

Mini-guide

12 (or 50?) things to check before starting a plastic recycling project

An easy checklist to get started



Key learning outcomes:

- *Get a methodology to screen and evaluate your project as you get started*
- *Be prepared to launch a plastic recycling venture!*



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The contents of this guide are proposed in **open source**

Contributions to this mini-guide are welcome → please send an e-mail to jean-baptiste@plasticodysey.org

Introduction

If you are thinking of starting a plastic recycling venture in your area and just got started, this mini-guide is made for you!

We gathered here the main key questions to ask yourself and things to investigate before getting real.

We broke down this checklist into big categories for you to follow it step by step. It is designed to be as exhaustive as possible to make sure you don't overlook key aspects of your project.

We hope this content will help you in your plastic entrepreneurship journey.

Let's get started!

1. Entrepreneurial mindset check

Starting a plastic recycling project is not so different from starting a startup in general. Having the right entrepreneurial mindset is the main key to success and as such is the first thing to check and set up.

Q1. Why? (Why do I want to build this project?)

This is the key pillar of your project and that will be the main source of your motivation to be resilient and keep going, overcoming obstacles through the ups and downs of the entrepreneurship journey. It can be a life vision and/or a business vision.

Advice: Write down your vision in one sentence, and stick to it!

Example: *"I want to get rid of plastic pollution and alleviate poverty at once in my city".*

Your vision is your North Star, guiding you even during the night and hard times. It is important to check it regularly so as not to get lost.



Q2. What? (What exactly do I want to do?)

It is important to define early on the purpose of the project to achieve the previously-stated vision. Although the vision is rather high-level, the idea is now to define the tangible goal and pathway to reach the vision.

Example following the vision: *"Set up and develop a plastic transformation venture that is including and training marginalized communities in my city".*

You can elaborate by writing your ambitions and where you want to get in 5, 10 or 20 years.

Example: *" Employ 20 people and have trained 200 young workers, have a recycling capacity of 200 tonnes of plastic waste per year by 2030 and expanded to 5 new locations by 2040".*

You can then break down the ambitious goals into more short and middle-term achievable milestones.

The answer to the "What?" question should ultimately describe the main activities of your enterprise: products and/or services that you will offer.

Example: "Products: Benches and tables for the schools and offices of the region and Services: trainings and enterprise seminars to teach the importance of sorting waste in schools and offices with regular waste pickups"



Q3. How? (With what resources?)

Then to make it happen, you need to list out the means to get to it:

- experience and know-how (example: business knowledge, market study etc),
- human resources (example: operators, trainers and sales person,
- financial resources (example: 10,000\$ to get started with a prototype and then 100,000\$ fund raising to build the full-scale solution),
- technical solutions (example: machines, equipments, etc),
- partners (example: public, private, NGO partners bringing complementary skills etc),
- logistics (example: a land, a vehicle etc)
- legal (example: a legally-registered company or NGO)

We will elaborate on these respective points in later questions.



2. Project feasibility check

In this section, this is getting even more real as we will address the key questions of the project feasibility within the defined situation (chosen location, activities etc).

The methodology is extracted from a paper published by J.B Grassin and H. Dijkstra entitled: **Plastic Venture Builder (PVB): An empirically derived assessment tool to support plastic waste management ventures in low- and middle-income countries** (June, 2023).

Feel free to tick the boxes as you go and verify that you are on track!

Q4. How is the political situation and public sector commitment? 📖

In the waste management business, unfortunately there are things that you cannot or hardly control, this is the case of the political environment and whether yes or no, there is a favorable situation to launch a plastic recycling project in a defined location. Here are below a few sub-questions that are important to consider:



Q4.1. (Inter)national commitment: *Is there a strong (inter)national commitment to plastic waste management?*

Some countries have established frameworks or public policies that clearly encourage waste management initiatives, plastic reduction and effectively enforce them. Some countries are struggling to enforce such policies or are lagging behind. This is highlighted for instance by the negotiations of the Plastic Treaty through the INCs (example: INC-3 in Nairobi in November 2023) where Kenya is establishing a clear leadership (also HQ of the UNEP). It is important to understand and be aware of how it works in the country we want to set up a project in as it can have a strong influence on its success or failure.

Q4.2. Local commitment: *Is there a local governance commitment to solving the problem? Is this reflected by enforcement of policies? E.g. support of local mayors*

→ **What is your link with the government: national, local? (to potentially engage on the question of waste)**

Q4.3. Prohibitive institutional context: *Is the project free / not affected by corruption, lobbies, mafia influence? Is the project free from prohibitive conditions, for example an election year?*

Q4.4. Support from the public sector (non-financing): *Is the government/municipality supporting the project?*

Q4.5. Government waste program: *The government/municipality has no competitive waste management scheme (at best it is complementary)?*

Q5. How is the economic situation and market in my area? 🇩🇪

Q5.1. Market traction for final products: *Is there a market? Are there (sufficient) buyers for your product(s) made of recycled plastics?*

→ **It is important to understand the market through a market study: you can check this [mini-guide](#) to get deep into it.**

Q5.2. Supply: *Is there sufficient access to feedstock at a reasonable cost, no competition etc.?*

Going further, have you conducted an assessment of the waste management situation in your targeted area (directly or through available reports or studies)?

If not, it is necessary to have an understanding of:

- the amount of plastic waste generated on a daily/monthly/yearly basis in the targeted area (direct source or extrapolate from consumption per habitant x population)

Example: 10,000 people with a consumption of plastic waste of 0,06 kg/day/pax means 219 tonnes generated per year.

- the type and % of each type of plastic waste (e.g. 20% of HDPE with 1.2 t / week etc): to be applied if possible to PET, Other rigid plastics (HDPE, PP), LDPE, EPS/PS, PVC, sachets, mixed plastics, etc.
- the share of plastic waste collected / recycled or landfilled vs plastic leakage
- **Cost of feedstock:** what is the price of waste from waste pickers or junk shops / aggregators (if applicable)
- existing waste management scheme in the region (pre-collection, collection, waste aggregator, recyclers, public or private initiatives / informal or formal waste picking?)

Q5.3. Competition and alternatives: *Can the product be competitive compared to alternatives? Considering price, quality, ability to deliver etc.*

For this, you will need to make a business model and financial projections first by computing data also including the cost of products on the market, utilities (water, electricity, fuel, etc), the cost of workforce for operators / workshop manager positions and non-operating staff.



Q5.4. Potential for scale-up: Does the project have growth perspectives (volumes, sales, geographic expansion)?

Q5.5. Side economic activity: Is there a side activity (franchising, consulting, etc) bringing in additional revenue?

Q5.6. Market stability: Can the business have a stable portfolio of clients and steady income?

Q5.7. Sufficient incentives along the value chain: Can each level of the value chain be incentivized to participate / function effectively?

Q6. What are the financial sources available for my project? 🏦

Q6.1. Self-funding: Can the project self-finance with limited external funding? E.g. Low capex with support for initial costs

Q6.2. Corporate support (funding): Can the project benefit from corporate sponsorships and funding?

Q6.3. Subsidies from public sector: Can the government/municipality directly subsidize the activity?

Q6.4. Grants: Can the project benefit from any grant from individuals, incubators, international alliance or foreign government? (e.g. crowdfunding, startup prize, call for proposal etc)

Q6.5. Loans: Are there loans available from (development) banks or international alliances?

Q6.6. Ethical source of funding: Does the project ethically consider the source of funding? E.g. funding from chemical / oil and gas companies, pure greenwashing

Q6.7. Access to plastic credit funding: Can the project leverage plastic credits or offset to help financing the operations?

Q7. Does my project include a social component with an additionality? 👤👤

What is your link with communities in villages and cities in your area?



Q7.1. Communication/awareness raising: Does the project plan to have a strong capacity to communicate/ raise awareness while operating?

Q7.2. Improved treatment of workers and waste pickers: Does the project wish to improve treatment of workers or waste pickers, which could be in terms of wages, social protection, status, cooperatives, health, education etc.

Q7.3. Added value on current waste management: Does the project plan to add waste management services or functions that are needed in the community?

Q7.4. Involvement of the community in the project: is the project designed for and with the local community? Is it considering the local religion, working culture etc.

Q7.5. Plastic pollution awareness: Is the population aware of the problem? Adjusting their behavior?

Q8. What are the required and most adapted technical solution(s) for my project?

Q8.1. Fit-for-purpose technology or innovation: what are the ad hoc solutions for my project? Is the project introducing a technology or innovation that increases effectiveness compared to available alternatives?

Q8.2. Machines built on site: is it possible to build the recycling machines at the local/national level or does it need to be imported?

Q8.3. Product innovation or design: Is there a need for a unique innovation regarding the final products, considering the local and regional context for my project? If yes, do you develop it internally and/or with external partners?



Q9. What are the operational needs for my project?

Q9.1. Access to land: do you have access to a land or warehouse to operate? Do you need to rent, buy or can you negotiate a land with the municipality to get started?

Q9.2. Local technical capacity: Does the project have the capacity to maintain and adapt recycling machines or equipment for its own purposes with limited resources? Are there in-house engineers or local technical partners or is there a need to hire or find partners?



Q9.3. Transport infrastructure: Are there existing functioning transport systems that connect operations? Such as roads, shipping routes etc.. access to gasoline

→ You can build a map of this to check the logistics with access to feedstock and clients.

Q9.4. Access to energy/electricity and water: Is there easy access to reliable energy/electricity and current water? Are there any power cuts?

Q9.5. Health or safety risks: can the operations be safe and well-managed in terms of health risks?

Q9.6. Access to fit-for-purpose feedstock: Is there a reliable and stable access to fit-for-purpose feedstock for the operations?

Q9.7. Ability to scale the operations: Does the project have the capacity to grow/scale the equipment and processing? (It can be internal or external capacity)

Q10. What kind of team do you need for your project to succeed?



Q10.1. Strong management team: Does the management team have what it takes to successfully lead the project? Is there a good balance between local expertise and experience and global perspectives and networks? Is there full local ownership to ensure continuity?



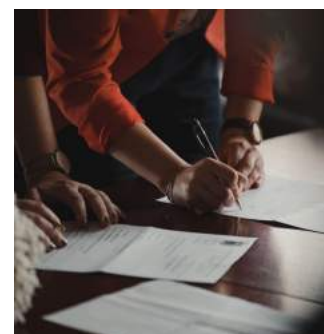
Q10.2. Organizational capability: Has the team been properly chosen and trained for the job? Is there employee retention?

Q10.3. Organizational credibility: Is the organization building a good reputation and respected within the local context?

Q10.4. Fruitful partnerships: Does the project have fruitful partnerships with other stakeholders in the ecosystem? E.g business partners, local or international NGOs

Q11. What about the legal aspects of building such a project?

Q11.1. Be legally conscious: Is the project set up within the national and local regulations (legal structure: company or NGO depending on the purpose etc) and legal requirements (license to operate if necessary etc) ? The project has no legal risks?



Q11.2. Favorable institutional context: Is there no potential for bureaucratic or legal obstacles to block the project?

Conclusion

Q12. Final question: are you now ready to make a difference? 💪

There is a time to plan and a time to act. The limit is usually hard to find and some tend to over-analyse while some tend to get to actions (too) fast.

The best way is to progressively get to action through live tests (on-site study with interviews, meetings, field research and pitching sessions), iteration and prototyping with live demonstrations of the solution (MVP).

It is normal not to have clear answers to all the above questions. However, it is crucial to be aware of them and anticipate.

At every step of the journey, don't forget that you are not alone and that you can leverage your community and fellow project leaders and entrepreneurs so do not hesitate to reach out!



It's now up to you to take this knowledge and apply it to the environment around you.