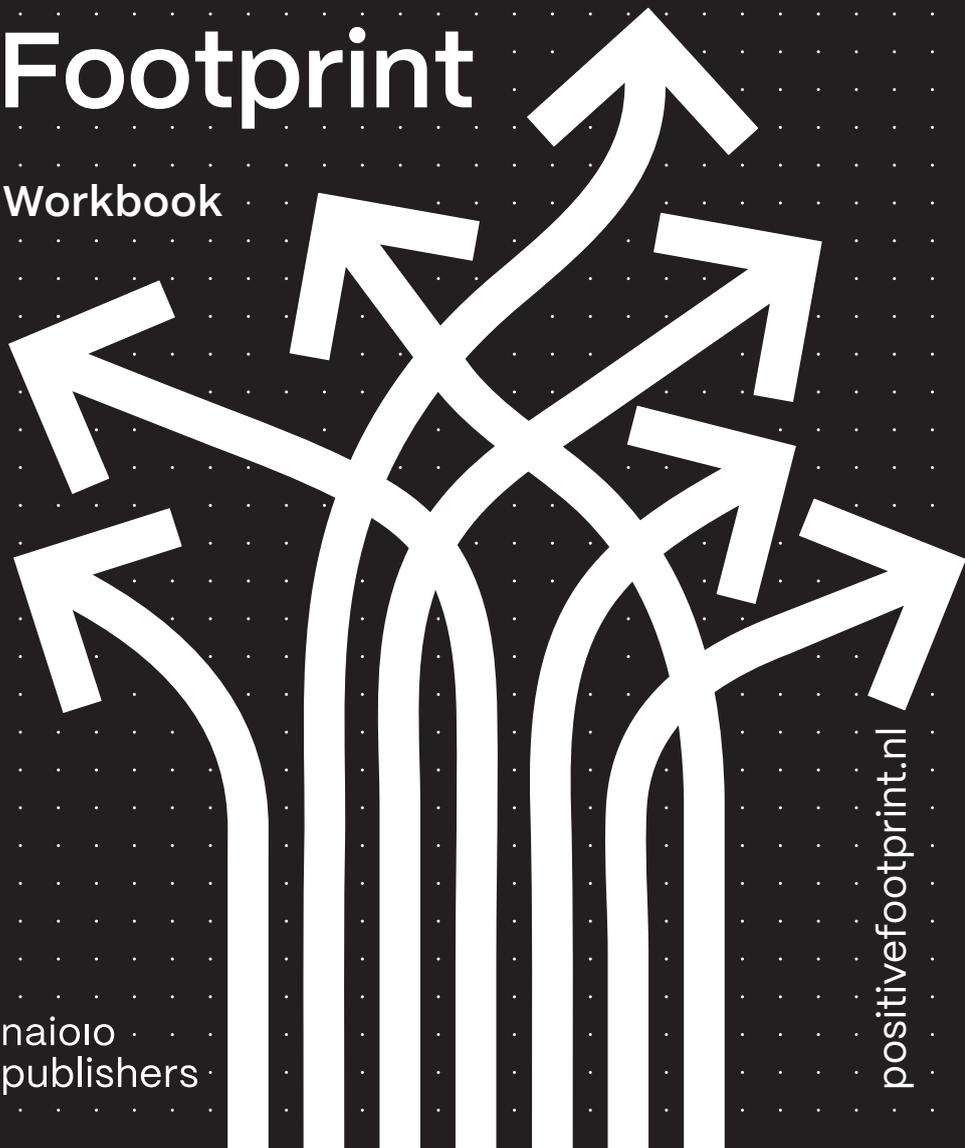


Vincent van der Meulen

Building with a Positive Footprint

Workbook



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positivefootprint.nl

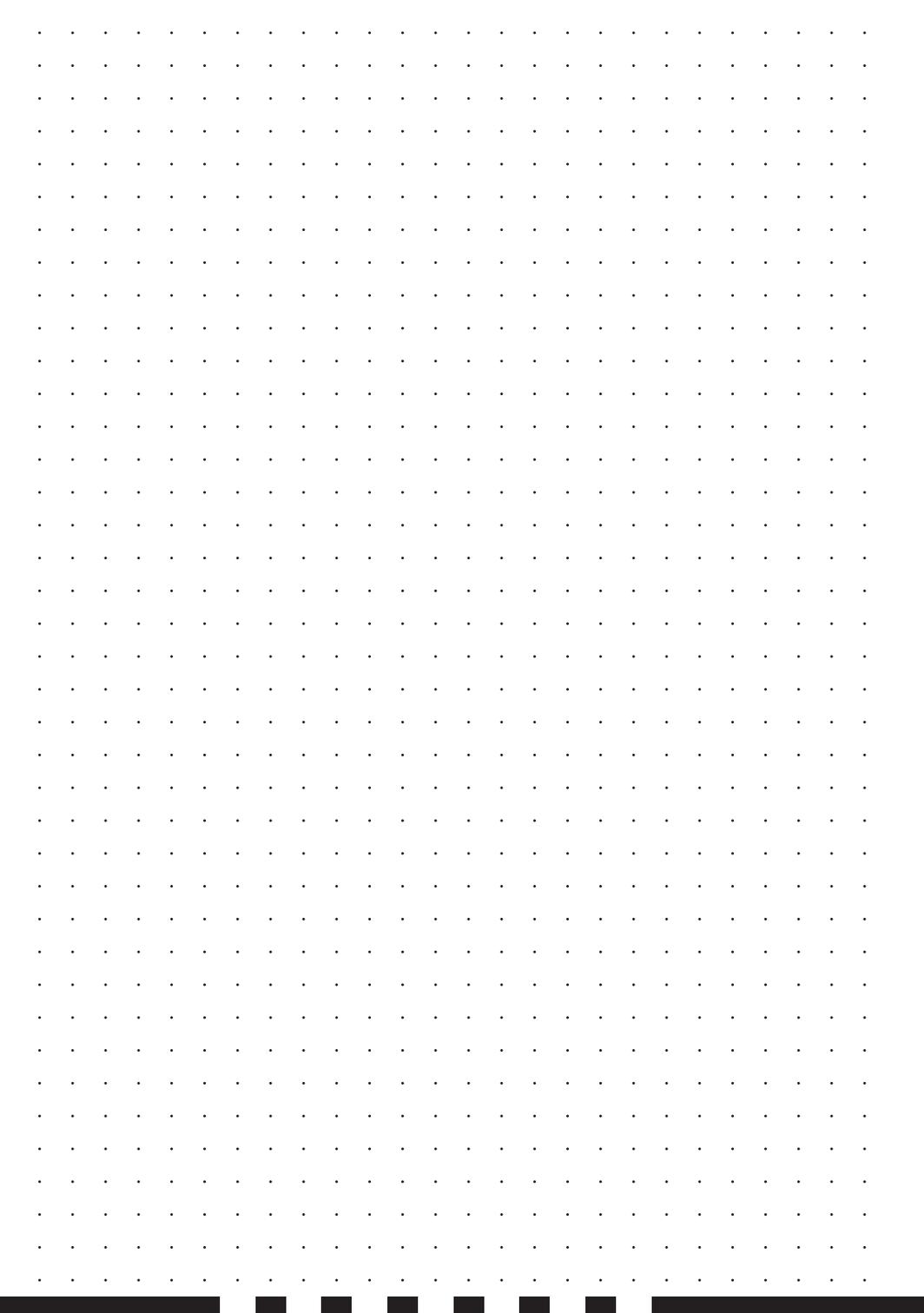
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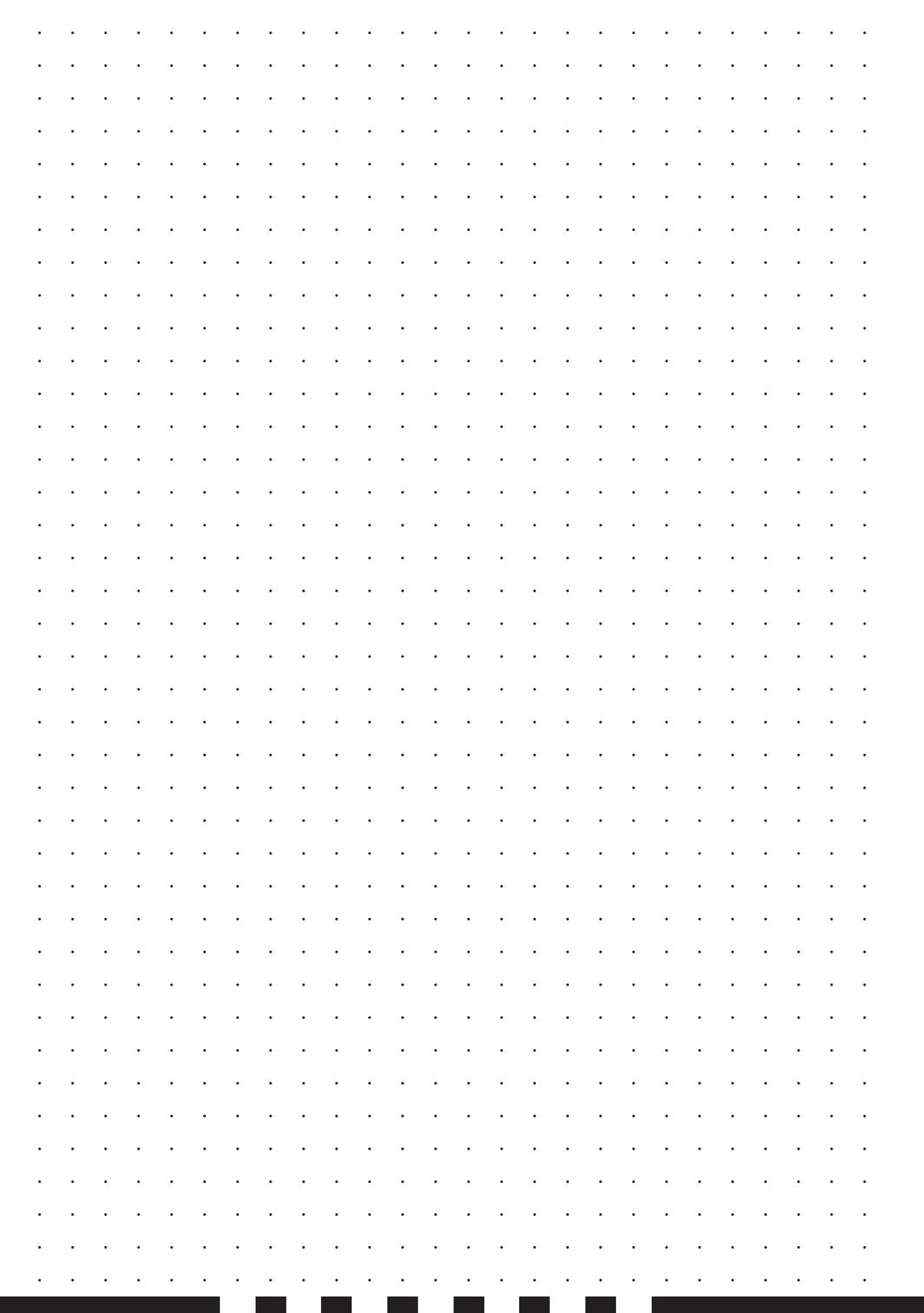


Foreword

I grew up in Almelo, in Twente. In this Dutch region, concise formulation has been elevated to an art – no bullshit, no pretence, no hypocrisy, no deception, just tell it like it is. That is exactly what needs to happen now in the sustainability discussions in the construction industry. This book contains 19,000 words, and since the average person reads 250 words a minute, you can read the whole thing in less than two hours.

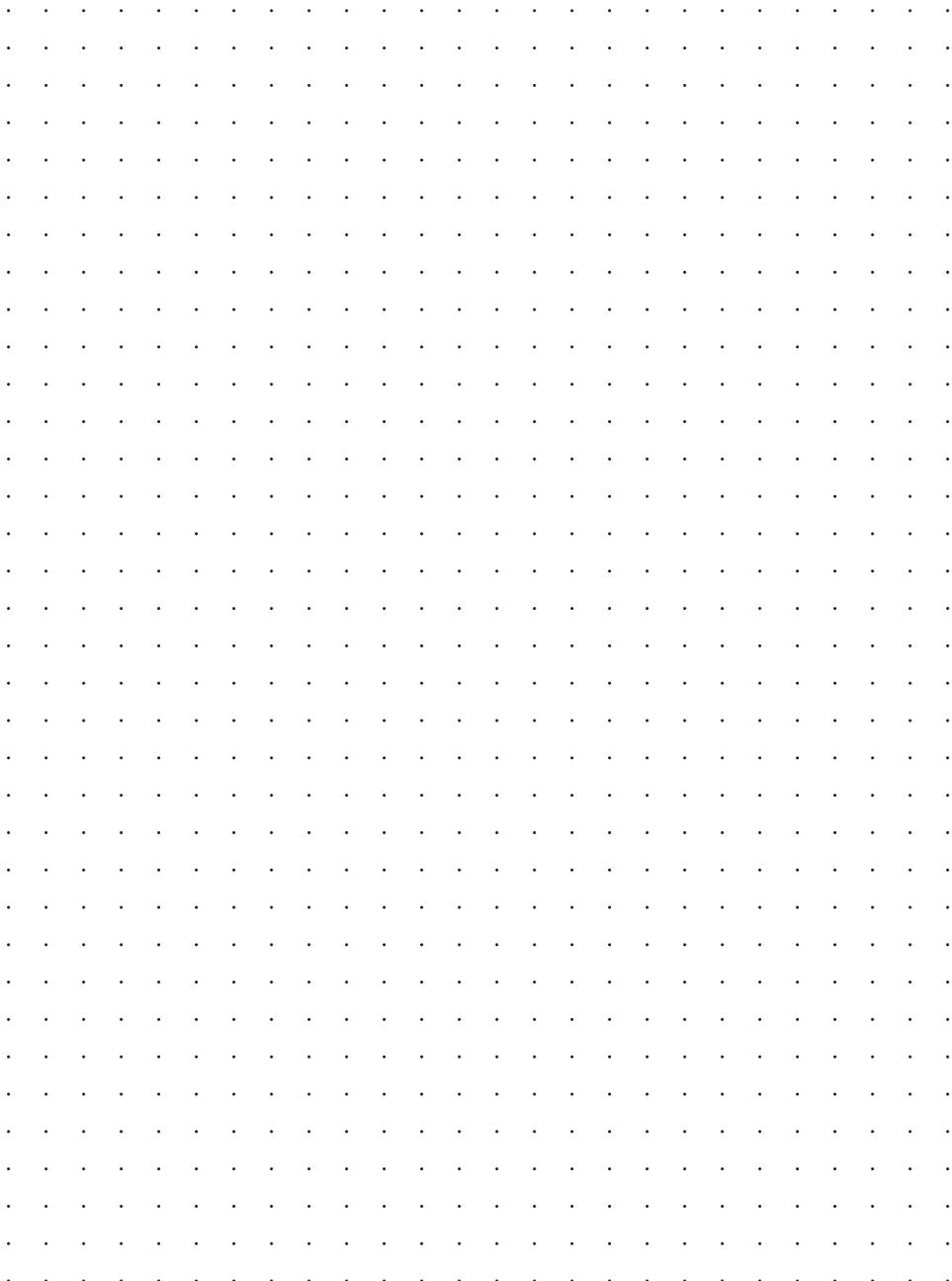
As an architect, I have been designing increasingly sustainable buildings for 15 years. But despite all the attention paid to the subject, the way we build in the Netherlands is still not sustainable enough. In fact, almost every building now being constructed around the world exacerbates our ecological problems. I am completely sick and tired of this situation, and besides, it's just not necessary. As a society we are not nearly ambitious enough, even though we already have the means to build so much better than we do. But that requires courage, looking beyond market conformity in our choices, intensive collaboration and a change in the way we collaborate in building projects. As an architect, I don't pretend to have all the answers; the only way we can do it is together with a great many partners. But the fact that you need others is no excuse for not doing what is necessary yourself first.

This compact book is meant as an accelerator, and the more people participate, the faster we can build in a radically sustainable way. I am sharing everything I know about working purposefully towards a new generation of buildings that actually do good. It gives you the insight to take steps yourself and keep everyone around you on their toes. We're going to build with a positive footprint.



Reader's Guide

This is not a reading book – this is a workbook, so pick up a pen and write down your ideas immediately! I have left enough white space. My aim with this book is to get people in motion by answering four important questions. I begin with a common starting point: why do we build so badly at the moment? To answer this, I will briefly dive into history and describe where we want to go. I will then explain the methodology for designing a new generation of buildings that do good, that purify the environment. Afterwards, I will focus attention on the fact that this is not only better for ecology; we can also enjoy our buildings even more if we build with a positive footprint. Finally, I provide practical tips on what steps to take and how to take them in concrete terms, what you will come up against and how you can act effectively to deal with this. At the back of the book, there is a toolkit for the most important steps towards achieving a building with a positive footprint. This lets you get to work right away!

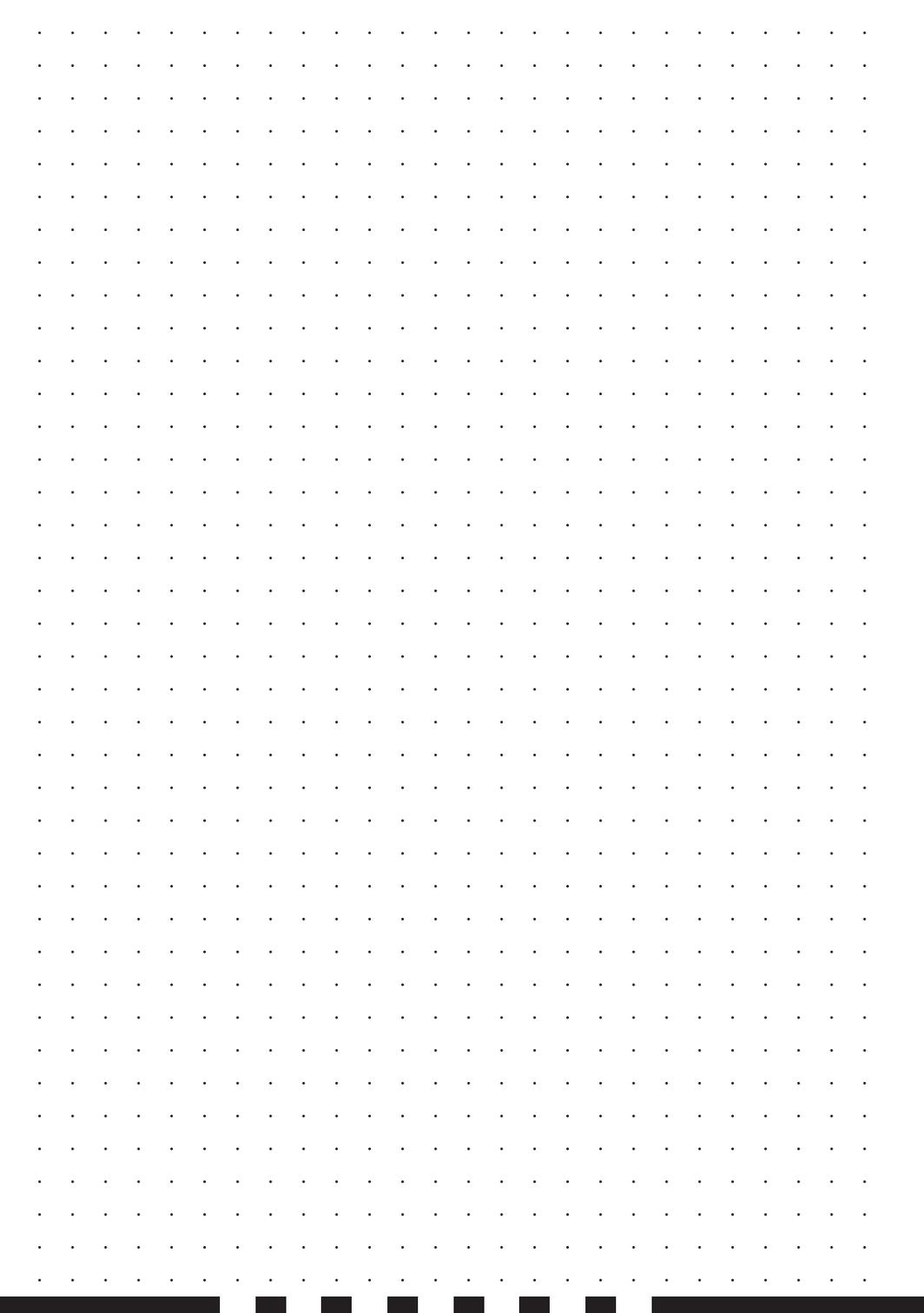


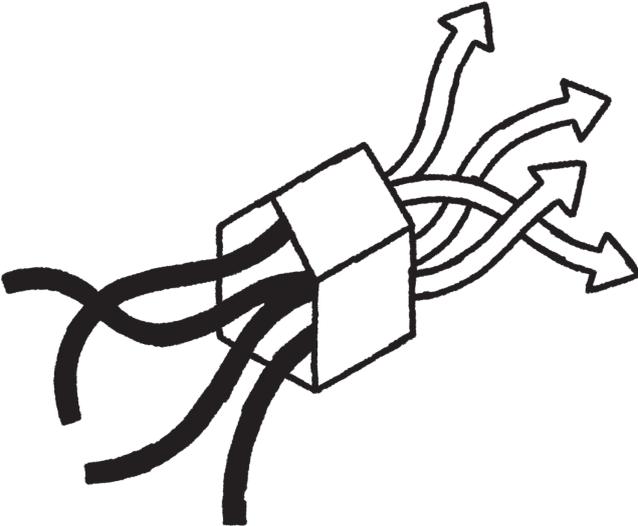
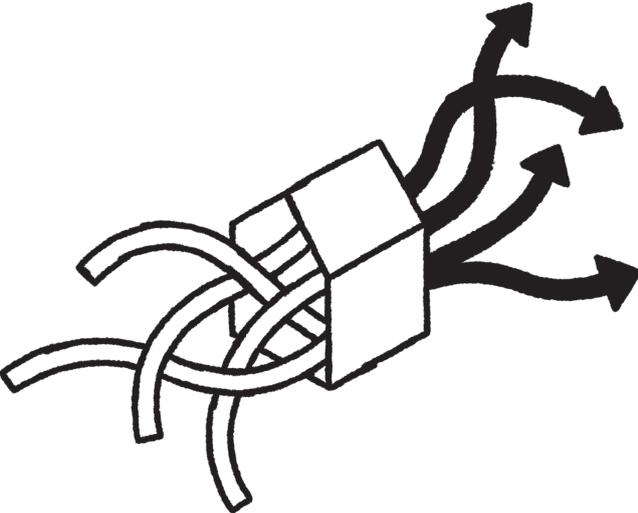
You can use this space to write notes – make this book your own! The dots help you to write or draw in a structured way.



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Make it simple:

- 1 > See what flows go into a building, and make sure they come out cleaner.**
You should be able to explain it to an eight-year-old.

- 2 > If you can't do it within the building boundaries, overcompensate.**
If you cut down one tree,
then put two or three back!

- 3 > Always communicate about this with radical honesty and share the lessons.** No slick marketing, but clear information you can learn from.

Technically this has been possible for a long time. We just have to want it.

I How Do We Design Purifying Buildings?

7 × 7 = Positive
Footprint

Air

Water

Energy

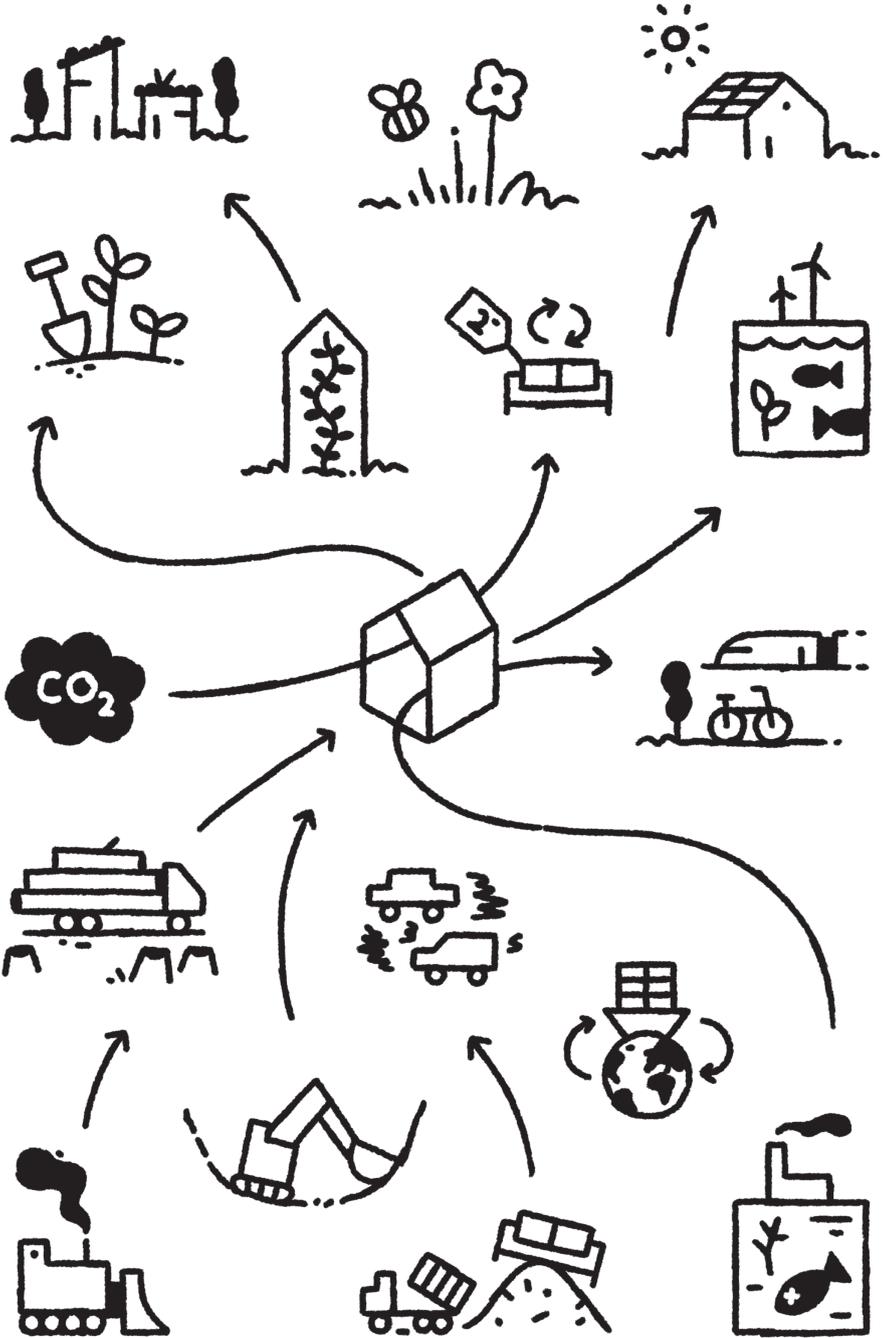
Biodiversity

Soil

Building Materials

Food





7 × 7 = Positive Footprint

This will sound ridiculous to some people. But the next bit is perhaps the most radical proposition of this book:

Determine what goes into the building, and make sure it comes out cleaner.

That is the definition of a building with a positive footprint. That is all you need to do. It is of course easier said than done. Because a great deal goes in and out of a building during its lifetime. But we are going to get there step by step. A building is a place where different flows come together. I distinguish seven of them: air, water, energy, biodiversity, soil, building materials and (waste=)food. Together, they form the basis that fulfils our physical needs and provide safety. Clean water, food, air and shelter: these are the basics we need to get right first. For all seven flows, the approach to achieving a positive footprint is the same. It consists of seven steps. $7 \times 7 =$ a positive footprint.

1 > Formulate the Positive Ambition

Make sure that this ambition is simple and understandable for everyone who wants to contribute. It may be very general, for instance: the building purifies the air. Or something more specific: the building purifies the motorway air to become forest-air quality. Make sure that your ambition is achievable, and has a net positive effect on the world, but does not include the specific direction towards a solution.

2 > Measure the Baseline Situation

In relation to what do we want to have a positive footprint? The question we want to answer here is, for example: what is the quality of the air we are drawing in now? How much biodiversity is there at the location now? What has surprised me most in my work is that this question is not asked. And no one has the knowledge at hand. Not even an indication. Ask for these 'baseline measurements' at an early stage.

3 > Harvest-focused

You know what you need to fulfil your ambition and to end in a positive position compared to the baseline situation. Now, for example, you have to harvest your energy, water and air in a smart way so that it can be used by the people. Some ways to do this are to harvest sunlight for electricity or building materials from another building. What is important is that you harvest in such a way that you can achieve a net positive effect. If you bring in dirty air, for instance, you can filter it and make sure it comes out much cleaner.

4 > Use and Enjoy Wisely

You have a clean flow. Enjoy it! And make sure that people use the flows wisely, so that the system does not become unnecessarily polluted or over-used. Keep it simple and make sure people understand how they can influence their environment themselves. For instance, by using water-saving toilets, windows that open and biodegradable cleaning products.



5 > Store What is Needed

Not all flows come in at the moment they are needed. So, save the flows for later use. In the same way, for example, that we can store heat in the summer and use it in the winter.

6 > Purify Afterwards, Out of Love

After use, you send the flow back into the environment. You purify it after use, so that it goes out cleaner than it came in. If you borrow clothes from someone, you wash them before you give them back, don't you? For example, you purify toilet water before it can go back out again. Sometimes this step also means that you have to compensate, or overcompensate, because you cannot solve something at your location. For example, CO₂ emissions released during the production or transport of a particular material.

7 > Measure and Communicate

Naturally, we want to be absolutely certain that we have a positive footprint and that is why we measure how clean each flow is as it leaves the building. This ensures that we can continue to improve the systems and we can also proudly communicate about them (again, just in a no-nonsense way please, no misleading marketing).

Voilà, c'est tout. 7 flows × 7 steps equals a positive footprint. The tangible solutions can take many forms and are unique to each building. In the continuation of this chapter, I will explore each flow and step in more detail. You can use the matrix from the toolkit to get a handle on the flows and steps.





2 > Measure the Baseline Situation

1 > Formulate the Positive Ambition

3 > Harvest-focused

**6 > Purify Afterwards,
Out of Love**

**7 > Measure and
Communicate**

4 > Use and Enjoy wisely

5 > Store What is Needed

Toolkit

1 > Select team

- Select capable positive-footprint team
- Have everyone read this book
- Personal commitment session **Toolkit 2**
- Team mission **Toolkit 2**
- Share best practices in short presentations

2 > Definition phase

- Commitment of client to ambitions
- Commitment of users to ambitions
- Build-smaller check of programme of requirements
- Compensation costs and residual value in budget

5 > Preliminary design

- Positive footprint on agenda of each meeting (also steering committee)
- Design the clean flows **Toolkit 4**
- Update matrix 70% **Toolkit 5**
- Update 5 epic moments **Toolkit 6**
- ECI calculation and compensation costs

6 > Final design

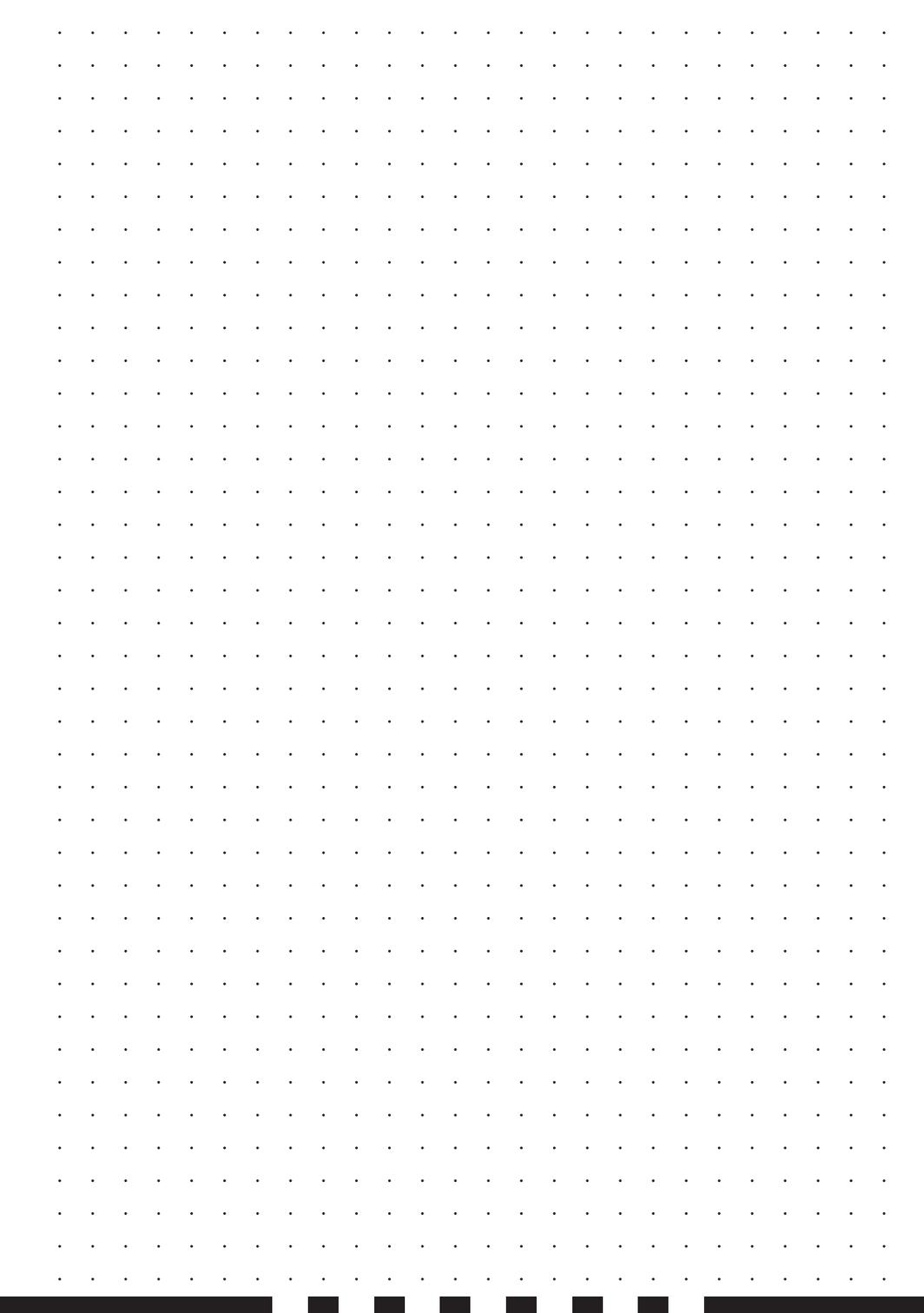
- Positive footprint on agenda of each meeting
- Design the clean flows to be robust and attractive
- Update matrix 90% **Toolkit 4**
- ECI calculation and optimize design **Toolkit 6**
- Compensation **Toolkit 6**

9 > Building taken into use

- Verify matrix **Toolkit 4**
- Onboarding for sustainable use
- Conclude sustainable maintenance contract

10 > Use

- Annual reporting on the positive footprint
- Monitor biodiversity



Colophon

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Is the world better off with your building? In 99.9% of cases the answer is 'No'. Almost every building pollutes the air, water, soil, and damages biodiversity. What if we turned that around and focused on making a positive contribution? What if buildings purify the air, water and soil, create biodiversity and generate more energy than we use? Then we will heal the world with our buildings.

What ex-Unilever CEO Paul Polman describes for companies in the book *Net Positive*, Vincent van der Meulen describes in *Building with a Positive Footprint* for the construction industry. The book offers an accessible explanation on how you can build in a radically sustainable way and explains why this is not yet happening. It provides a new method with practical leads, tools and insights to get started yourself, and especially with your team and partners.

This book is a must-read for professionals involved in the creation of a building and unites all stakeholders around this sustainable ambition.

Vincent van der Meulen is an architect and partner at Kraaijvanger Architects. He wrote this book based on his own experiences, driven by his desire to radically accelerate the sustainability of the construction industry.

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