the principal investigator presented the project in the morning to an international audience. In the afternoon students presented their results on five posters, organised in rotating groups of two or three so that anyone who wished could present, with more than 15 short presentations in an hour and a half. A total of 171 people attended from the schools.



Students and teachers at the conference and poster session on 3 June 2025.

Cross-cutting comparison, agenda and close (A14 and A15)

After the conference, the team systematically compared the five analytical outputs of the case and synthesised them into a policy agenda with ten lines of action and a social recommendations guide for the general public. This synthesis was carried out without a joint session among the participating groups. Each group knew its own dimension well and did not take part in building the overall picture of the study. The agenda and the guide were sent to 24 coastal municipalities affected by offshore wind.

Ethics, data protection and quality control

The project met the requirements that the Universidade de Vigo sets for research with people and with personal data. These requirements are set out in the protocol of its Ethics Committee for Research with Human Beings and the Environment (CEISHMA), in the General Data Protection Regulation (GDPR) and in Spanish Organic Law 3/2018 on personal data protection.

- The seven schools authorised their participation in writing before the project began.
- Participation was voluntary. Anyone could withdraw at any time, without giving reasons and without consequences.
- Students, families, teachers and interviewees received an information sheet written in language suited to each group.
- Each student signed the informed consent together with their family or guardian. The form set out separately the consent to take part, the consent to data processing and the image and voice authorisation.
- Each interviewee signed their informed consent and authorised the recording before the interview.
- The online survey explained the research and asked for consent before starting.
- Students and teachers who worked with the interviews and the survey signed a confidentiality agreement.
- Interviews were anonymised.
- Data and signed documents were stored in the Universidade de Vigo institutional cloud, with access restricted to the team and protected by password.
- Personal data were kept only for as long as necessary.
- Participants knew their rights to access, rectify and erase their data and how to exercise them before the Universidade de Vigo.

- Results are disseminated in aggregated or anonymised form, and images of students are published only with their authorisation.

The experience makes it necessary to treat the authenticity of the material as a central part of the ethics of the project. In future editions no material should be accepted as valid without minimum traceability, original audio, verification of authorship and explicit criteria on the acceptable use of digital tools.

CHAPTER 4

What did the project investigate and what did it produce?

The case study

The research examined a single case from five dimensions that overlap and correct one another. This decision avoided fragmenting the problem and made it possible to observe how the conclusions change when the focus shifts from ecological impact to transparency, the economy or reflection on the transition itself.

Dimension and schools	Underlying question	Evidence	Summary conclusion
Ecology Colegio Amor de Dios and CPR Mercantil	Whether offshore wind is ecologically responsible in terms of biodiversity, pollution and cumulative impacts	14 interviews and document analysis	There is diagnostic effort, and cumulative assessment, auditable adaptive protocols and restoration guarantees are missing.
Economy IES Coruxo	How benefits, costs, employment and impacts on local sectors are distributed	12 interviews and document analysis	The economic dimension is poorly defined, with no public metrics, compensation criteria or local retention of value.
Society IES O Castro and Colegio Compañía de María	How it affects ways of life, coastal identity, landscape and well-being	21 interviews	Information arrives late, impacts are listed without being specified and indicators of community resilience are missing.
Ecological transition IES A Guía	What assumptions, motivations and alternatives underpin the deployment	18 interviews	Technical reflection is high and ethical and political reflection is low. The debate is about how to deploy and little about what for and for whom.
Open science IES República Oriental do Uruguai	What transparency, access and public understanding exist regarding the process	24 interviews and 341 surveys	Transparency is low. Only a minority report knowing the effects or knowing how to take part in the decisions.

The five dimensions converge on a common diagnosis. The main difficulty lies in governance, with low effective participation, little equity among actors with very different capacities, insufficient anticipation of cumulative impacts, weak correction mechanisms and transparency that is too limited to sustain informed public deliberation. In their posters, students spoke of transparency in licensing and of ensuring that the benefits stay in the affected coastal communities.

Cross-cutting results and policy agenda

Strategic area	Practical meaning
Early participation with real capacity to influence	Stable participation frameworks from the start of projects, with a direct voice for coastal, scientific, community and productive sectors.
Equity in participation	Technical, legal and logistical support for groups with fewer resources in the face of large operators.
Cumulative impact assessment	Joint analysis of the effects of several projects on the same maritime and coastal area.
Compensation and fair distribution of benefits	Clear, public and auditable criteria for compensation, local reinvestment and benefit sharing.
Open and understandable data and documents	Information on single platforms, in reusable formats, in plain language and before key decisions.
Transparency and accountability	Traceable decisions, explained alternatives, published resolutions and registers of commitments.
Community ownership and management	Marine energy cooperatives, community funds and arrangements that retain value in the territory.
Education and awareness	Maritime culture and public understanding of the blue economy through schools and youth participation.
Energy sufficiency and alternatives	Demand reduction, efficiency and diversification towards lower-impact activities.
Links across sectors and scales	Fishing, tourism, industry, science, administration and the public connected to avoid fragmented solutions.

The agenda and the guide were sent to Vilagarcía de Arousa, Vilanova de Arousa, A Illa de Arousa, Cambados, O Grove, Sanxenxo, Poio, Pontevedra, Marín, Bueu, Cangas, Moaña, Vilaboa, Soutomaior, Redondela, Vigo, Nigrán, Baiona, Oia, A Guarda, Tomiño, O Rosal, Tui and Ribadumia.

Outputs and transfer results

- Five results reports, one per dimension, and five scientific posters presented by the students.
- Policy agenda and social recommendations guide for a just and sustainable blue economy, sent to 24 municipalities.
- Teaching materials in five modules, manuals for each dimension, case documents for voting and information for the conference.
- Project website integrated into the websites of Postgrowth S.A. and the Post-Growth Innovation Lab.
- Coverage in DUVI, Diario de Pontevedra, Valmiñor TV and Telemarinas, and on the social media of the research group.
- Participation in the III Feira da Sostibilidade at IES Luís Seoane, with workshops on the blue economy and offshore wind, and in the Expo-Feira A ciencia que vén ten nome de muller of

the Unidade de Cultura Científica e Innovación, where the Post-Growth Citizen Science Network of Galicia was presented.

- Methodological lessons that feed into a scientific publication on the methodology of the Network, which brings together several editions of the series.

CHAPTER 5

Final evaluation of the project

How the project was evaluated

The evaluation combined continuous monitoring and a final review. During implementation there were regular team meetings, monitoring of objectives, support for the schools and a log of issues. A final survey was also sent to teachers and students at two points, after the conference and at the start of the following school year, and received 46 responses, 22 in the first round and 24 in the second. No numerical ratings from this survey comparable with those from Pontevedra are available, so the evaluation relies mainly on the monitoring of the process and on the quality of the material collected.

Planned and achieved indicators

Indicator in the technical proposal	Planned	Achieved
Participating secondary schools	8	7
Teachers involved	15	More than 15
Students involved	250	310
Organisations in the support network	15	At least 15
Secondary schools in the Citizen Science Network	15	12, plus other interested schools
Presentations at the conference	15	More than 15 presentations with 5 posters
People attending from the schools	300	171
Proposals in the policy agenda	10	10
Proposals in the recommendations guide	10	10
Municipal governments receiving the agenda and guide	23	24
Dissemination campaigns	4	4
Social media followers	1,000	More than 2,000 on X

What was learned

The learning was twofold. Students gained knowledge about the blue economy, offshore wind, energy transition and marine governance, and became familiar with the tasks of real social research, such as selecting evidence, interviewing, organising information, reading technical documents, synthesising findings and communicating them in a scientific format. Researching an initially distant issue also required them to develop skills in translation, finding context, critical reading and methodological patience.

Strengths and limitations identified

Clearest strengths	Most evident limitations
Coherence of the root case and depth from addressing it through five dimensions	Distant and little-known topic for some students
Combination of interviews, document analysis and survey	Difficult access to specialist informants
Poster presentation at an international scientific conference	Very time-consuming interviews and transcriptions
Agenda and guide sent to 24 coastal municipalities	Material invented or altered with AI and 12 interviews excluded
	Students who did not fully understand what they were asking
	Case set by the team and synthesis across dimensions without the students
	Limited final evaluation with no extensive collective feedback session

CHAPTER 6

Lessons learned and recommendations for future editions

Strengths worth keeping

The first strength was the coherence of the design. Working on a single root case avoided thematic dispersion and allowed the dimensions to shed light on one another. Each finding had context and the final synthesis was more than a sum of parts.

The second strength was the combination of methods. The interview captured situated experience, document analysis avoided relying solely on perceptions and the survey broadened the social base of evidence on transparency and public knowledge.

The third strength was transfer. The posters at an international scientific conference gave students academic recognition and demanded the ability to synthesise, and the agenda and the guide took the results to 24 coastal municipalities.

Weaknesses to correct

The most important weakness was the initial distance from the topic. Offshore wind was not part of the everyday frame of reference of many students, and a significant part of the effort went into building context and vocabulary. Even so, some students never fully understood what they were asking.

The second weakness was the fieldwork. Reaching central informants was difficult on a topic shaped by administrative procedures, technical specialisation and territorial conflict. The interviews took a great deal of time and their quality was uneven, and the use of artificial intelligence to invent interviews, construct answers or script conversations amounted to a direct alteration of the data.

The third weakness was the role of students in the fundamental decisions. The root case was set by the team, students chose only the dimension and the cross-cutting comparison was carried out by the professional team after the conference. This reduced the co-production of the final interpretation. Nor was there an extensive collective feedback session with the actors involved, and the final evaluation was limited.

Methodological lessons in depth

1. **A distant topic can be a good subject for citizen science if it is first translated.**

When the problem is not part of everyday experience, the first task is to connect it with the lived territory. Recommendation. Devote more introductory time, better context materials and an explicit effort to move from the technical file to life on the coast.

2. **A root case with several dimensions requires the collective synthesis to be designed.**

The structure produced a systemic view, and each group knew only its own part. Recommendation. Set aside, before the transfer, a phase of analysis across dimensions in which groups compare findings and take part in the overall interpretation.

3. **Interviews should not carry the method on their own.**

Interviewing teaches a great deal, takes a great deal of time and depends on the quality of support. Recommendation. Combine interviews from the outset with guided document analysis, stakeholder maps, short panels with experts or deliberative exercises.

4. **The quality of fieldwork must be controlled from the start.**

There was variability in the questions, depth and transcriptions. Recommendation. Review interview guides, conduct pilot interviews, supervise early and set explicit validation criteria.

5. **Artificial intelligence is an explicit methodological and ethical risk.**

Prohibiting or allowing it is not enough. Recommendation. Teach which uses are acceptable, which invalidate the material and which steps require human verification, and accept no interview as valid without original audio and traceability.

6. **Access to key actors requires specific mediation.**

On specialised topics, part of the success depends on activating contacts and building trust outside the classroom. Recommendation. Set aside coordination time for this mediation and prepare lists of priority profiles and viable entry points.

7. **Students need to take part in the fundamental decisions.**

With the case set in advance, co-creation was concentrated on data collection. Recommendation. Open the definition of the case or its main questions to students, even when the general topic is given.

8. **Feedback and evaluation are part of the method.**

Without extensive feedback or a robust evaluation, the learning remains poorly documented. Recommendation. Plan a feedback space with the actors involved and an evaluation with indicators that are comparable across editions.

Operational recommendations for replicating or scaling up the project

- Keep the root case with several dimensions and set aside a phase for comparing them before the transfer.
- Strengthen initial thematic training when the topic is specialised.
- Reduce reliance on the interview and combine it with other methods.
- Introduce pilot interviews and interim quality checks, and require original audio and a traceability record.
- Define a protocol on artificial intelligence with clear limits, prohibited uses, verification mechanisms and consequences.
- Set aside time for recruiting key actors and for external mediation.
- Open part of the definition of the case to students and plan a collective feedback session and a comparable evaluation.

CHAPTER 7

Future work

The project opens several lines of continuity. The first is educational, repeating and adjusting the model with more initial training and a strong phase of joint analysis across dimensions. The second is methodological, testing combinations of techniques that lighten the load on the interview for highly technical topics. This line was explored in Postgrowth S.A.: Alimentación, which replaced the interviews with a structured survey.

The third is territorial and institutional. The blue economy in Galicia offers other connected issues, such as fishing, ports, aquaculture, ecosystem restoration, coastal tourism or maritime culture. During the project the Post-Growth Citizen Science Network of Galicia was presented, formalised in September 2025, which provides a basis for this expansion. The fourth is scientific, and the monitoring carried out feeds into a publication on the methodology of the Network and on the role of artificial intelligence in participatory processes.

CHAPTER 8

Conclusion

Postgrowth S.A.: Vigo shows that school citizen science can address seriously a problem as technically complex, politically relevant and territorially sensitive as offshore wind. The project turned an initially distant topic into a real, organised, public and methodologically demanding research process, whose conclusions reached an international conference and 24 municipalities.

The experience also confirms that complex topics demand more than goodwill. They require contextualisation, access to key actors, quality control of fieldwork, explicit management of digital tools and a design that ensures students take part in the final synthesis and in the fundamental decisions.

The final lesson is that citizen science can serve to open up difficult public debates from an informed and critical position. When this happens, the classroom becomes a space for research, deliberation and building the future.

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