Dr Bastiaan van Loenen

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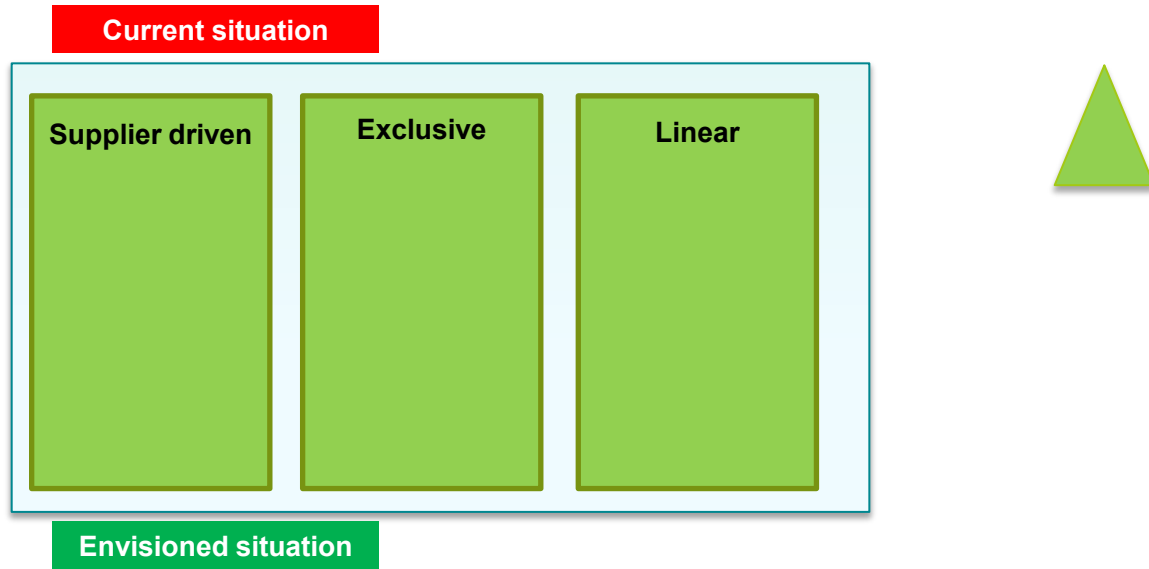
Towards a sustainable open data ecosystem

19 – 20 MARCH 2025

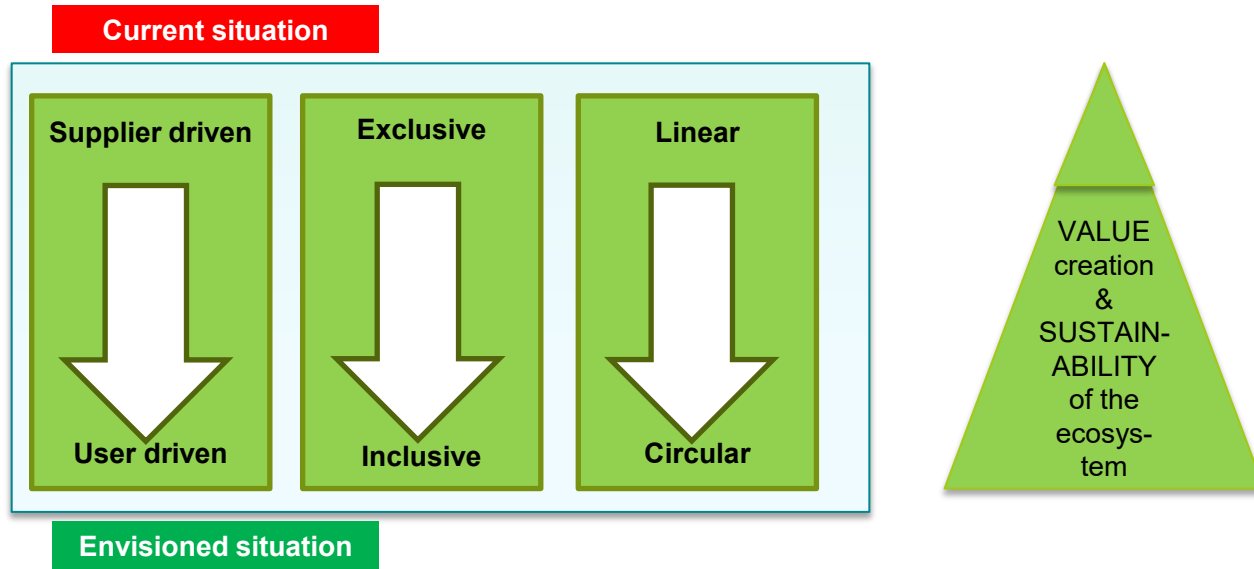# Towards a sustainable open data ecosystem (ODECO)

Research project under the European Union's Horizon 2020 research and innovation programme Marie Skłodowska-Curie.

ODECO

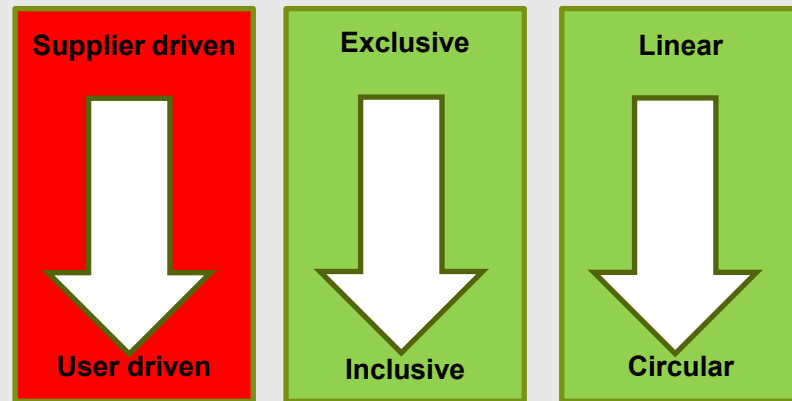# Towards a sustainable open data ecosystem (ODECO)

Supplier driven	Exclusive	Linear

Towards a sustainable open data ecosystem (ODECO)

Towards a user driven Open data ecosystem

EU OPEN DATA DAYS

Towards a user driven open data ecosystem (2021)

- ODE is provider driven: users are not involved in decision making processes in ODE

User groups in ODECO research

- Non-expert users
- Journalists
- Students
- Local government
- Central/ regional government
- Companies
- Not-for-profit organisations
- Open data intermediaries

Commonalities in needs

- (Open data) literacy and digital equity:
  - How to interact with data specialists?
  - How to analyse open data?
- Access to open data
- Data quality
- A reliable data infrastructure
- Adequate funding
- Clear regulations related to open data (esp. data protection)
- Processing data ethically
- Adherence to CARE principles instead of FAIR
- Open communication channels
- **Need to participate in decision making processes NOT identified**

Towards a user driven open data ecosystem (2025)

- It is merely expert driven including ***expert users***

- Does the expert user represent THE user?

- Who is the user?

- Is there a typical standard user need?

Users vary (significantly) even within user groups

- purpose of use (explorer, aggregator, enabler, enricher, developer, end user);
- geographic scope of the use (local, national, regional, global);
- nature of the
- natural perso
- user capabili   -how/
  understandi   d skills);
- (access to) re
- (access to) te
- frequency of
- nationality (l
- understanding of the (business) opportunities;
- AI as a user
- etc

Non homogeneous needs that may change over time

A more user driven ODE; less expert driven?

- Open data published with a purpose?
    - Likely that with purpose driven open data a specific type of use is promoted and accordingly users can be involved
    - But open data with a purpose is NOT open data as envisioned in the early open data days..

"The coolest thing to do with your data will be thought by someone else" (Rufus Pollock*)
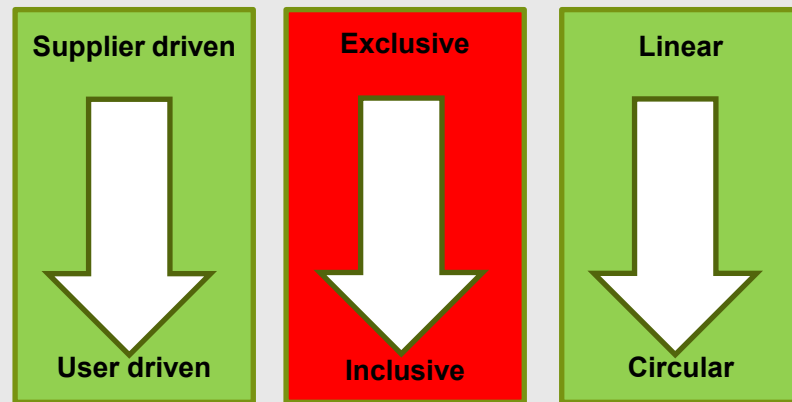
(* See De Vries et al. 2011)

Towards a user driven open data ecosystem

- User groups with diverse needs: No one size fits all
- Open data publication with a purpose!?

Towards an inclusive Open data ecosystem

Supplier driven	Exclusive	Linear
↓	↓	↓
User driven	Inclusive	Circular

EU OPEN DATA DAYS

Towards an inclusive open data ecosystem (2021)

- ODE is primarily government driven, also non-government actors should participate ***with their open data***

Some non-government open data cases

- Examples:
  - Microsoft open buildings
  - Fugro bathymetry data for the GEBCO Ocean Map
  - Esri/Microsoft/ImpactObservatory high-resolution global land cover map

- Smarter contracts with a data paragraph for public projects

Motivations to participate

- Positive contribution to the image of the non-government party

- Improved visibility of the company

- Network: Being part of an open community

- Altruism

- Promote other proprietary products

Barriers contributing open data

Common barriers	Non-specialist actors	Data journalists	Elementary school students	Non-governmental organisations	Commercial actors	Open data intermediaries
Lack of data skills and literacy		X	X	X		
Lack of governance mechanisms			X			X
Lack of awareness about the value of open data			X			
Lack of technical tools	X		X	X	X	
Misaligned goals and interests	X	X			X	X
Lack of resources	X	X		X	X	X

Observations

"It can be noted that the **variety of governance instruments capable of promoting open data sharing from non-governmental actors is extensive**. These instruments range from hierarchical approaches, such as robust coordination and legal frameworks, to grassroots measures, including systems for information exchange and collaborative partnerships. Notably, **the role of market-related instruments remains underrecognized** in the current context. Therefore, from the observations in this report, there seems to be **limited steering** of the behaviour of open data actors **through financial incentives**."

Inclusivity: participation of non-government going beyond data

Examples of how non-government participates:

- Providing open data
- Providing a platform (OSM) to publish open data
- Providing software to upload open data (Rapid, Maproulette, Esri)
- APIs offered by tech companies providing access to open data
- 'post hack' meet ups/ post event incubation
- Team building/ community building by OD hackatons
- Playful (open data) learning in elementary education
- Partnerships in education (e.g., UN Children's General Assembly; Danish Green School partnership)
- Providing open data training material and teaching open data
- Support in opening up (local) government data
- Employing paid editors of open data platforms
- Supporting financially and technically data improvement communities
- Lobbying for open data
- Part of OD advisory bodies or OD working groups

Towards an inclusive open data ecosystem

- Inclusivity is much more than "non-government actors should participate with their open data in ODE"

- Inclusivity in data: a data life cycle perspective, more complete (inclusive) data is not always to be preferred

Towards a circular
Open data ecosystem

Supplier driven	Exclusive	Linear
↓	↓	↓
User driven	Inclusive	Circular
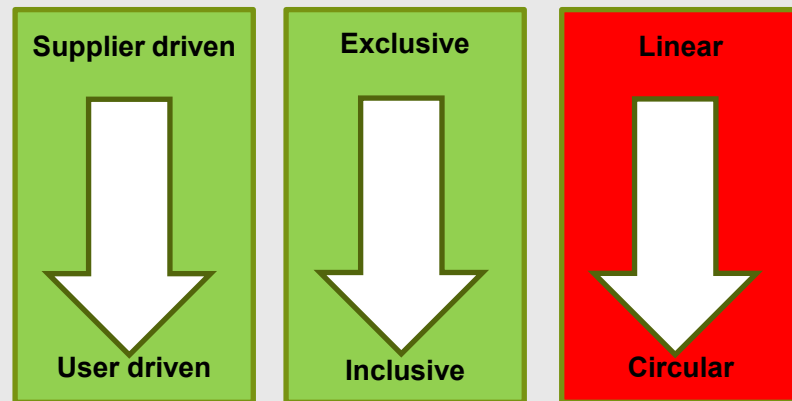
Towards a circular open data ecosystem (2021)

- Users of O*G*D should improve OGD and provide the new data back to the ODE (i.e., to the OGD provider) as open data

Towards a circular open data ecosystem (2025)

- "All user groups examined are currently contributing **back to the ODE** and adding value through several different roles that they assume", however it is typically NOT always improved O*G*D that is contributed back (directly to government data provider).

Contributions of NG actors

Contributions category	Description
Data	• Sharing useful and easy-to-access open datasets. • Making sure data works well together and follows common standards.
Technological Infrastructure	• Creating strong systems to store, process, and share open data. • Building secure platforms for easy collaboration.
Process Automation	• Using technology to make collecting and sharing open data faster and more efficient. • Cutting down on manual work by automating open data processes.
Educational	• Teaching people how to understand and use open data. • Providing training and resources to help people become comfortable with open data.
Consulting Services	• Helping organizations use open data in the best way possible.
Organizational Changes	• Guiding organizations to make changes that support open data principles
Communication Products	• Creating tools, visuals and articles to share open data in a simple way. • Making user-friendly interfaces to help people easily understand open data.
Collaboration Spaces	• Setting up places for people to work together and share ideas about open data. • Building a community that works together to solve problems and be creative with open data.

Motivations of students to contribute to ODE

Motivations	Quote
Being proud of their work	"Sharing our student's work with the outside" "They stand up a little straighter and they are prouder because it is not just presenting for Mom and Dad" Teacher
Not listen but do it themselves	"We learn more by doing that" "You did not have to listen to a lot but do most yourself" Student in group interview
Use in real-world what they do in school	"If I'm sharing it, and it could be used afterwards, students are more proud and actually more engaged to make it right because they know that it's likely to be used for something meaningful afterwards" Teacher
Their ideas being heard	"Children's voice as important as others"
Engage with something that is relevant for them	"Became relevant for the student because is something that the like and do in day life" "For the students in a project many times it is more interesting to have something concrete, something they can see, something that is close to them" Teacher
Help the community around the school	"The school could be part of the local community by creating better data" "I think local problems could be more fun because students can do something" Teacher
Making the world a better place	"How is this going to create a better world?"
Pass the exams	"If you work with 9th graders, they have exams, and they have to learn a topic from different angles" Teacher

Towards a circular open data ecosystem (2025)

- Circularity is much more than only providing improved open government data back to the ODE
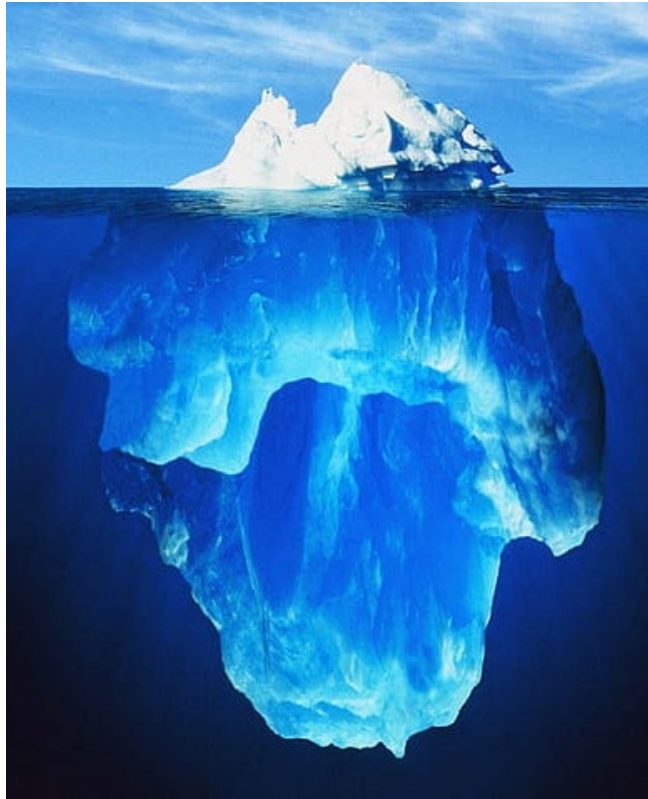
Challenges

1. existing open data ecosystems are not user-driven.

2. existing open data ecosystems are linear.

3. current open data ecosystems are exclusive.

4. current open data ecosystems lag behind in value creation.

Insights after 3 years of ODECO

Insights after 3 years of ODECO

Source: https://clipart-library.com

Insights after 3 years of ODECO

- Knowledge and theory development on Open data ecosystems is underdeveloped

- We should focus on understanding the as is of ODE, and its complexities

- "If it ain't broken, do not fix it"

Towards a sustainable open data ecosystem (ODECO)...

Interested: let us know

- Email: info@odeco-research.eu

- Website: www.odeco-research.eu

- Social media channels
  - LinkedIn: https://www.linkedin.com/groups/12546644/
  - Twitter: https://twitter.com/ODECO_etn
  - Zenodo: https://zenodo.org/
  - Facebook: https://www.facebook.com/groups/876557733208982

Final conference

- Athens

- May 14-16, 2025

- Register at: www.odeco-research.eu

Acknowledgements

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Literature

- De Vries, M. et al. (2011). POPSIS, pricing of public sector information study. Models of supply and charging for public sector information (ABC) : final report. https://op.europa.eu/en/publication-detail/-/publication/d0862188-b657-40b4-b3c0-f3c05d454247/language-en

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