

# How to Finance the Value Case of the PED

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Riga

AmsTERdam BiLbao citizen drivEn smaRt cities



atelier  
Positive Energy Districts



# This presentation

1. The PED, Positive Energy District
2. Four questions about the PED as an integrated social, economic and environmental system
3. Answers to the four questions
4. How to finance this integrated system, the PED?
5. Conclusion

# 1. Positive Energy District

■ “Positive Energy Districts (PEDs) are energy-efficient and energy-flexible urban areas or groups of connected buildings which produce net zero greenhouse gas emissions and actively manage an annual local or regional surplus production of renewable energy.

■ <https://jpi-urbaneurope.eu/ped/>

# 2.1 The PED, four questions

## Questions 1 and 2

- PEDs require integration of different systems and infrastructures.
  1. What is this integration?
  
- PEDs require interaction between the different systems and infrastructures, the users and ICT systems.
  2. What is this interaction?

## 2.2 The PED, four questions

### Questions 3 and 4

- PEDs require this integration and interaction while securing the energy supply and a good life for all in line with social, economic and environmental sustainability.
  
- 3. What is securing the energy supply and a good life for all?
  
- 4. What is securing this in line with social, economic and environmental sustainability?

# 3.1 Question 1

■ PEDs require integration of different systems and infrastructures.

1. What is this integration?

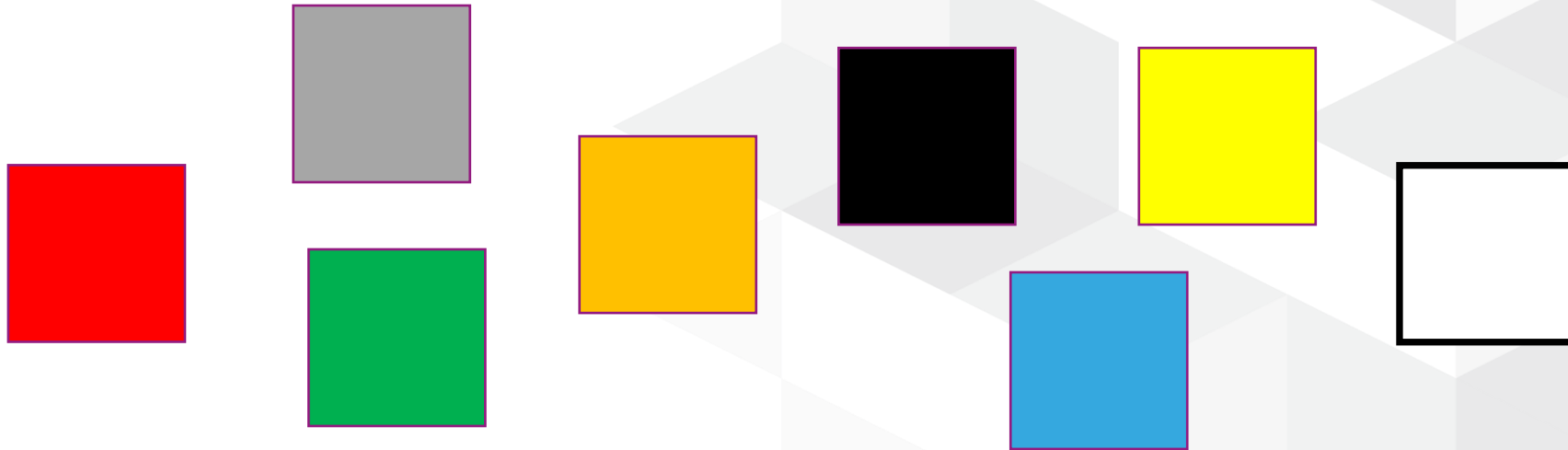
To begin with, what are the different systems and infrastructures?  
 These 8 are important examples, but you can think of more.

	Roads, cables and pipes		Energy
	Greenery		Buildings
	Water		The subsoil, bottom
	Mobility		Social cohesion

How do these 8 integrate?

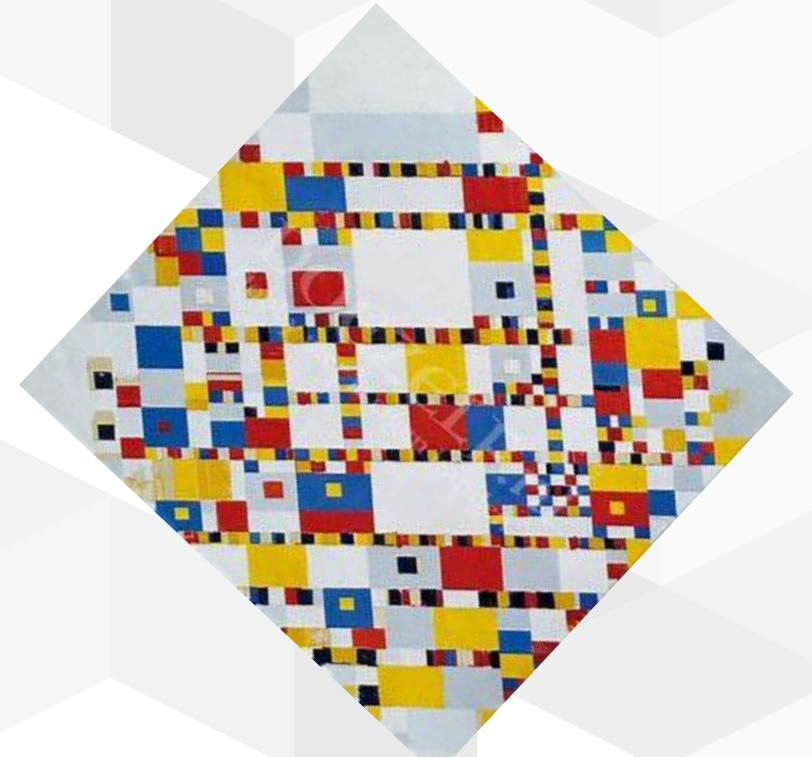
# 3.1.1 Old school integration

- Each system or infrastructure has as much as possible its own place, but in a position relative to the others; this is not a PED.
- Of course roads, pipes and cables connect buildings, much green will be on the water shore, buildings will house social events, etc.



## 3.1.2 New school integration

- Systems and infrastructures are as much as possible in the same place so that they can empower each other. Think of green that cools down buildings, buildings that produce electricity, mobility based on usage of this electricity, water that collects, stores and transports energy, heat and cold, etc.
- This is a PED.





## 3.2 Question 2

■ PEDs require interaction between the different systems and infrastructures, the users and ICT systems.

2. What is this interaction?

■ This is the interaction between active users and suppliers of these systems and infrastructures, that together have control of the production of energy, water, mobility, etc., and that integrate these systems and infrastructures. Together they make the PED.

■ No integration without interaction; ICT systems facilitate a large part of this interaction.

## 3.3 Question 3

■ PEDs require this integration and interaction while securing the energy supply and a good life for all in line with social, economic and environmental sustainability.

3. What is securing the energy supply and a good life for all?

■ An integrated whole, with interaction between active users and suppliers, furthers itself by making steps that regenerate the PED.

■ This creates resilience that secures the PED.

## 3.4 Question 4

■ PEDs require this integration and interaction while securing the energy supply and a good life for all in line with social, economic and environmental sustainability.

4. What is securing this in line with social, economic and environmental sustainability?

■ A secure PED comes from 1) good interaction between active users and suppliers, social resilience, 2) developing new business cases, a strong economy, and 3) regeneration of the environment.

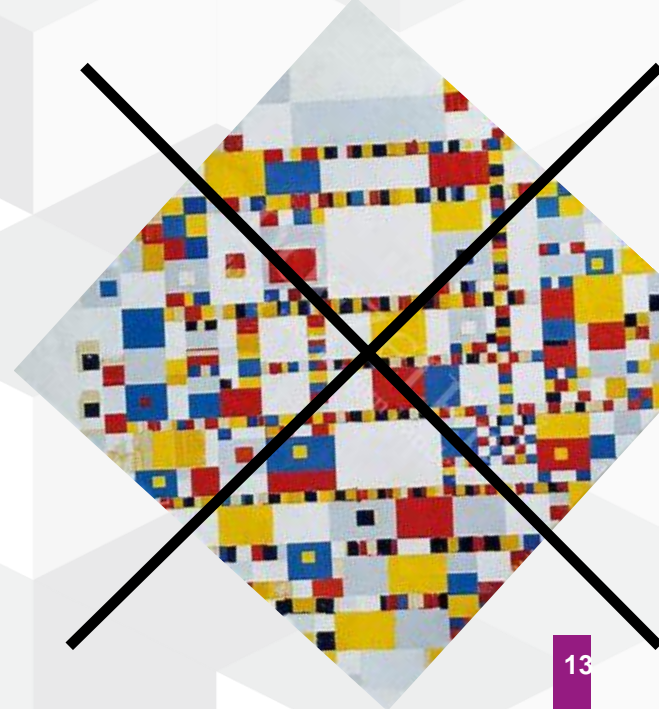
■ This sustainability creates a solid value case.

# 4. How to finance the PED?

- Three theses:
  1. Integration is de-risking
  2. Decoupling is de-risking
  3. The investment platform integrates and decouples

# 4.1 Integration is de-risking

- Having an integrated system of roads, cables, pipes, greenery, water, mobility, buildings, energy, subsoil and social cohesion creates resilience.
- This resilience gives investors and their financiers trust that this system, the PED, will give value for money; de-risking.
- However, investors and certainly their financiers will not invest in the system, the PED, as a whole.

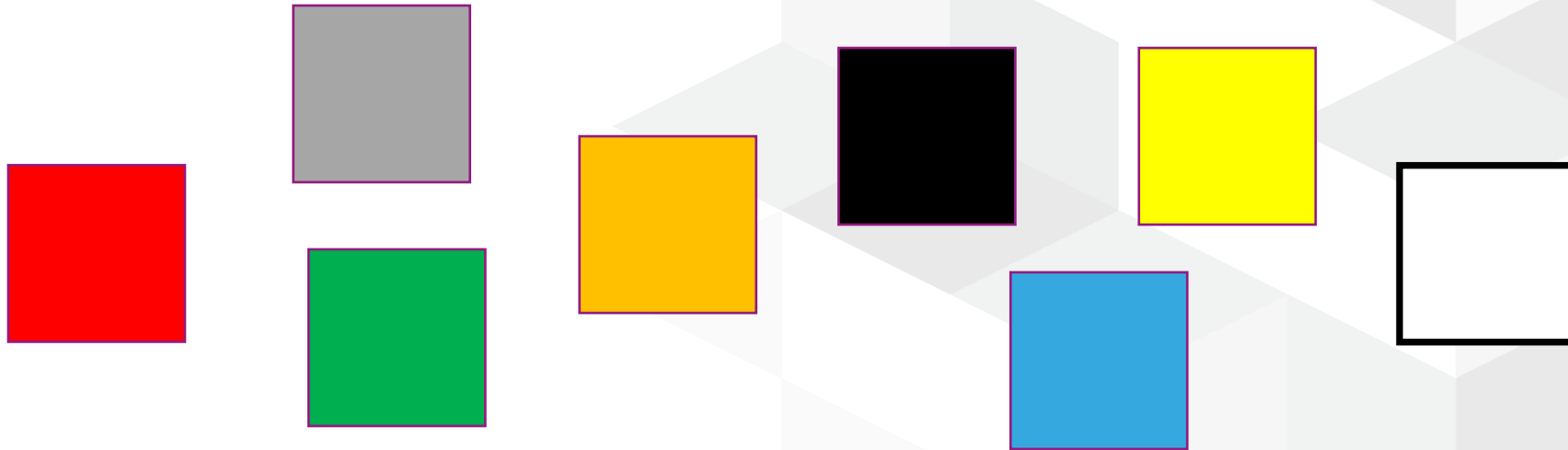


## 4.2.1 Coupling is a risk

- An investor in energy will be interested to know that greenery cools down buildings, but he will not invest in greenery.
- An investor in mobility will be interested to know that electric vehicles can be charged with solar panels, but he will not invest in these panels.
- Moreover, these investors, and most certainly their financiers, will see coupling these investments as a risk.
- Although they see integration as de-risking, they see coupling as a risk.

## 4.2.2 Decoupling is de-risking

- Investors and their financiers will like the integration:
- However, they dislike coupling, and want to decouple:



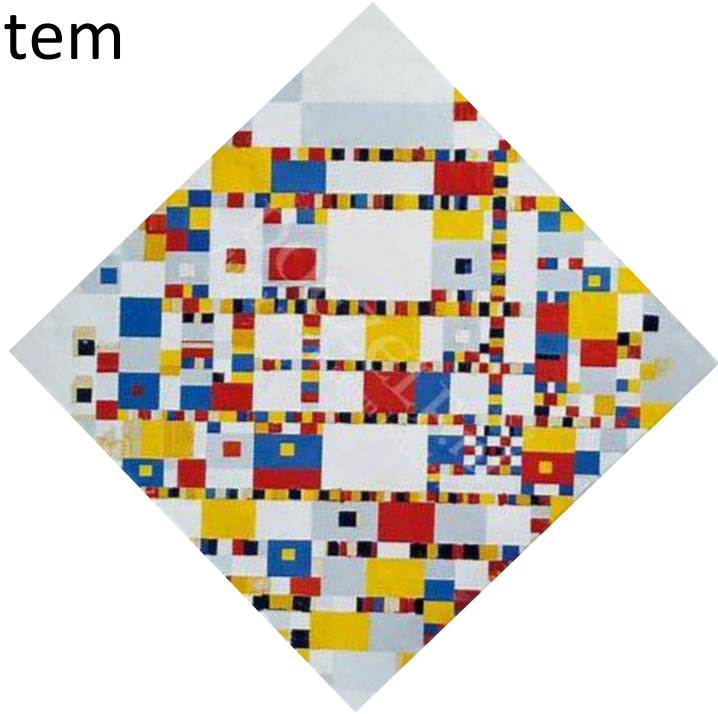
# 4.3 The investment platform

- The investment platform both integrates and decouples.
- Integration means that an investor in greenery gives the investor in energy certainty that he will invest in such a way that it will cool down buildings.
- Integration means that an investor in solar panels gives the investor in mobility certainty that he will invest in such a way that electric vehicles can be charged with solar panels.
- With that certainty investments can be decoupled, but integrated, so that both investors and their financiers can keep risks low.

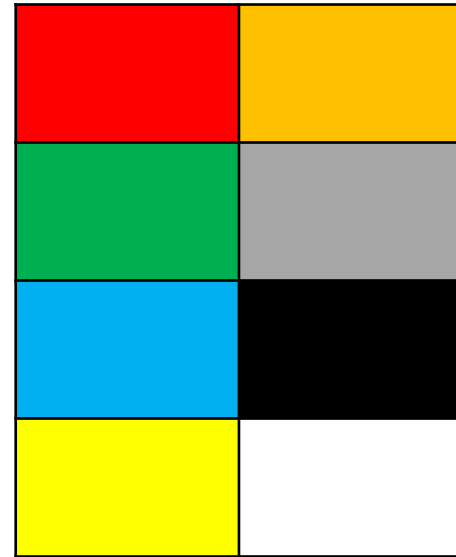


# 5 Conclusion

The PED as an integrated social, economic and environmental system



Financing the PED



The investment platform helps to both create the PED as a solid value case, and organize finance.

# Thank you for your attention



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