

TOOLKIT

Sustainable Design Thinking

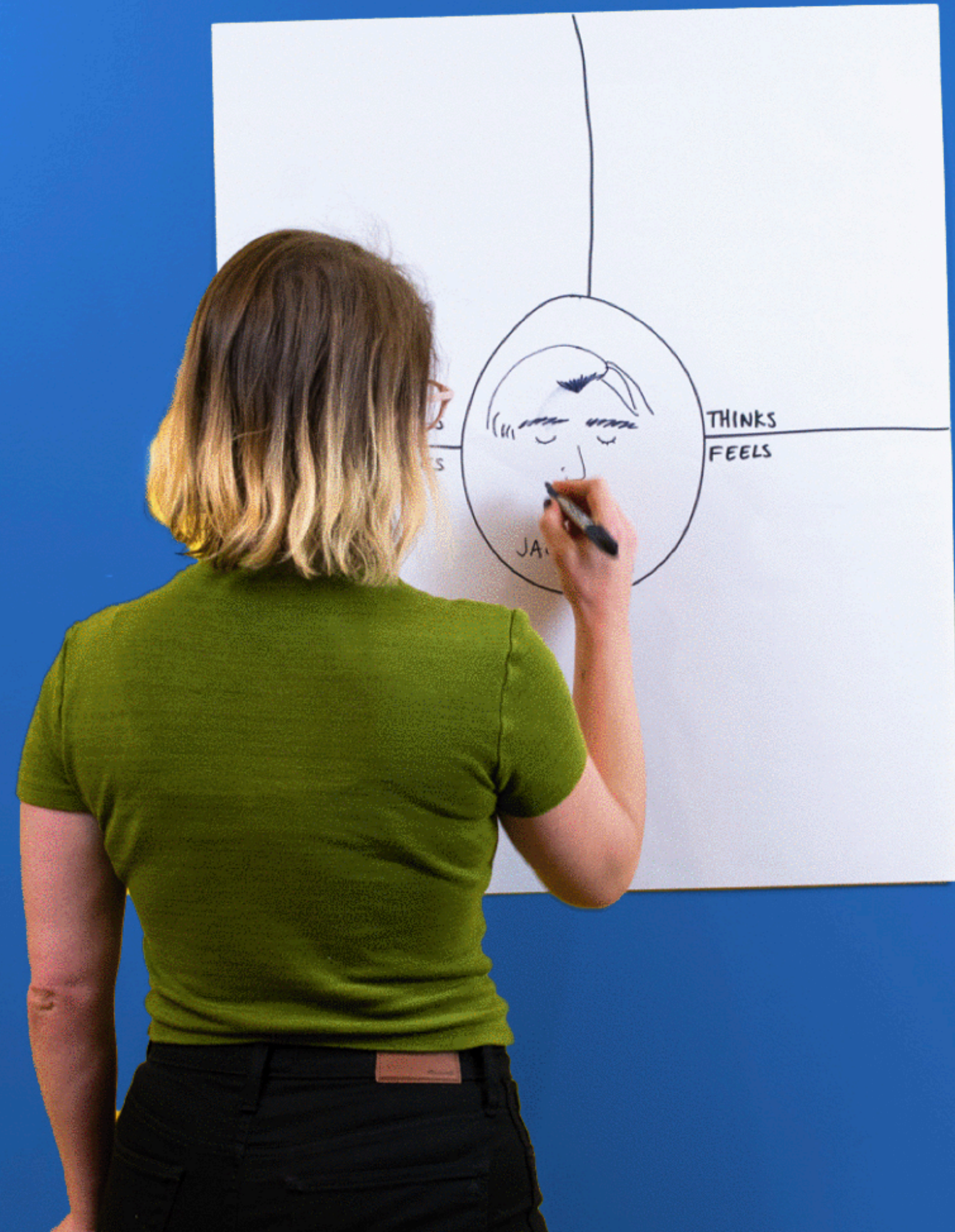


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TOOLKIT

Background

BACKGROUND

Enterprise Design Thinking

How do we better understand our users?

How do we deliver breakthrough solutions that fulfill our users' needs?

How do we do this at enterprise speed and scale?

Odds are that these are familiar questions, but somehow, the answers seem to be just out of reach. Enterprise Design Thinking begins with a set of principles that get to the heart of these questions. These principles provide the foundation for delivering solutions that meet or exceed your users' expectations. To be successful, they must speak to your team's heart as well as head.

We think the systems of the world should work in service of people. At the heart of our human-centered mission is Enterprise Design Thinking: a framework to solve our users' problems at the speed and scale of the modern enterprise.

WHAT IS DESIGN

**Design is the intent
behind an outcome.**



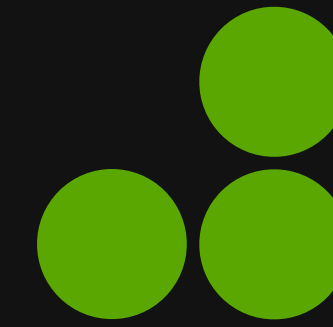
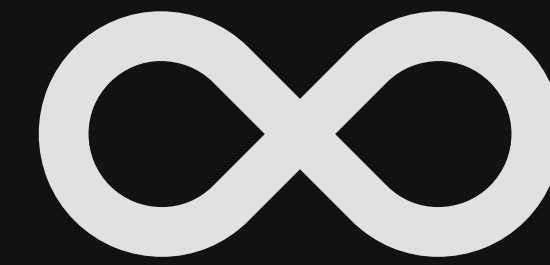
**Human-centered outcomes
require empathy for the
people you serve.**

**Solving complex
problems requires us
to work together
across differences.**

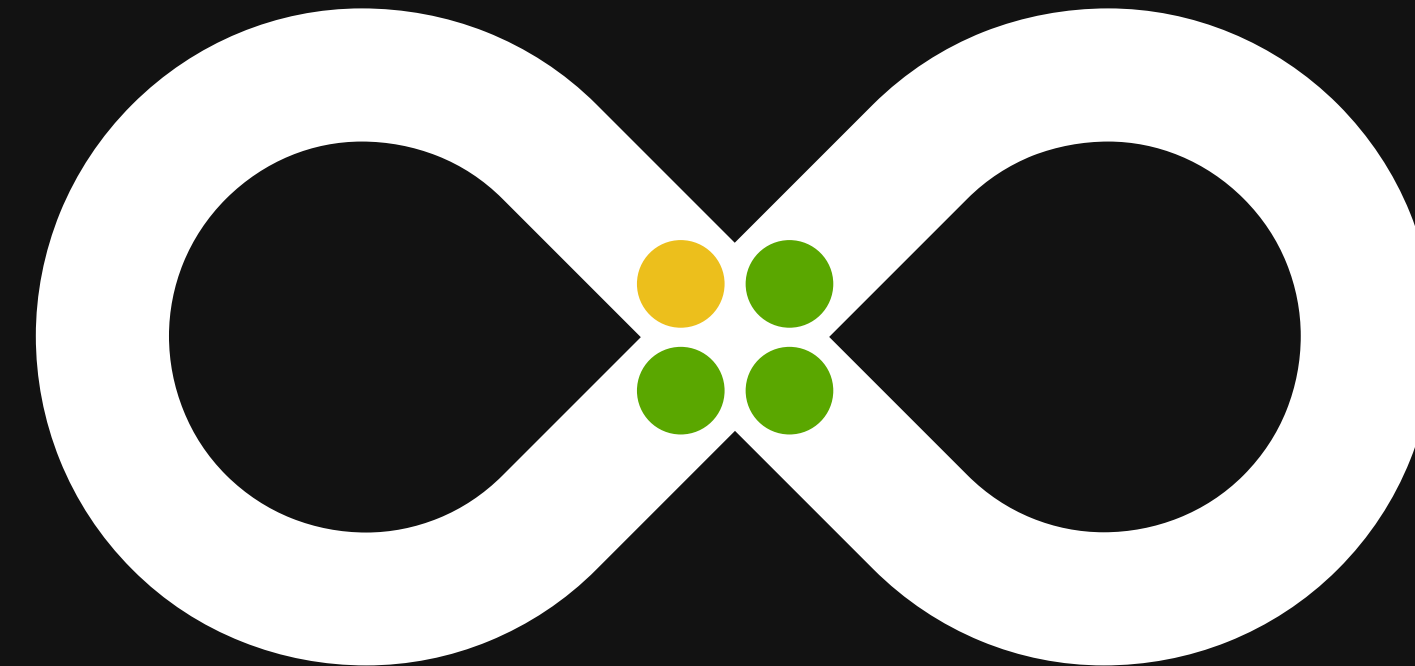
**Why
Enterprise
Design
Thinking?**

WHAT IS DESIGN THINKING

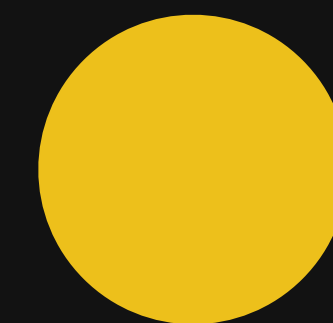
Principles



The Loop



The Keys



SUSTAINABLE BY DESIGN

**Enabling a
better future by
design requires
a mindset shift**

80%

of the environmental impacts of a product are locked in at the design phase.



\$1 trillion

is the expected cumulative cost of climate change on businesses within the next five years, across sectors and industries.

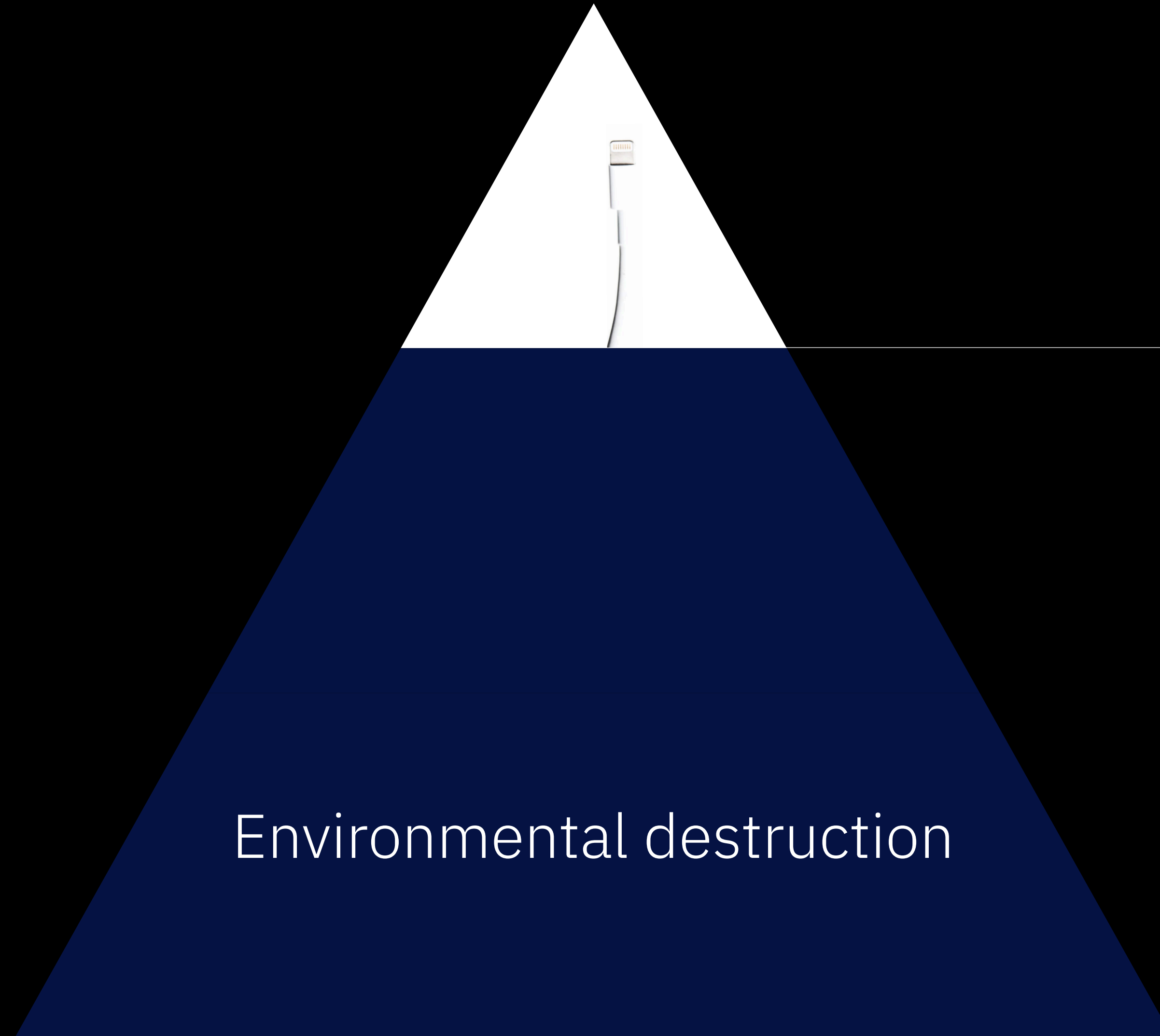


72%

Of companies said that climate change presents risks that could significantly impact their operations, revenue and expenditures.



Invisible impact



Invisible impact

- The sustainability impacts that our users might not see, but are a consequence of what we have created.
- As creators, we are responsible for the impacts of our products, even if they seem invisible to our users.

Designers are in the best possible position to create with sustainable intention in mind

Enterprise Design Thinking is
a framework for delivering
great experiences for your
users.

Sustainable Design Thinking
is a framework for delivering
great experiences for your
users, their children and
grand-children.

Sustainable Design Thinking
drives the intent to create a
future-proof outcome.

Links to Additional Resources

IBM Design

Regarding the IBM Design Program:

- Framework & Approach to Enterprise Design Thinking : www.ibm.com/design/thinking
- Documentary film on IBM's Design transformation (2017) - Full Documentary film (2017) - Complete (~25 minutes): http://ibm.biz/TheLoop_movie
- Forrester – Total Economic Impact study of IBM's Design Transformation: http://ibm.biz/forrester_designimpactstudy
- New York Times article (2015): <http://ibm.biz/nyt-ibm-design>
- Fortune article (2018): <http://ibm.biz/fortune-ibmdt>

Regarding design thinking in the enterprise:

- McKinsey – The Business Value of Design: <https://www.mckinsey.com/business-functions/mckinsey-design/our-insights/the-business-value-of-design>
- Harvard Business Review (Sep 2015): <https://hbr.org/2015/09/design-thinking-comes-of-age>

TOOLKIT

Facilitator tips

PLANNING YOUR WORKSHOP

How should you use this toolkit?







This toolkit outlines activities that *can* be undertaken to design for sustainability. You may find not every activity is appropriate for your problem space or project.

- Take time to consider the sustainability agenda for your problem space, as well as the challenges in the community and industry.
- Carefully consider each activity and the value it will drive for understanding your users and how to design appropriately within your problem space.
- Understand the goals for each activity presented and whether it answers the “right” questions you are solving.
- Consider which activities you need to further develop not just *user empathy* but *climate empathy* too.

Understand



-  Sustainability Goals
-  Stakeholder Mapping
-  Sustainability Pledges
-  Framing Sustainability
-  Empathy Mapping
-  As-Is Journey

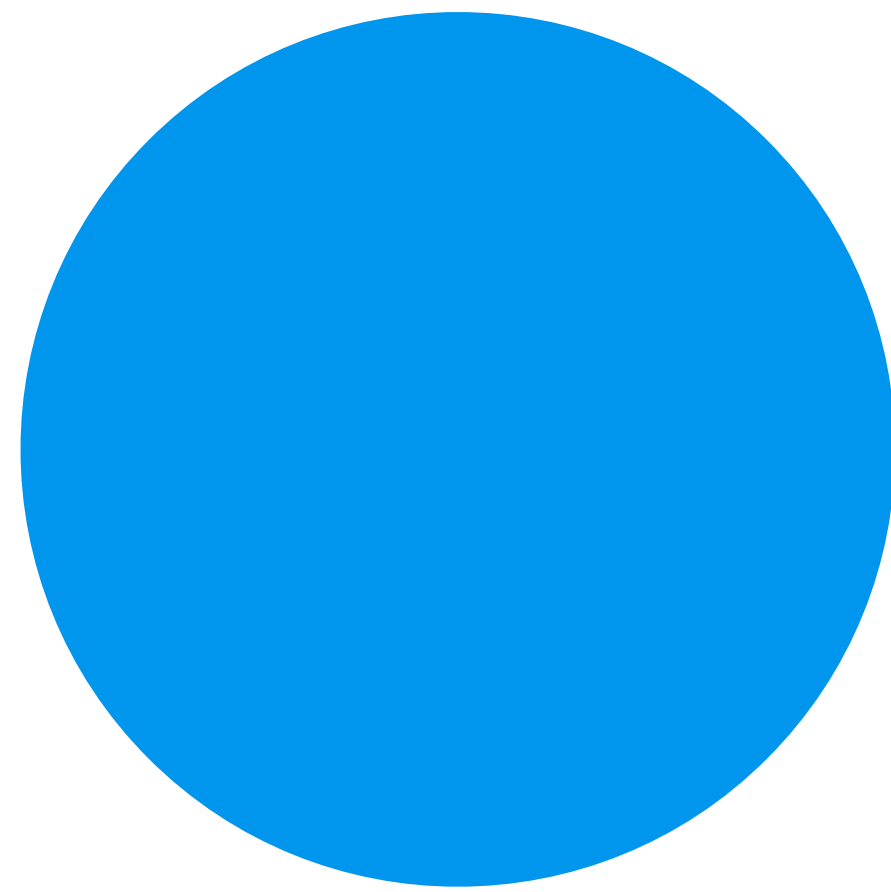
Envision a better future

-  Needs Statements
-  Big Ideas: Vignettes
-  Big Ideas: Biomimicry
-  Big Ideas: Sustainability Prompts
-  Prioritization Grid
-  Idea Valuation

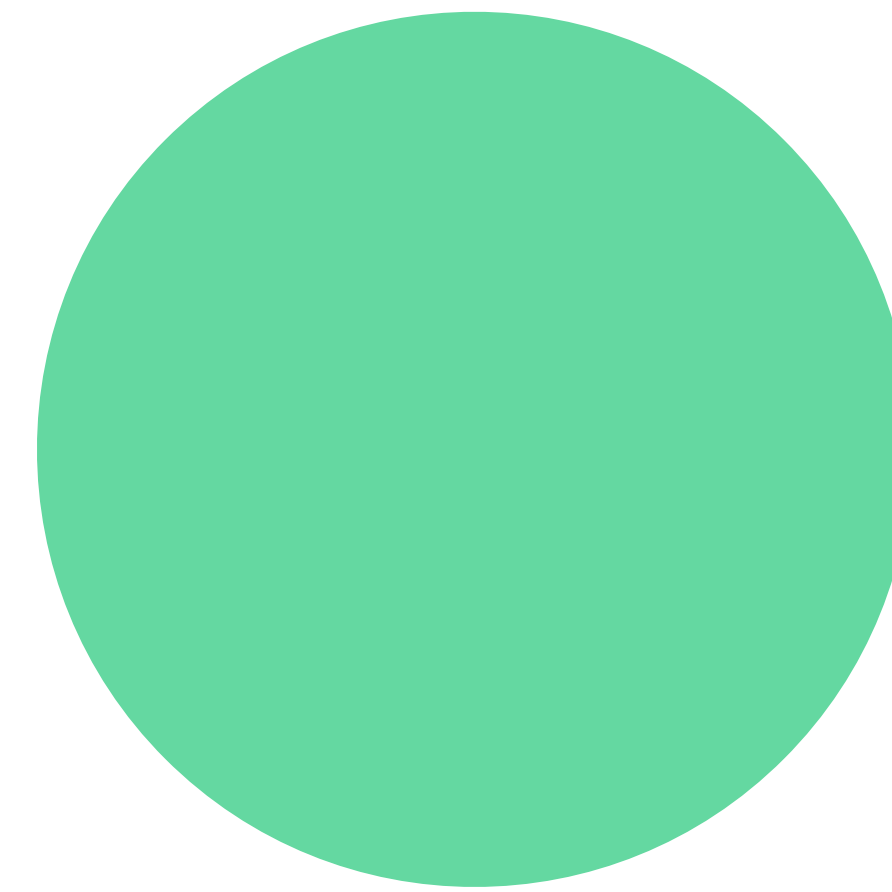
Deliver

-  Hills
-  To Be Scenario Map
-  Layers of Effect (Knowledge)

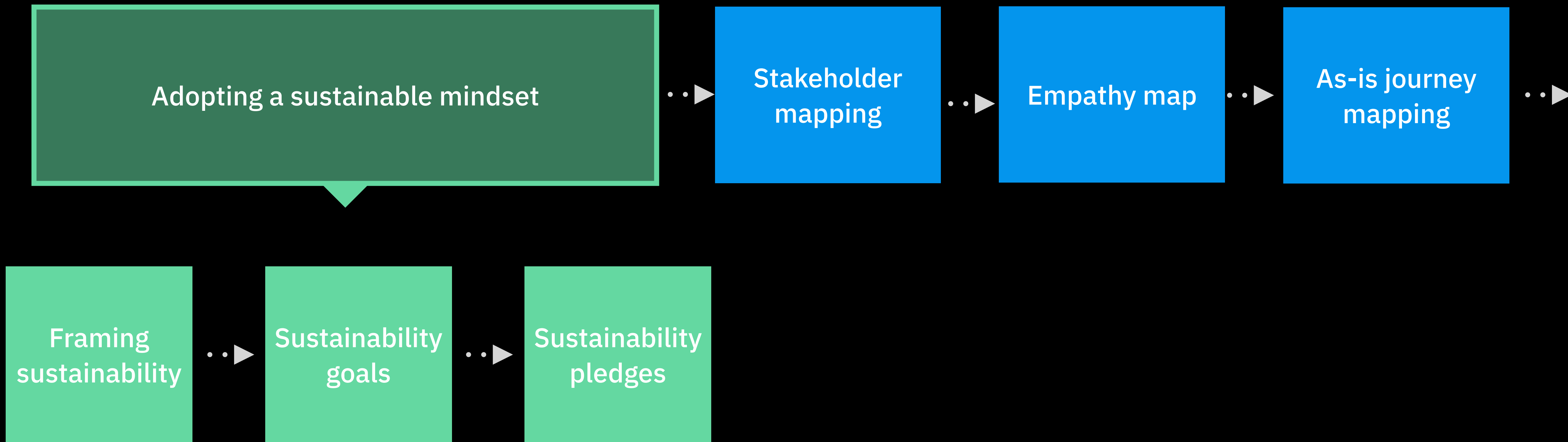
-  Modified Design Thinking activities
-  New Sustainable Design Thinking activities



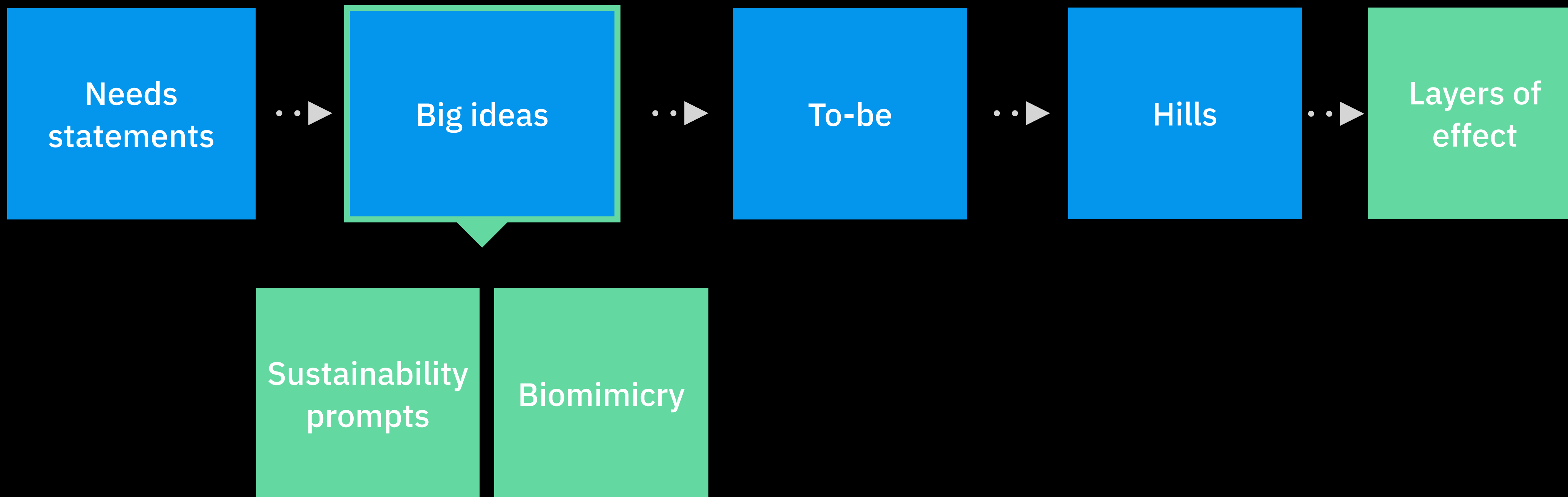
**Modified Enterprise Design
Thinking activities**



**New Sustainable Design
Thinking activities**



- Modified Design Thinking activities
- Sustainability activities



- Modified Design Thinking activities
- Sustainability activities

When should you use this activity?

		What does your team need to do?									
This stuff can help your team do it.		Understand our users and planet impact	Explore new ideas to reduce planet impact	Create an Experience-Based Roadmap	Write or refine Hills	Identify and validate assumptions	Research the long term sustainability of a product	Engage customers or users in a project	Align as a team on future-proofing goals	Ramp-up teammates' domain knowledge	Work better together as a multi-disciplinary team
		Organize what you know about your planet impact and users —and what you don't.	Think together as a team about new ways to future proof your product or service	Plan and scale the next near term phase of your work and your future vision.	Combine user value with market differentiation into a set of measurable outcomes for your next release.	Check your team's collective knowledge: what are the unknowns that will help inform the research?	Research and understand your product's future and impact.	Co-create artifacts with your actual users or clients—design thinking and research in one!	Helpful for new teammates or at the start of a new project.	Get teammates alike up-to-speed on your product or service's technology, key users, and ecosystem.	How does your team work together now? What pain points exist? How can you address them? You are your own users!
Sustainability Pledges or Goals			1						1		1
Framing Sustainability					1	1				1	
Stakeholder Map		1					1	1	2	2	2
Empathy Map & Personas		2		1	2	2		2	3		3
As-is Scenario Map		3	2		3		2	3	4	3	4
Value Chain		4					3				
Big Ideas: Vignettes					5 option						
Big Ideas: Biomimicry					5 option						
Big Ideas: Sustainability Prompts			3		5 option						6
Prioritization Grid or Idea Valuation			4		6						
Needs Statements		5		2	4			4		4	5
Experience-Based Roadmap				3							
Hills Writing			5		7						
Storyboarding		6		4				5			
To-be Scenario Map					8						7
Layers of Effect			6	5	9	3	4				
Assumptions & Questions		7		6		4	5		5	5	
To Dos			7	7	10						8

APPROACHING SUSTAINABILITY

Defining Sustainability

Before you get started, it is important that you understand some key concepts relative to Sustainability, in order for you to be equipped in later assessing your audience’s level of maturity and knowledge in relations to these.

Some key definitions can be found below, but [we highly recommend that you check the additional materials in the Appendix section.](#)

Sustainable Development	“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” <i>The Bruntland Commission</i>
Global Risks	In its Global Risk Report 2020, the World Economic Forum ranked 5 environmental challenges as the top business risks: extreme weather, climate action failure, natural disasters, bio-diversity loss and human-made environmental disasters.
Circular Economy	Principles rest on designing out waste and pollution, keeping products and materials in use, and regenerating natural systems. Historically the circular economy principles have taken root slowly and gradually.
Sustainable Development Goals (SDGs)	Adopted in 2015 to achieve a more sustainable future, they address issues like inequality, poverty, climate change, environmental degradation, peace & justice. They are a set of 17 interconnected goals o/w 169 targets to reach by 2030.

Source: “Climate and Sustainability Market View” (January 2021) IBM MD&I

TOOLKIT

Icebreaker

Design a vase.

Design a better way for
people to enjoy flowers
at home.

Design a better way for
future generations to
enjoy flowers at home.

What did we learn?

**Design a
vase**

Product

**Design a
better way
for people to
enjoy
flowers at
home**

Experience

**Design a
better way
for future
generations
to enjoy
flowers at
home**

Sustainable experience

TOOLKIT

Understand

TOOLKIT

Sustainability Pledges

INTRODUCTION

Why do you use this activity?

Use this activity to encourage participants to share their intentions and aspirations related to sustainability.

This helps teams align on sustainability goals later on.

INTRODUCTION

What are the benefits of this activity?

By committing to individual sustainability pledges, participants are more likely to keep their values in mind during the design process.

It's also a great way to strengthen the aspirational bonds among the group.

INTRODUCTION

When should you use this activity?

Use this activity at the beginning of a workshop to get participants to find common ground through sharing their higher motivations.

INTRODUCTION

We suggest **30 minutes** for this activity.
How much time you spend is up to you!

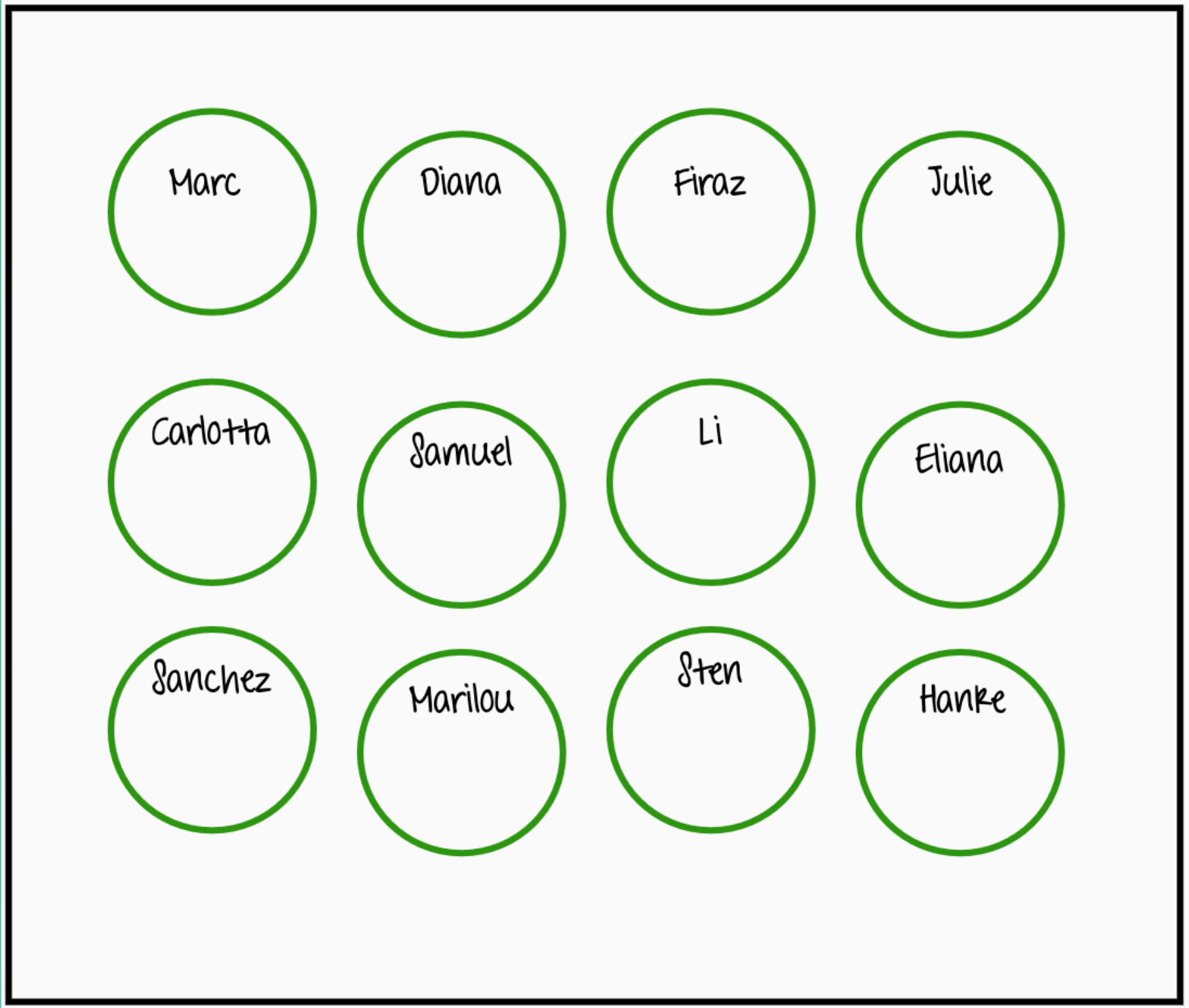
- **Write before you talk.** Write or sketch lots of your ideas on sticky notes *before* talking about them.
During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users.** Tell stories about users to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

SET UP

Give each person in the room a space to lay their pledge down.



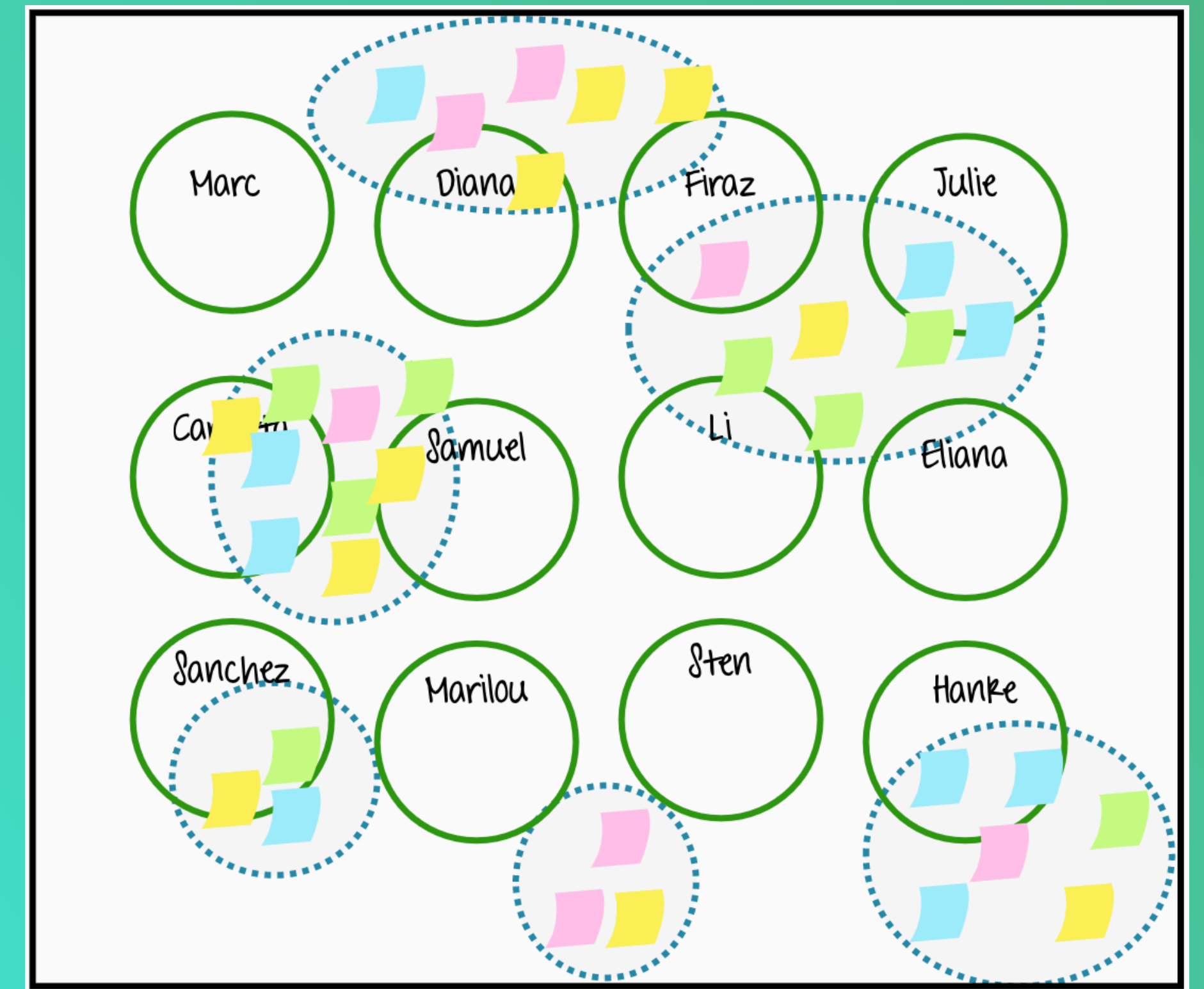
DIVERGE

Ideate silently on what you pledge to do to build a more sustainable world. Allow 5 minutes for each person to add their pledge (no talking!)



CONVERGE

Discuss what the ideas are on the board and where they overlap. Cluster and draw circles - name your themes so you can build from these into specific project goals.



Choose one to two people to present the Sustainability Pledges.

-
- A man with curly hair and a beard, wearing a grey t-shirt and a light blue button-down shirt, stands on the left. A woman with dark hair, wearing a white cardigan over a teal top and patterned pants, stands on the right, gesturing towards a whiteboard. The whiteboard is covered with numerous colorful sticky notes (yellow, orange, pink, blue) containing handwritten text. Some notes include 'F1 Race', 'Hippo', 'S', 'X', 'J', 'W', 'The One True', 'Schitt's Creek', 'Adrian City Limits', 'LIT Football game', 'Go Square', 'LIT', 'cool coffee shop', 'cool bar in the city', 'cool bar in general', 'Franklin's BBQ', 'Ice cream at the fair', 'Food', 'Rodeo', 'big bike ride', 'Local artist', 'Hess Out', 'Franklin's BBQ', 'Ice cream at the fair', 'Food', 'Tentative', 'Adrian City Limits', 'LIT', 'cool coffee shop', 'cool bar in the city', 'cool bar in general', 'Franklin's BBQ', 'Ice cream at the fair', 'Food', 'Rodeo', 'big bike ride', 'Local artist', 'Hess Out', 'Franklin's BBQ', 'Ice cream at the fair', 'Food', 'Tentative'. The background shows a modern office setting with large windows and a blue chair.

TOOLKIT

Stakeholder Map

INTRODUCTION

Why do you use this activity?

Bring your team together to capture what you collectively know about your stakeholders and their interests.

INTRODUCTION

What are the benefits of this activity?

It empowers everyone to communicate more directly and effectively, while also serving as a great tool to onboard new team members.

INTRODUCTION

What are the benefits of this activity?

It also helps prevent neglecting stakeholders, especially the different groups related to sustainability.



Many stakeholders with varying scopes and priorities in regard to the same company.

Source: IDC 2020

* ESG is the framework used by businesses to assess their progress towards sustainability, by assessing their performance against Environmental, Social and Governance criteria.

INTRODUCTION

When should you use this activity?

Every project has people with direct stakes in the outcome. That's why it's important to identify and engage with your stakeholders as early as possible.

INTRODUCTION

What do I need to know?

You might not map all stakeholders in one setting. You might need multiple sessions with different stakeholders. Share the knowledge with the team as you add new groups and connections to your map!

INTRODUCTION

We suggest **30 minutes** for this activity.
How much time you spend is up to you!

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During discussions, capture the main points on sticky notes and post to the wall.
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- **Stay focused on your users.** Tell stories about users to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

IDENTIFY

On your whiteboard, large sticky pad, or virtual whiteboard, identify people involved with or impacted by the project. Make sure to include specific names and roles. Do this individually and silently at first.



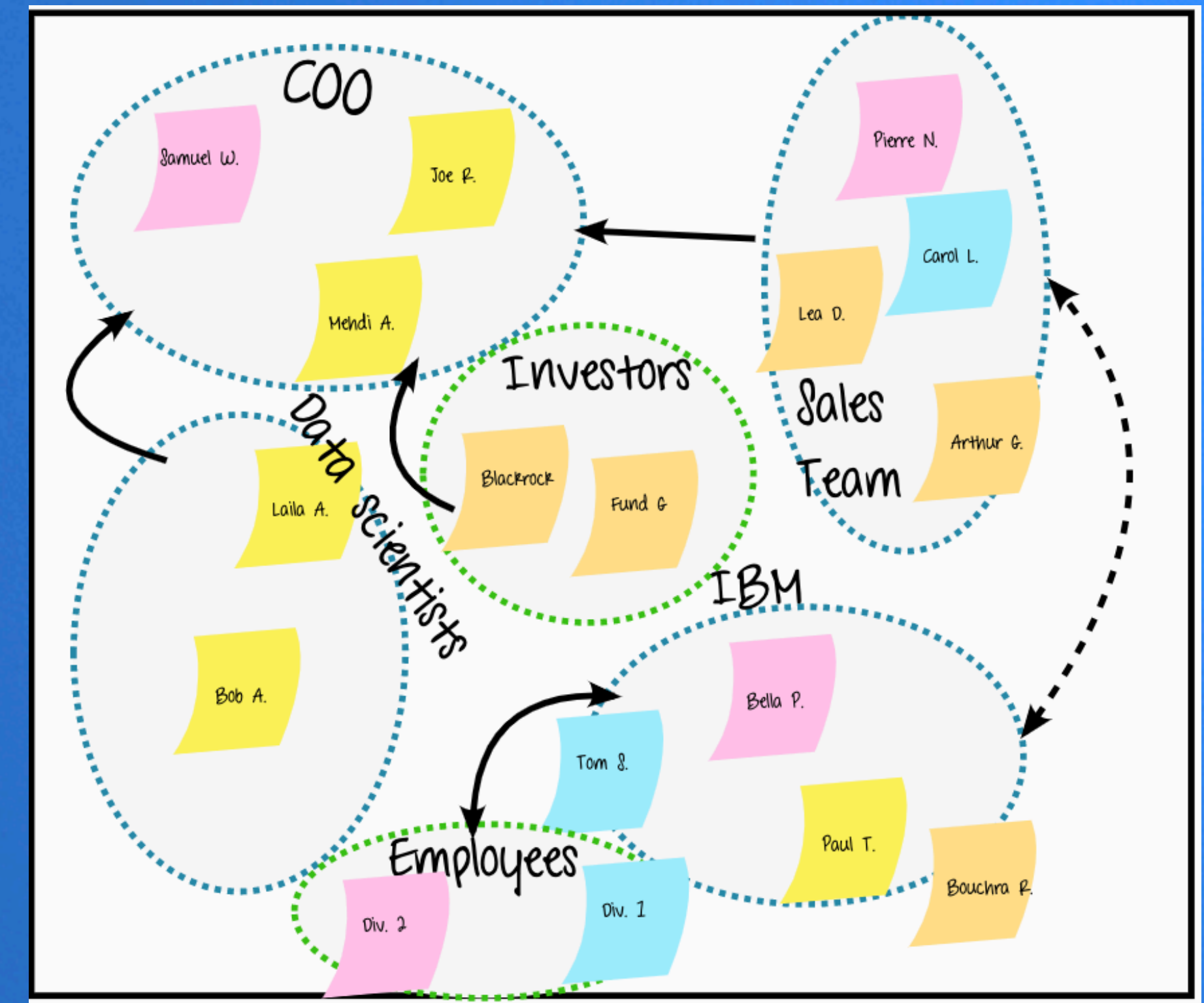
CONVERGE

Look at all the people you've identified so far. Are there any that overlap? Did you miss anyone? Come together as a team and make sure you have all of your stakeholder documented.



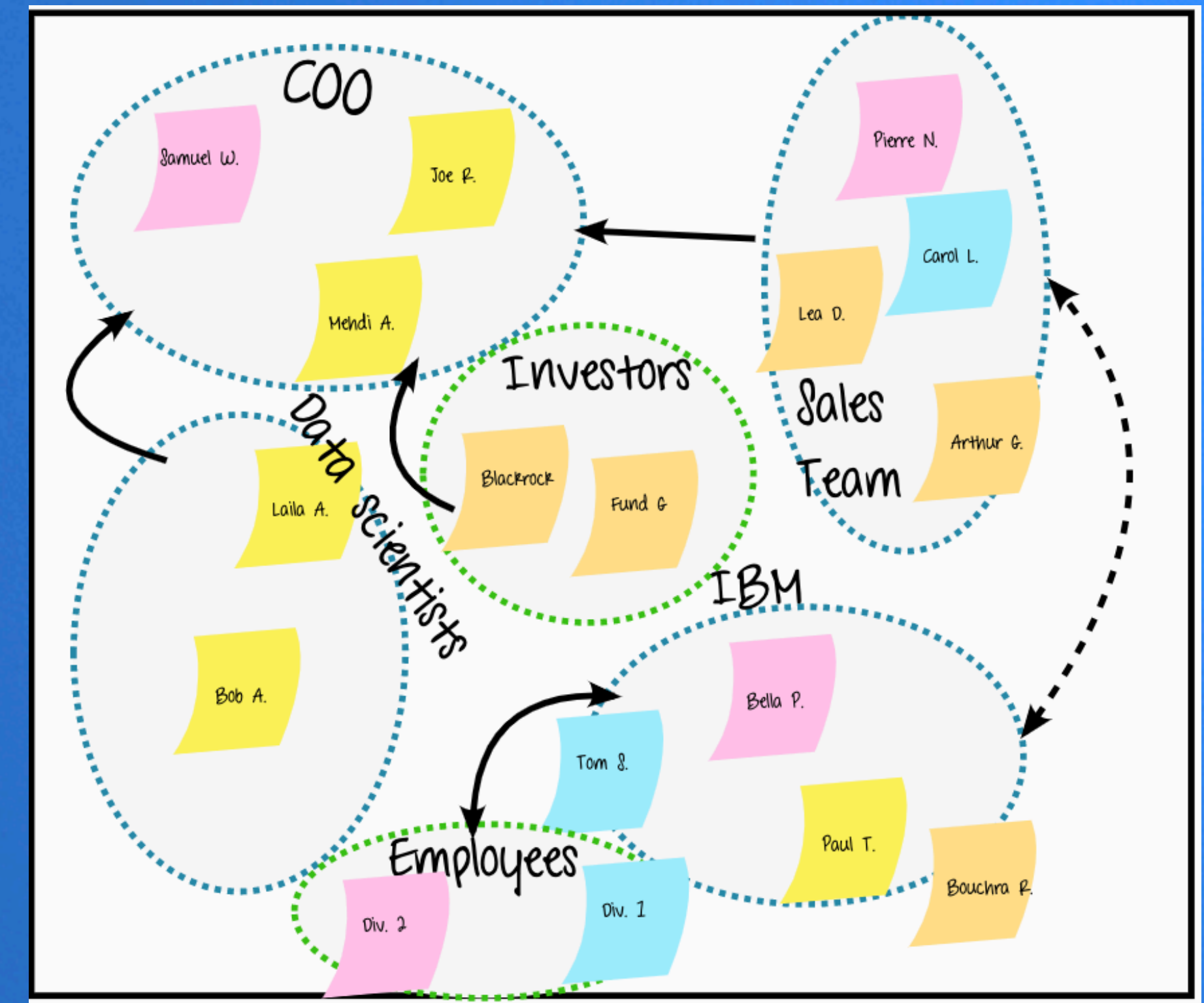
CONNECT

Cluster and label groups of connected people together. Then draw arrows between clusters and people to describe relationships between your stakeholders (ex. sales to product management).



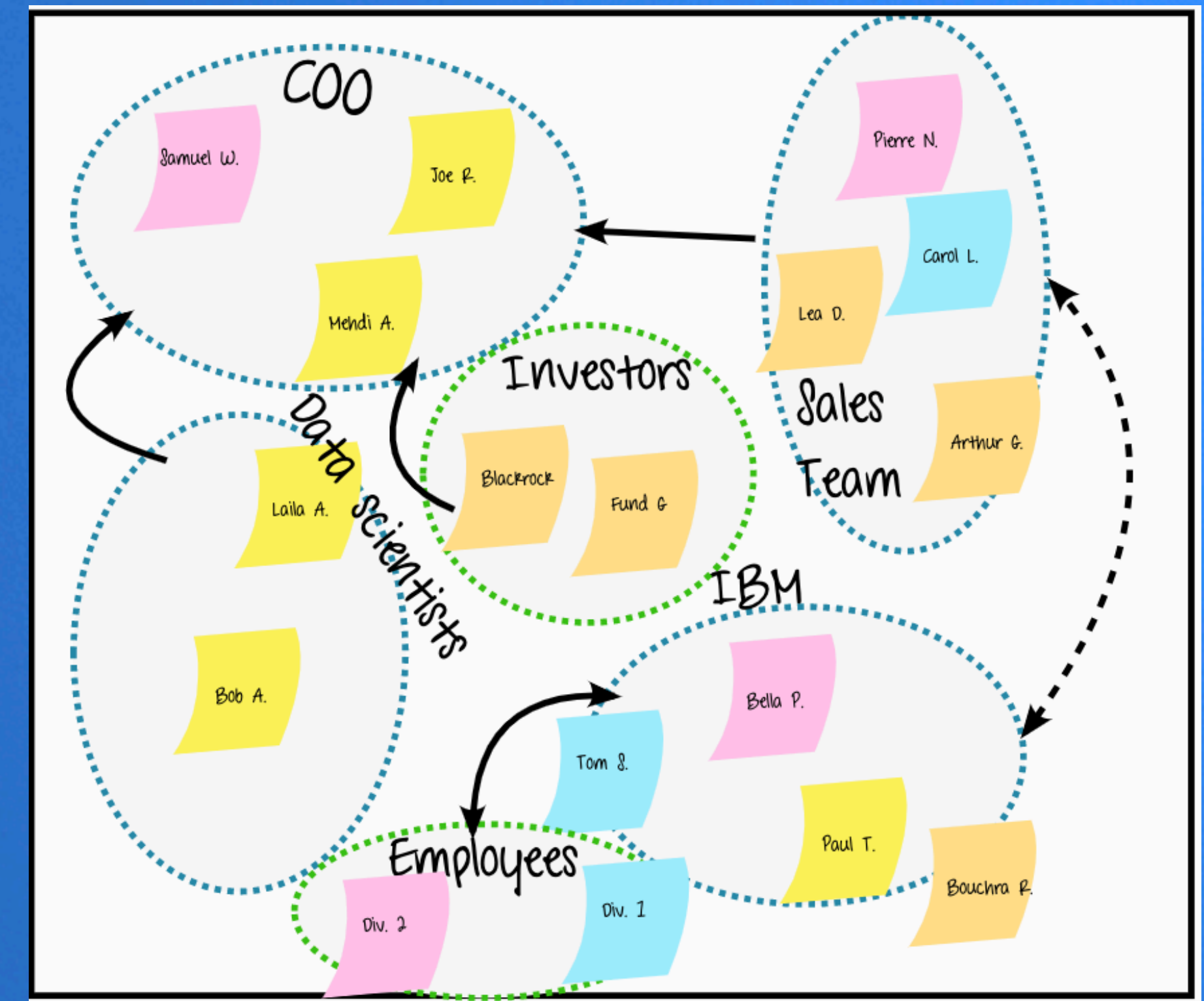
FOCUS ON SUSTAINABILITY

Stakeholders related to sustainability tend to be forgotten (investors, regulators, consumers and employees). Make sure they appear on the map by bringing it up for discussion.



PLAYBACK

Identify any emerging themes. Who stands out? What relationships stand out? If you're mapping out a user's stakeholders instead of your own, make sure to validate your observations with a user or Sponsor User if they weren't involved in the activity.



PLAYBACK

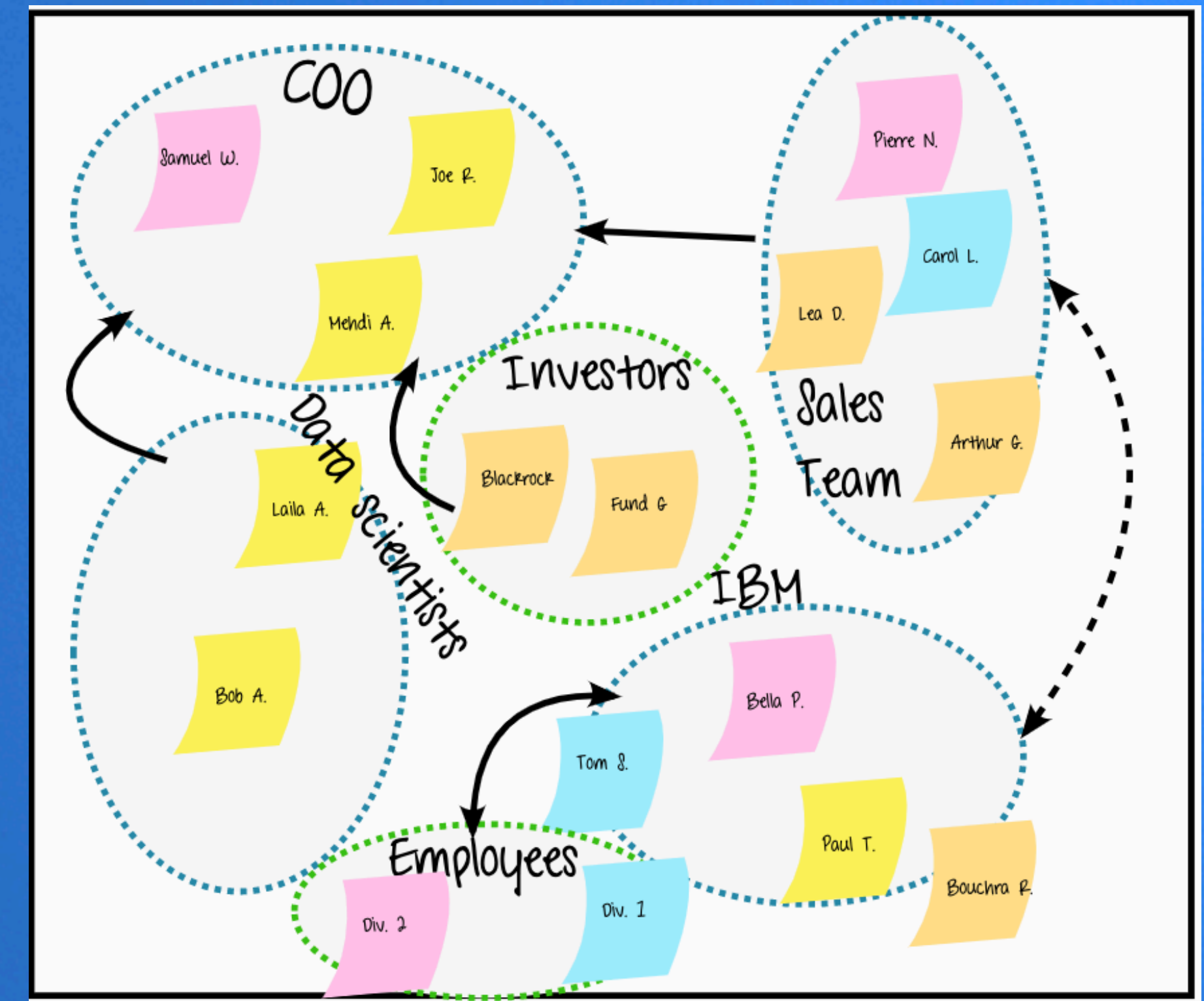
Choose one to two people to present the Stakeholder Map.

- What areas are you certain are true?
- Where are there still gaps in your team's knowledge?



LET IT PERSIST

Keep the artifact posted where team members can see it throughout the project. Refer to it to identify who you need to consult for important decisions, or who to invite to a Playback or workshop.



TOOLKIT

Framing Sustainability

INTRODUCTION

Why do you use this activity?

Differentiate your own goals relative to sustainability from those of the company. This allows to set a common understanding across the team of what sustainability means in the context of the current problem.

INTRODUCTION

When should you use this activity?

You should use this activity at the start of engaging with a sustainability problem, or when you see misalignment between people's individual expectations versus those of the company.

INTRODUCTION

What do I need to know?

You do not need to know anything to engage with this activity, however it is recommended to have set the scene prior on why sustainability is relevant to the current problem and what the company's position is.

INTRODUCTION

We suggest **15 minutes** for this activity.
How much time you spend is up to you!

- **Write before you talk.** Write or sketch lots of your ideas on sticky notes *before* talking about them.
During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users and your sustainability problem.** Tell stories about users (today and in the future) to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.

SHARING A VISION

Each person draws their vision of a more abundant future for our world! Then, arrange the images like a collage.

If you're doing this digitally, use images, or GIFs.

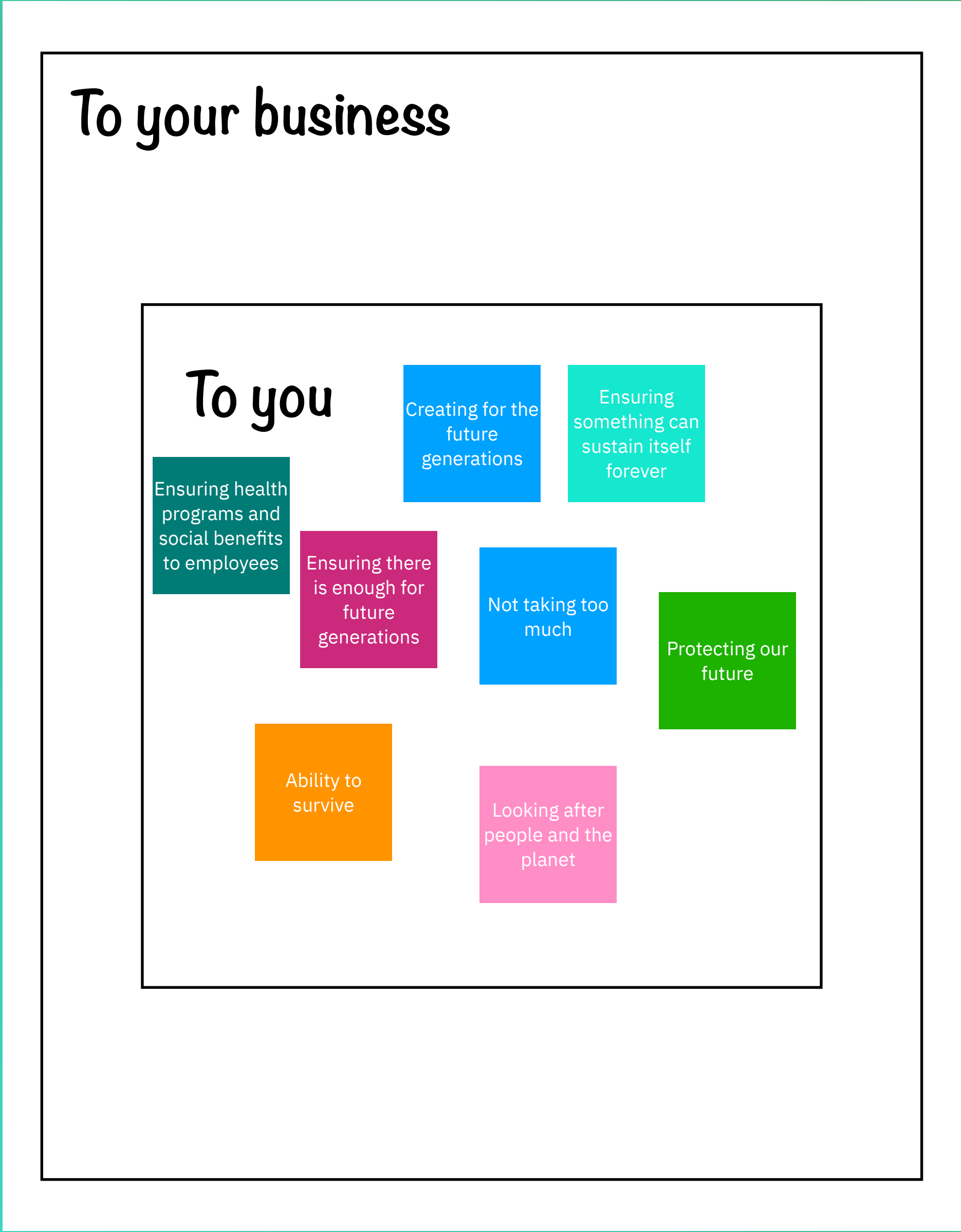
SETUP

Draw a large square, and a smaller square within in it. Label the larger square **To your business** and the smaller one **To you**.



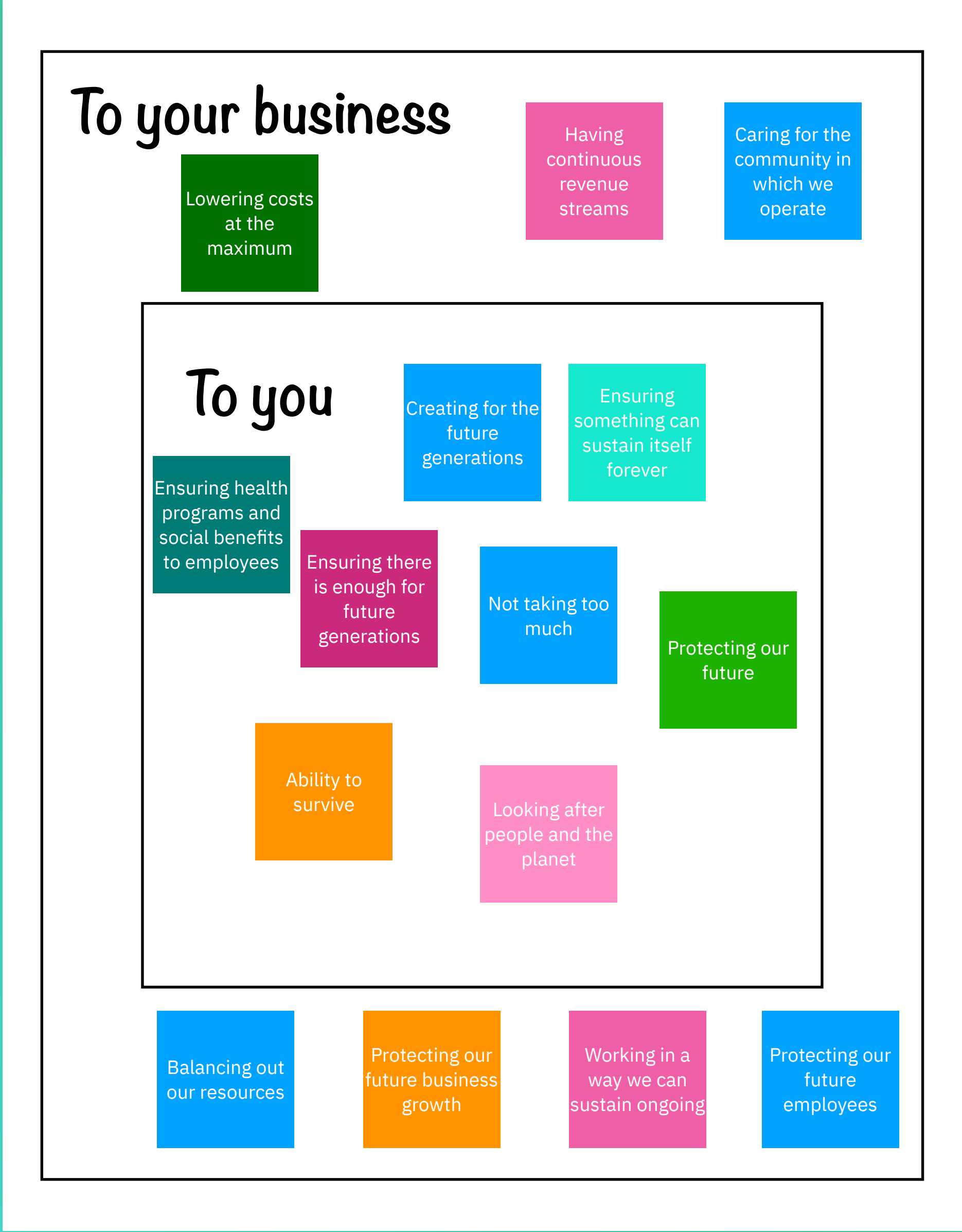
BRAINSTORM

Take the time to first consider what sustainability means to you as an individual.



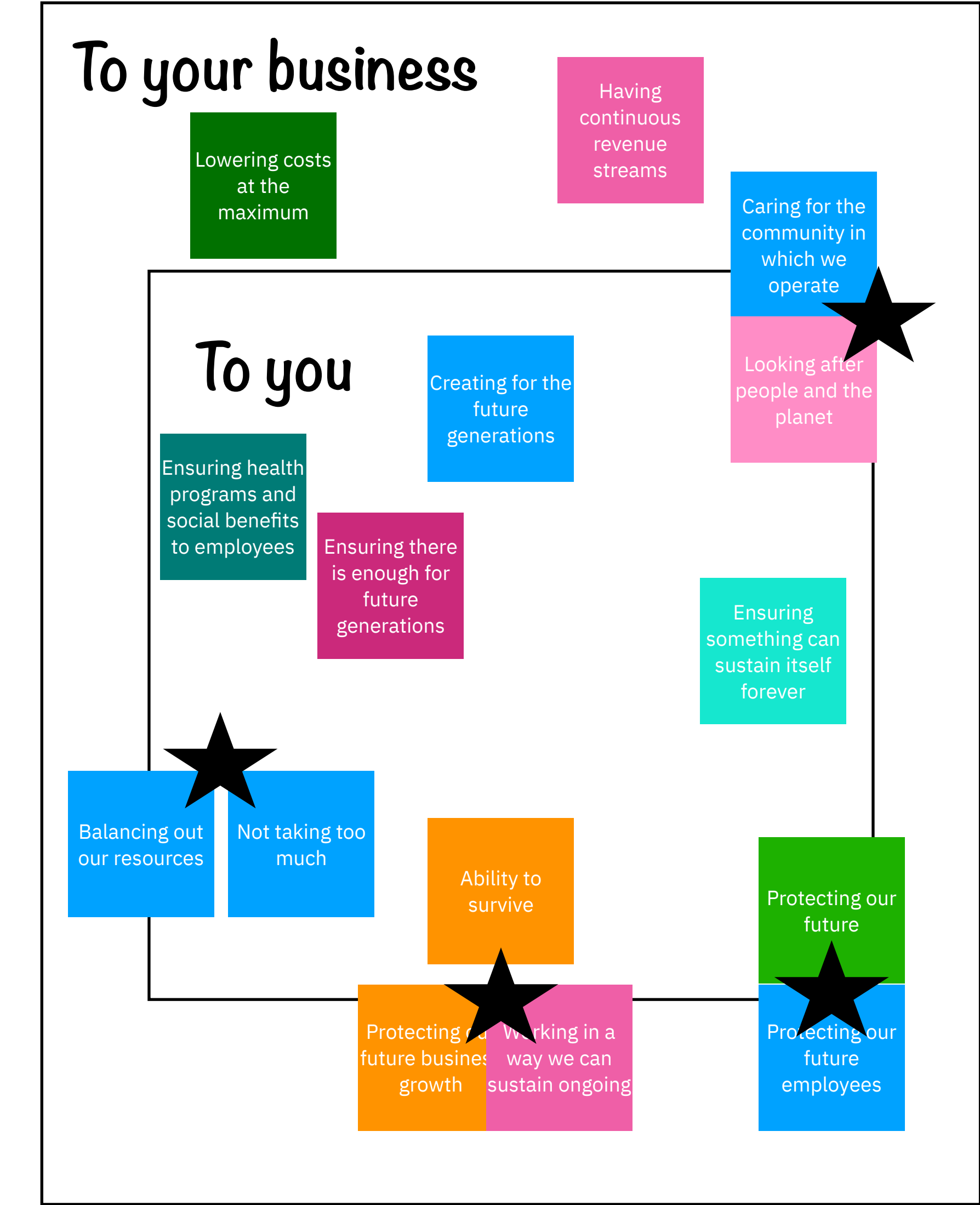
BRAINSTORM

Now consider what sustainability means to the business.



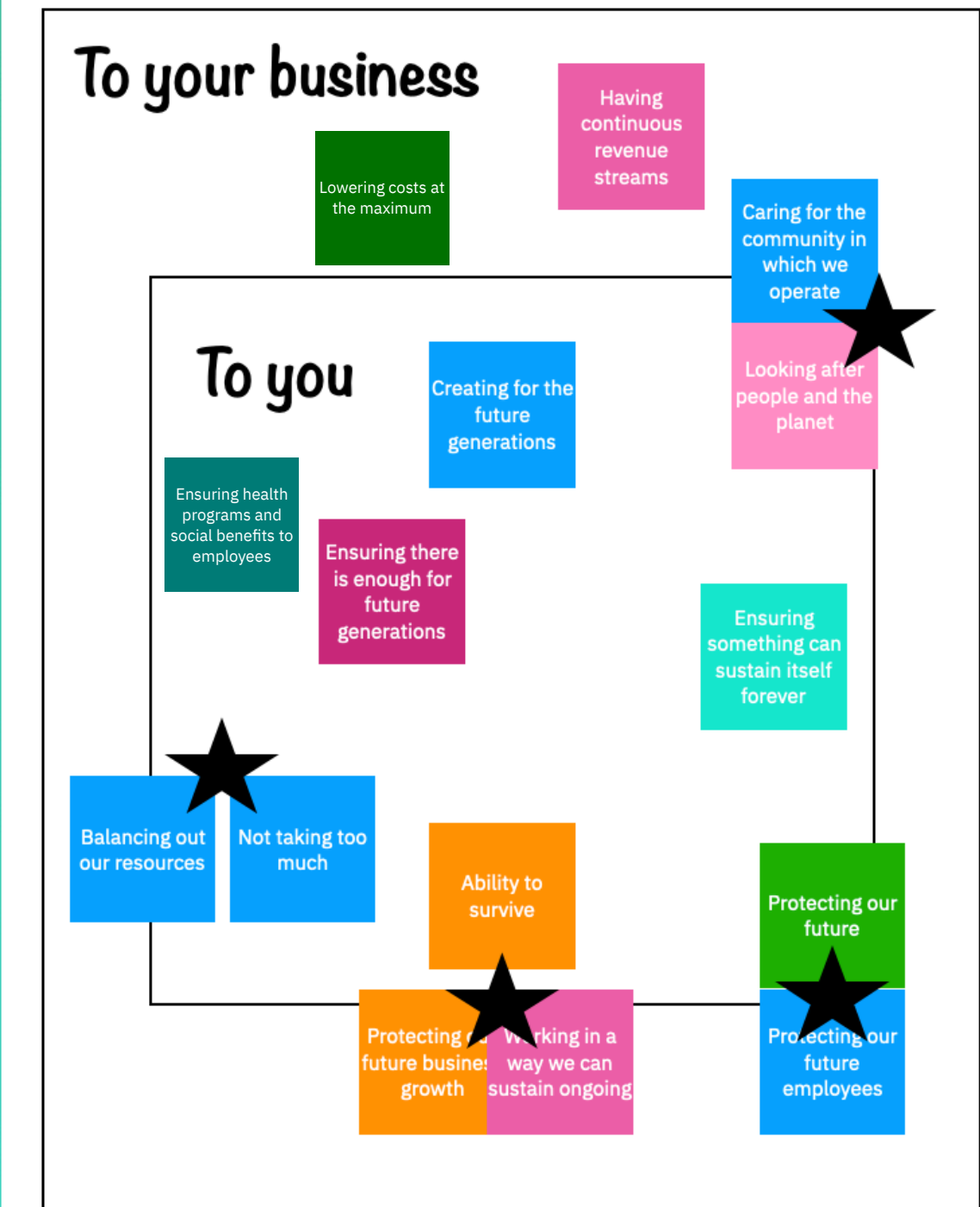
CLUSTER AND MOVE

Cluster any similar ideas.
For any ideas which overlap between individuals and the business, identify them with a sticker.



DISCUSS

Identify ideas that are contradicting each other between the business versus the individual's perspectives. As a team, agree on actions that could be undertaken to mitigate the clash.



Contradictions	Action Items
<div>Lowering costs at the maximum</div> <div>Ensuring health programs and social benefits to employees</div>	Look for ways to lower costs due to inefficiencies to make room for enhancing health programs and benefits
<div>Having continuous revenue streams</div> <div>Ensuring something can sustain itself forever</div>	Look into eco-design and product lifecycle optimization

PLAYBACK

Choose one to two people to present the clustered ideas.

- What does the aligned or misaligned areas tell you about your group's perception of sustainability?
- How might these learnings impact the design and delivery of the project moving forward?



TOOLKIT

Sustainability Goals

INTRODUCTION

Why do you use this activity?

Understand what sustainability goals are driving your design, using the UN's SDG framework*. This enables you to set the intention of what you are doing, have measurable targets and plan for how you will achieve them.

*Please see the Appendix for background information on the UN's Sustainable Development Goals framework

INTRODUCTION

What do I need to know?

Understand the sustainability goals commonly used in your industry or sector. If you're not sure where to look for, the UN's Sustainable Development Goals and metrics or the SASB Materiality Framework are good places to start.

INTRODUCTION

We suggest **15 minutes** for this activity.
How much time you spend is up to you!

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- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
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- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

SETUP

Copy the UN’s Sustainable Development Goals on the board.

PEOPLE AND WORK
Protect Rights, Ensure Fairness



1. END POVERTY IN ALL ITS FORMS EVERYWHERE



4. ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL



5. ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS



8. PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL



16. PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS

CIRCULAR ECONOMY
Optimize Resource Use



9. BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION



11. MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE



12. ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

FOOD AND WATER
Optimize Resource Use



2. END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE



3. ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES




14. CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT




15. PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, REVERSE LAND DEGRADATION, AND HALT BIODIVERSITY LOSS


CLIMATE & ENERGY
Decarbonize



6. ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL



7. ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL



13. TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

EXPLORE

Explore the UN's Sustainable Development Goals. Which ones align with your company's business goals? Remove those that don't from the board.

PEOPLE AND WORK
Protect Rights, Ensure Fairness

- 1 END POVERTY IN ALL ITS FORMS EVERYWHERE
- 4 ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL
- 5 ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS
- 8 PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL
- 16 PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS

CIRCULAR ECONOMY
Optimize Resource Use

- 9 BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION
- 11 MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE
- 12 ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

FOOD AND WATER
Optimize Resource Use

- 2 END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE
- 3 ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES
- 14 CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT
- 15 PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, REVERSE LAND DEGRADATION, AND HALT BIODIVERSITY LOSS

CLIMATE & ENERGY
Decarbonize

- 6 ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL
- 7 ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL
- 13 TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

VOTE

Vote on the goals that align to your company.

Remove those that don't align to your company.

PEOPLE AND WORK
Protect Rights, Ensure Fairness

- 1 **END POVERTY IN ALL ITS FORMS EVERYWHERE**
- 4 **ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL**
- 5 **ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS**
- 8 **PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL**
- 16 **PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS**

CIRCULAR ECONOMY
Optimize Resource Use

- 9 **BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION**
- 11 **MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE**
- 12 **ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS**

FOOD AND WATER
Optimize Resource Use

- 2 **END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE**
- 3 **ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES**
- 14 **CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT**
- 15 **PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, REVERSE LAND DEGRADATION, AND HALT BIODIVERSITY LOSS**

CLIMATE & ENERGY
Decarbonize

- 6 **ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL**
- 7 **ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL**
- 13 **TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS**

SETUP

Draw three columns:
Goals, Metrics and Next Steps. Move the selected goals under the first column.

Goals	Metrics	Next Steps
<div><div><div>1</div><div>END POVERTY</div></div><div>END POVERTY IN ALL ITS FORMS EVERYWHERE</div></div>		
<div><div><div>8</div><div>GROWTH</div></div><div>PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL</div></div>		
<div><div><div>12</div><div>CONSUMPTION</div></div><div>ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS</div></div>		
<div><div><div>2</div><div>FOOD</div></div><div>END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE</div></div>		
<div><div><div>3</div><div>HEALTH</div></div><div>ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES</div></div>		
<div><div><div>14</div><div>OCEANS</div></div><div>CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT</div></div>		
<div><div><div>6</div><div>WATER</div></div><div>ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL</div></div>		
<div><div><div>7</div><div>ENERGY</div></div><div>ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL</div></div>		

BRAINSTORM

Brainstorm metrics that you could use to track each goal. If you're not sure where to start, check [this resource](#) or [this one](#).

Goals	Metrics	Next Steps
<div><div>1</div><div>END POVERTY IN ALL ITS FORMS EVERYWHERE</div></div>	<div></div> <div></div>	
<div><div>8</div><div>PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL</div></div>	<div></div> <div></div>	
<div><div>12</div><div>ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS</div></div>	<div></div> <div></div> <div></div> <div></div>	
<div><div>2</div><div>END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE</div></div>	<div></div> <div></div> <div></div>	
<div><div>3</div><div>ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES</div></div>	<div></div> <div></div> <div></div> <div></div>	
<div><div>14</div><div>CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT</div></div>	<div></div> <div></div> <div></div>	
<div><div>6</div><div>ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL</div></div>	<div></div>	
<div><div>7</div><div>ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL</div></div>	<div></div> <div></div> <div></div>	

BRAINSTORM

Think about what blockers might arise when these metrics. What are the next actions your team should take?

Goals	Metrics	Next Steps
<div><div>1</div><div>END POVERTY IN ALL ITS FORMS EVERYWHERE</div></div>	<div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
<div><div>8</div><div>PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL</div></div>	<div><div></div><div></div></div>	<div><div></div></div>
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<div><div>7</div><div>ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL</div></div>	<div><div></div><div></div><div></div></div>	<div><div></div></div>

PLAYBACK

Choose one to two people to present the Sustainability Goals.

- How will it impact your thinking moving forward?
- Are there any clear opportunities to achieve these goals?



TOOLKIT

Empathy Map

INTRODUCTION

Why do you use this activity?

As a group, reflect upon your team's collective knowledge about your users, and create a common understanding of their goals, motivations and impact on the planet and communities.

INTRODUCTION

When should you use this activity?

Create or reference Empathy Maps before an important decision or directly after an observation session.

INTRODUCTION

What do I need to know?

Before you begin, you should have done user research. You will need to understand where their concerns and motivations are, and how your users' daily habits harm or help protect the environment and communities they're a part of.

INTRODUCTION

We suggest **30 minutes** for this activity.
How much time you spend is up to you!

- **Write before you talk.** Write or sketch lots of your ideas on sticky notes *before* talking about them.
During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users and your sustainability problem.** Tell stories about users (today and in the future) to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

COME PREPARED

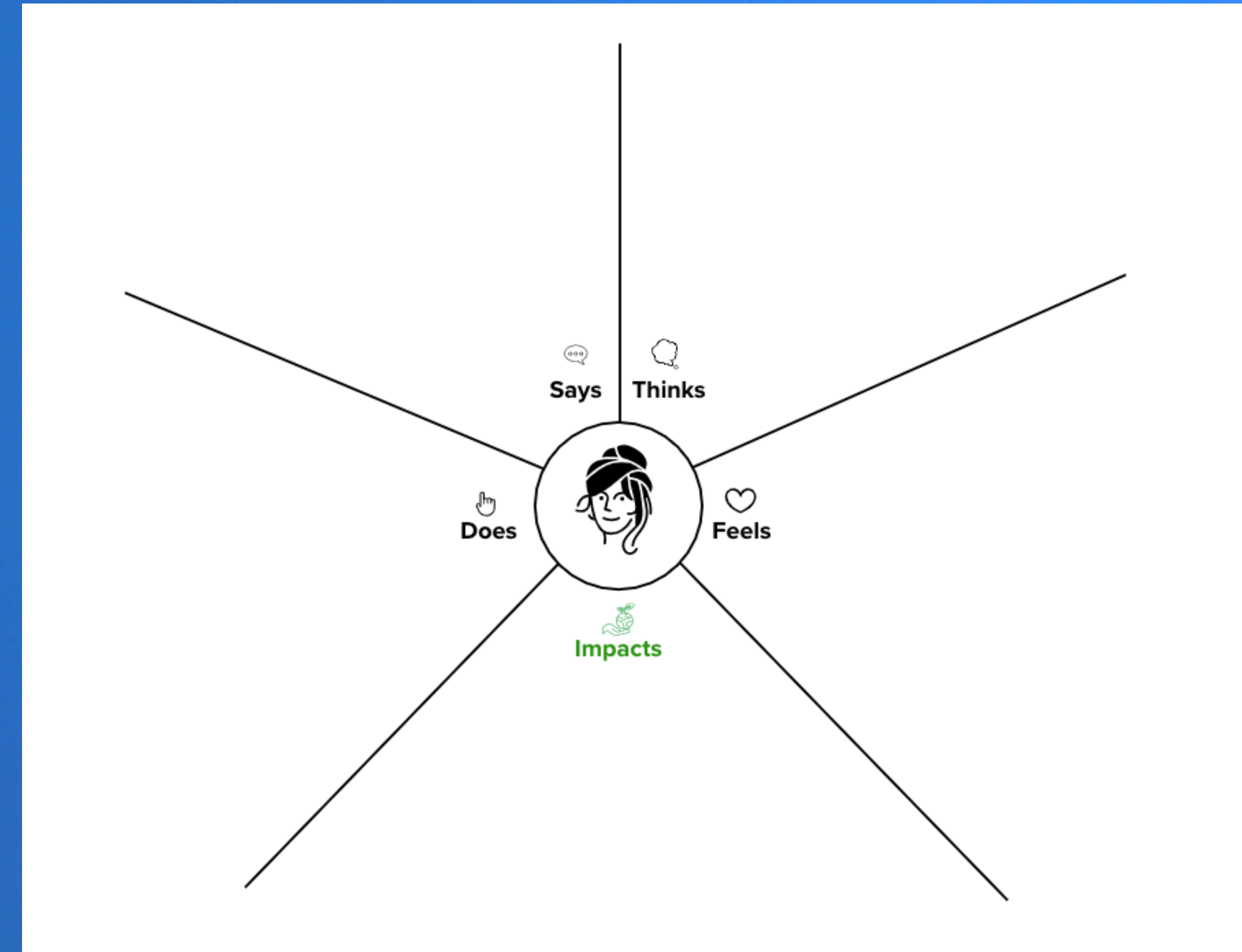
Make sure you have defensible data based on observations of your users.

When you can, invite users or Sponsor Users to participate.



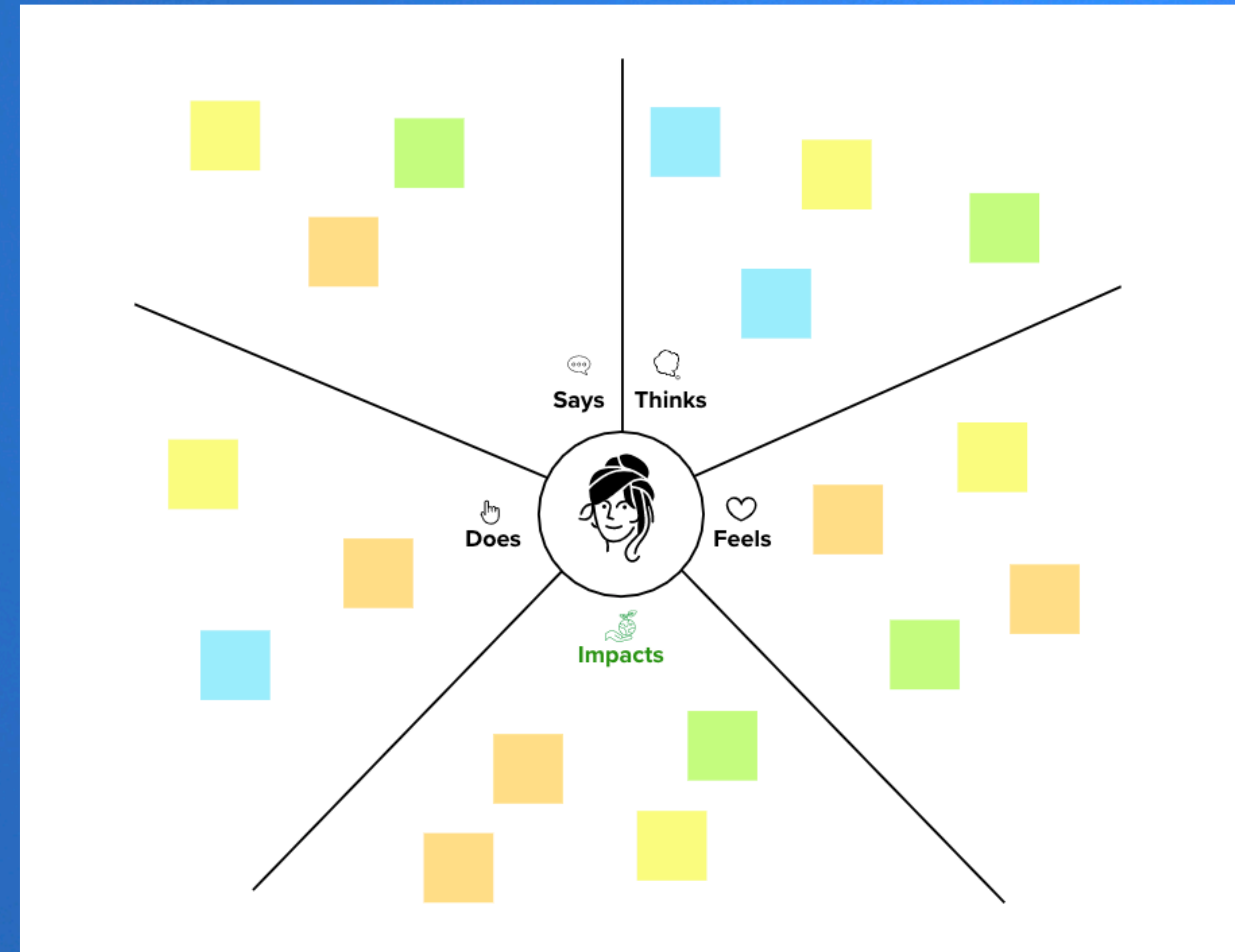
SET UP

Draw a grid and label the six quadrants with:
Says, Thinks, Feels, Does, and Impacts.



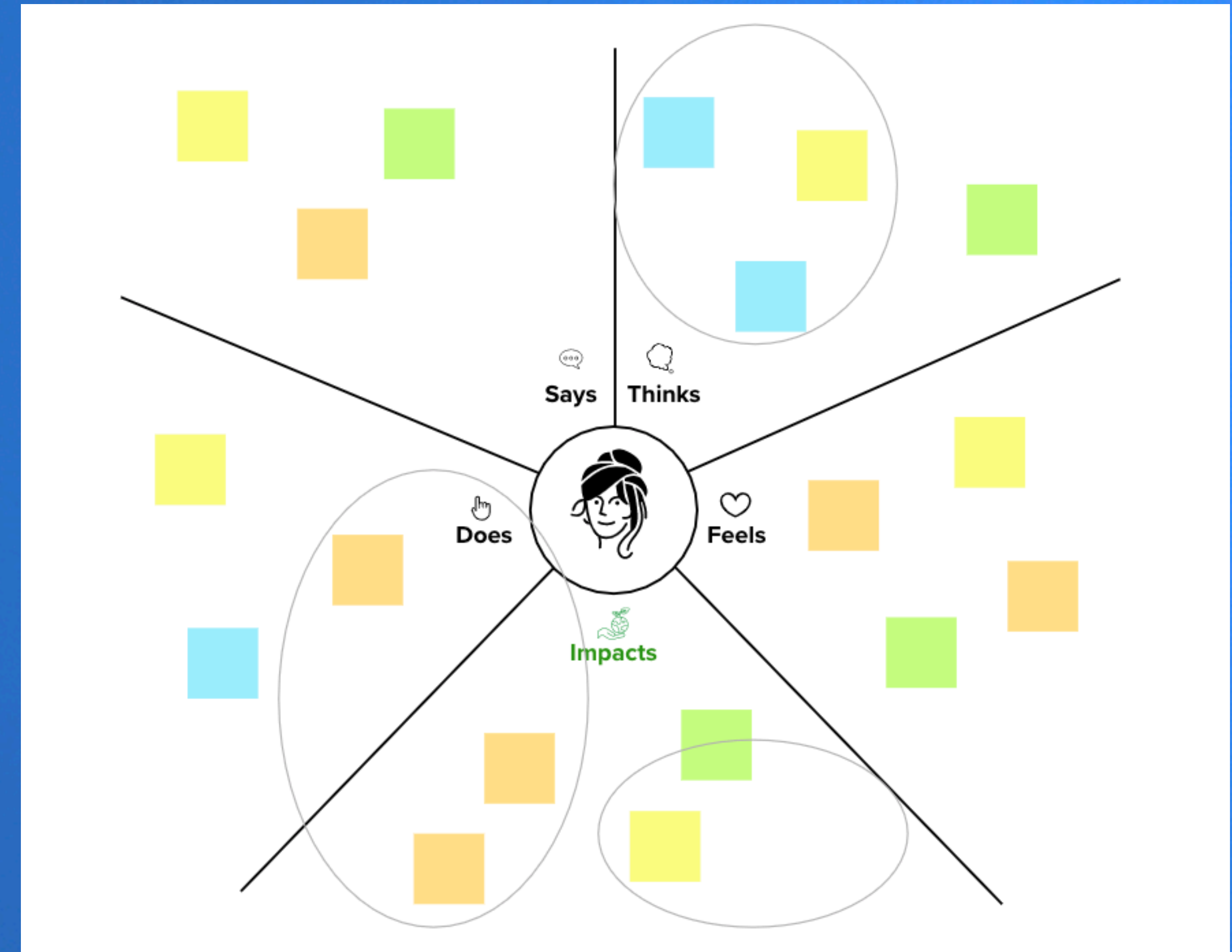
CAPTURE OBSERVATIONS AND IMPACTS

Everyone records what they know about the user or stakeholder. Use one sticky note per observation and place it in the appropriate quadrant. Don't forget the positive/negative impacts your user has on the planet and communities.



CLUSTER

Within each quadrant, look for similar or related items and cluster the sticky notes together. As you do, imagine how these different aspects of your user's life really affect how they feel. Can you imagine yourself in their shoes?



PLAYBACK

Choose one to two people to present the Empathy Map.

- Make sure to validate your observations with a user or Sponsor User if they weren't involved in the activity.
- Label anything on the map that might be an assumption or a question for later inquiry or validation.



TOOLKIT

As-is Scenario Map

INTRODUCTION

Why do you use this activity?

Build out a better understanding of our user's current experience and its invisible impact on the planet and communities in order to identify opportunities for improvement.

INTRODUCTION

When should you use this activity?

Use As-is Scenario Maps as your team begins a new body of work to uncover what the team collectively knows or doesn't know. You can also use it when you need to make sense of research data.

We suggest **30 minutes** for this activity. How much time you spend is up to you!

- **Write before you talk.** Write or sketch lots of your ideas on sticky notes *before* talking about them.
During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users and your sustainability problem.** Tell stories about users to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.
- **Green sticky notes are reserved.** Use them whenever you see an opportunity to make a more sustainable choice.



Ready, set, go!

SET UP

Draw five rows and label them: *Steps*, *Doing*, *Thinking and Feeling*, *Contributing Factors*, and *Impact on the Planet and Communities*. Draw a line of visibility between *Thinking and Feeling* and *Contributing Factors*.

Phases	
Doing <small>What is your user's key tasks and actions?</small>	
Thinking and feeling <small>What feelings and thoughts is the user experiencing?</small>	
Line of visibility	
Contributing factors <small>What actions and underlying processes might impact this process?</small>	
Impact on the planet and communities <small>Ex: % of increase CO2 emissions increase, material waste, air pollution, energy waste</small>	

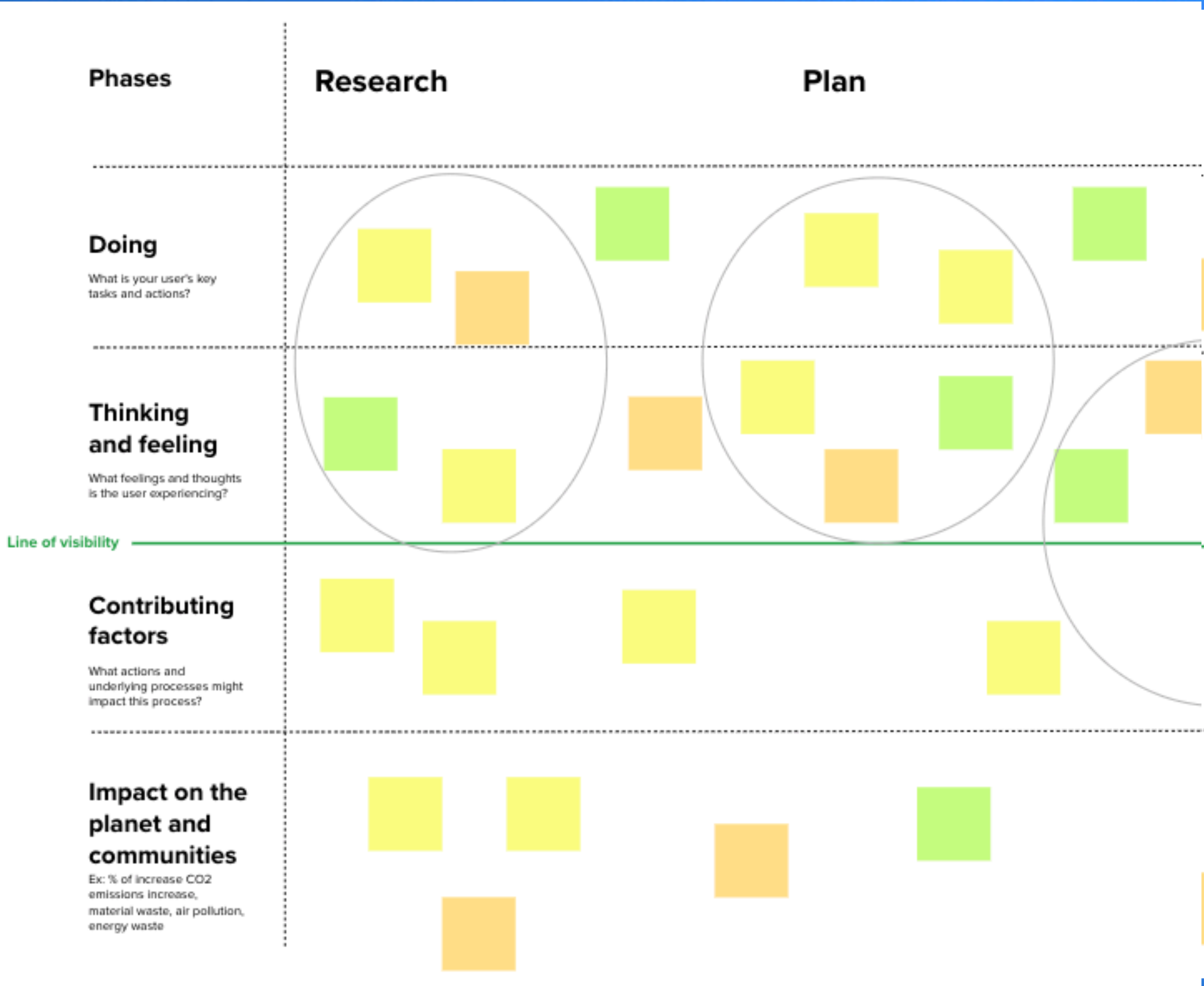
BRAINSTORM

Ask yourselves: “What is our user doing, thinking, and feeling throughout their experience?”; “What are the invisible factors contributing to that experience?”; “What are its invisible impacts on the planet and communities?”.



CLUSTER AND IDENTIFY PHASES

Use this time to cluster similar stickies, refine the order, and draw rough columns that represent the unique phases of your user’s current experience. Be sure to name the phases.



IDENTIFY HIGHS AND LOWS

Circle and label areas that are particularly positive or negative for your user, the planet and communities. Leave blank areas where you need to learn more.



As-Is Scenario Map

PLAYBACK

Choose one to two people to present the As-is Scenario Map.

- Make sure to validate your observations with a user or Sponsor User and a Sustainability SME if they weren't involved in the activity.



Enterprise
Design
Thinking
by IBM

TOOLKIT

Envision a better future

TOOLKIT

Needs Statements

COME PREPARED

Make sure you have defensible data based on observations of your users.

When you can, invite users or Sponsor Users and Sustainability SMEs to participate.



INTRODUCTION

Why do you use this activity?

We use needs statements to gather an understanding of our user needs and identify which ones align with what people and the planet need. Use this activity to gain a clear view of which needs statements you may need to prioritize to drive sustainable value.

INTRODUCTION

What are the benefits of this activity?

When we outline what users need and how they may have negative environmental and social consequences, we can better focus on ideas that both help achieve user, people and planet goals together.

INTRODUCTION

When should you use this activity?

Use this activity after performing user research, when you want to reframe your thinking to be more user-centered and sustainability-minded.

Ask yourselves: “What does the user really need? And how does it align with what the planet needs?”

INTRODUCTION

We suggest **30 minutes** for this activity.
How much time you spend is up to you!

- **Write before you talk.** Write or sketch lots of your ideas on sticky notes *before* talking about them.
During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users.** Tell stories about users to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

SET UP

Frame the activity by writing the following prompt. Establish who the user is, identify what they need is and what the corresponding benefit is in addressing that need.

A user needs a way to do something that addresses their need so that they benefit directly

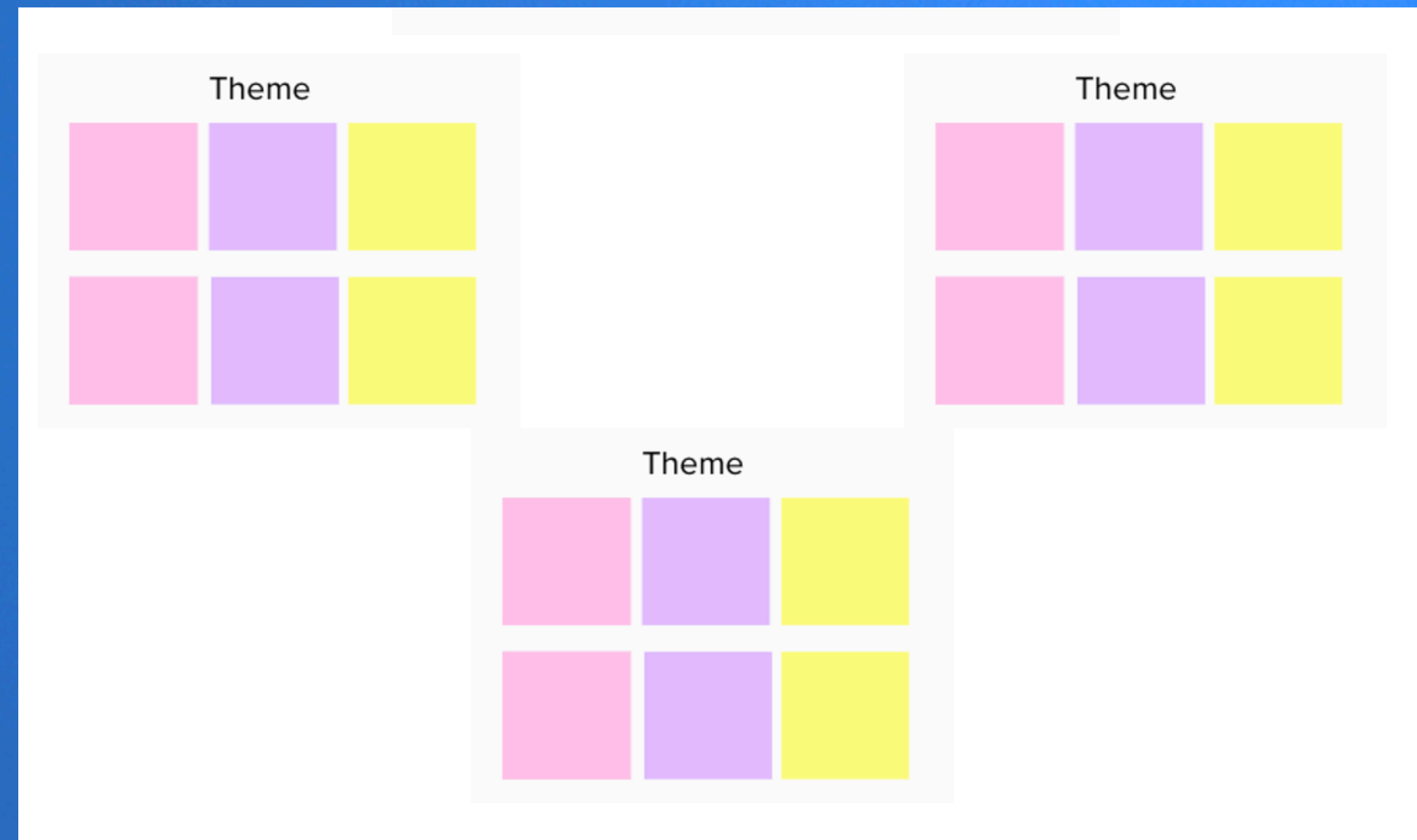
UNCOVER NEEDS

Have everyone diverge around the needs and benefits they believe they’re solving for to fill out the prompt. Stay away from writing features as best as you can.

As [Persona's name]	I need to [need]	so that [benefit]
As [Persona's name]	I need to [need]	so that [benefit]
As [Persona's name]	I need to [need]	so that [benefit]
As [Persona's name]	I need to [need]	so that [benefit]

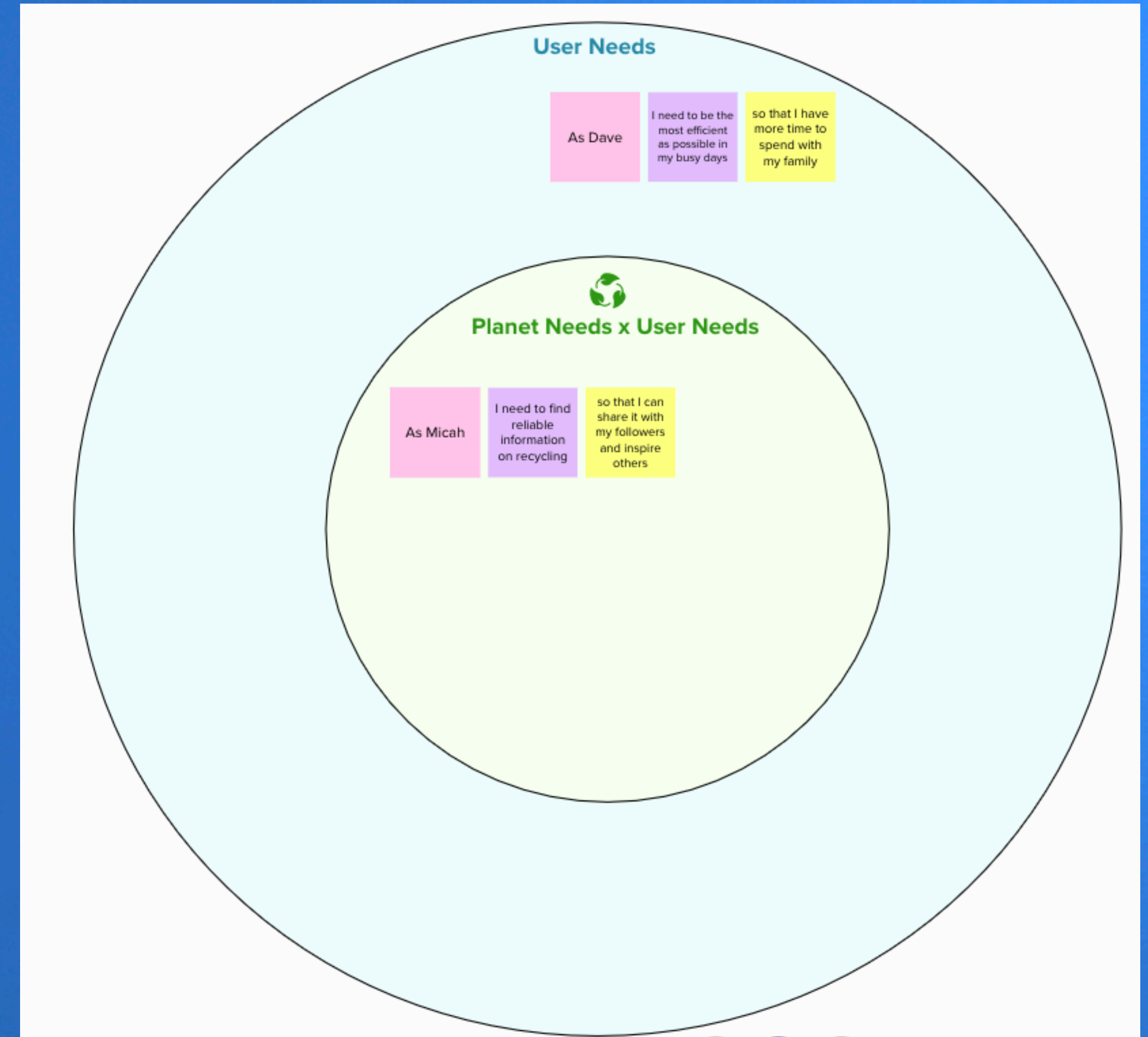
CLUSTER

Cluster similar ideas and discuss. As you converge, try writing a few needs statements that represent key elements. Make sure you use the same format as the original prompt.



ALIGN USER AND PLANET NEEDS

Draw two circles on the board. As a team, identify which user needs align with what the planet needs and those that don't. Copy the stickies into the right circle.



PLAYBACK

Choose one to two people to present the Needs Statements.

- What themes do you have for your needs statements?
- What areas are you certain are true?
- Where are there still gaps in your team's knowledge?
- Which needs statements best align with your planet needs?



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TOOLKIT

Big Ideas

INTRODUCTION

Why do you use this activity?

Use a “big ideas” activity as an ideation exercise to gather a range of ways to address or solve our user and planet pain points.

Big ideas are broad and conceptual, focused on user needs rather than solutions.

3 VERSIONS OF BIG IDEAS

Vignettes

- Vignettes are solutions that go beyond just individual feature functions.
- Starts with a blank canvas

Biomimicry

- Biomimicry is a method of solving problems by imitating what nature might do to solve them.
- Starts with answering “how does nature solve this problem?”

Sustainability Prompt Cards

- These cards are pre-defined prompts focused around sustainable solutions to set the stage for ideation
- Starts with brainstorming solutions around chosen prompts

DECIDING WHAT TO USE

Vignettes

- Use for general ideation and big idea brainstorming
- Use when you need to force yourself to think outside the box

Biomimicry

- Use when you need help setting the stage or getting participants to think outside the box
- For architecture focused problems
- For physical product solutions

Sustainability Prompt Cards

- Use when trying to align participants around the same sustainable language
- If you have already done the sustainability goals activity, you can pick prompts that match your goals.

EXAMPLES

Vignettes

It's kind of like a direct phone line.

Biomimicry

Information architecture can mimic the roots of a tree.

Sustainability Prompt Cards

Recycling old product containers into new ones.

TOOLKIT

Big Ideas: Vignettes

INTRODUCTION

Why do we use this activity?

Use this activity when you need to rapidly diverge on a breadth of possible solutions to meet your user and planet needs.

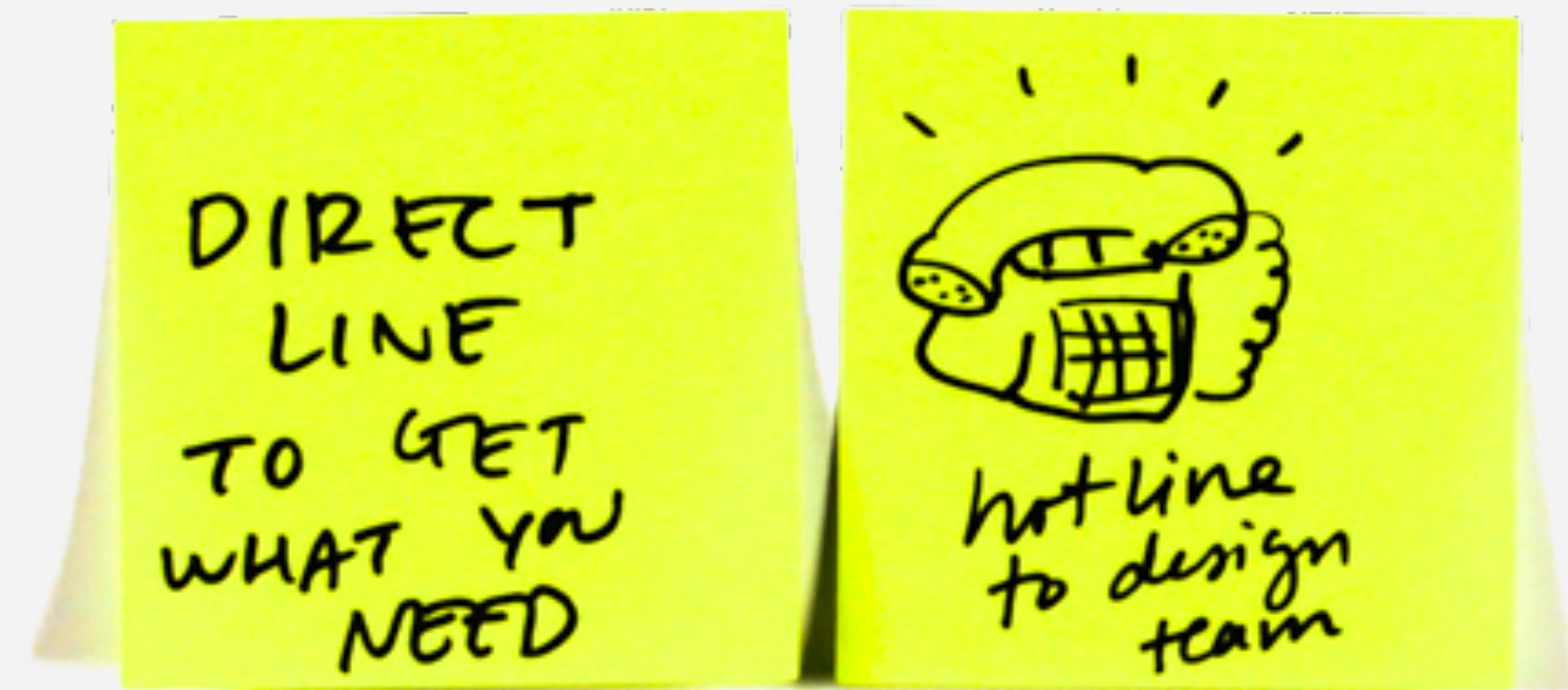
INTRODUCTION

When should you use this activity?

Perform this ideation activity once you have understood the user and planet problem and needs. Everyone provides a unique perspective on the user and the problem, so everyone should contribute ideas for solutions.

INTRODUCTION

Think of a Big Idea as a single frame of a storyboard. Try sketching a visual depiction of what the idea might feel like. Label it with a one or two-word headline.



BIG IDEA VIGNETTES

SONAR
DETECTION
your way
with some

launch
raft

have a
shark

g's
swim

WIND
SURFING
leverage natural
resource

craft a
boat out
of ice

The Michael Phelps
SWIM
really fast

Motor
life boats
get away
fast

use
dead bodies

Aliens



INTRODUCTION

We suggest **30 minutes** for this activity.
How much time you spend is up to you!

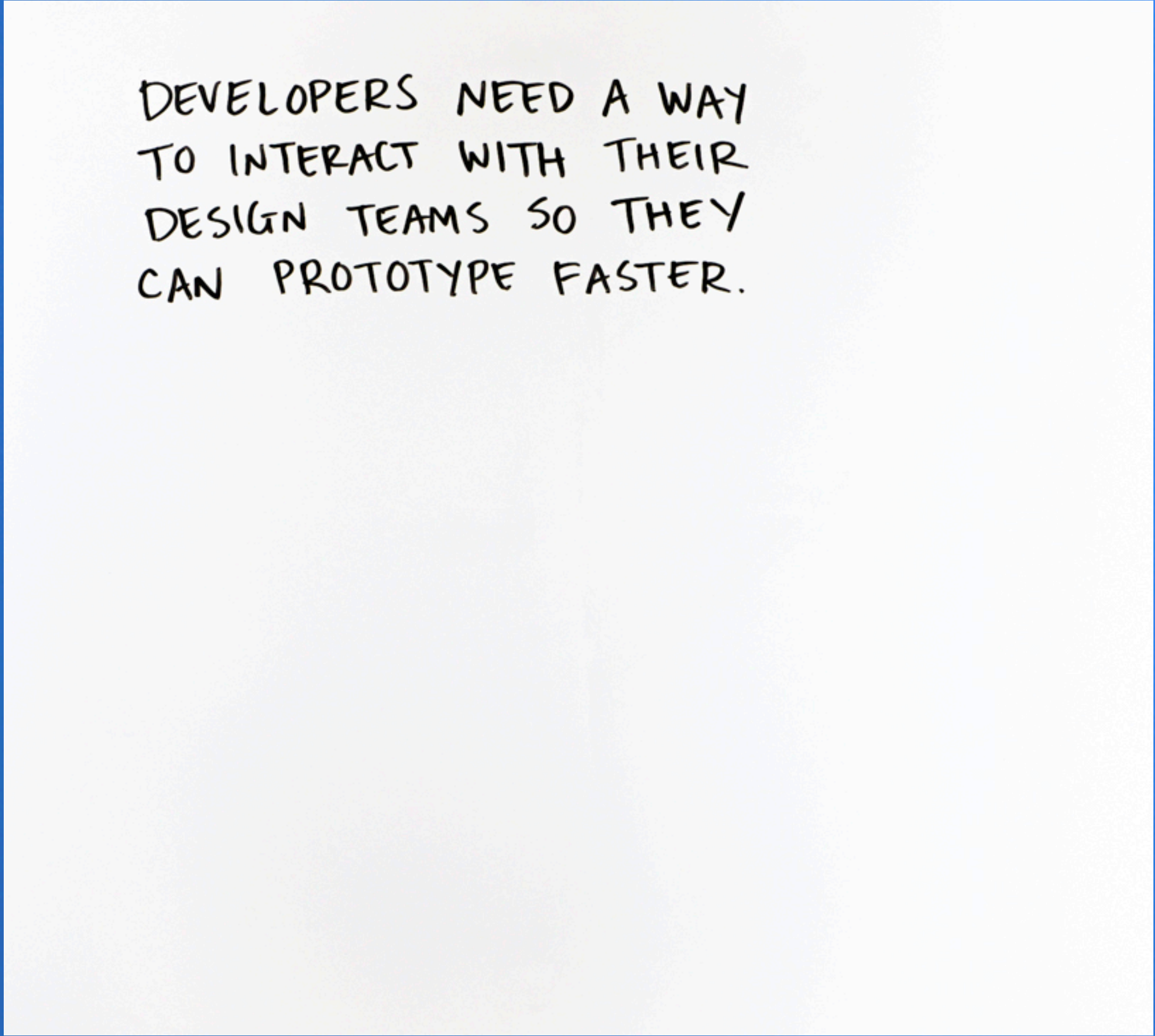
- **Write before you talk.** Write or sketch lots of your ideas on sticky notes *before* talking about them.
During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users.** Tell stories about users to keep them at the centre of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

SET UP

Begin the activity with a good prompt, such as a needs statement, a user story, a Hill, or just a pain point identified in an As-is Scenario Map. Write this prompt somewhere everyone can see.



DEVELOPERS NEED A WAY
TO INTERACT WITH THEIR
DESIGN TEAMS SO THEY
CAN PROTOTYPE FASTER.

DIVERGE

Generate ideas, not features. Write and draw individually first, aiming for at least 2-3 ideas each.

A big idea describes how a user might experience the solution. Features describe the implementation of a solution.



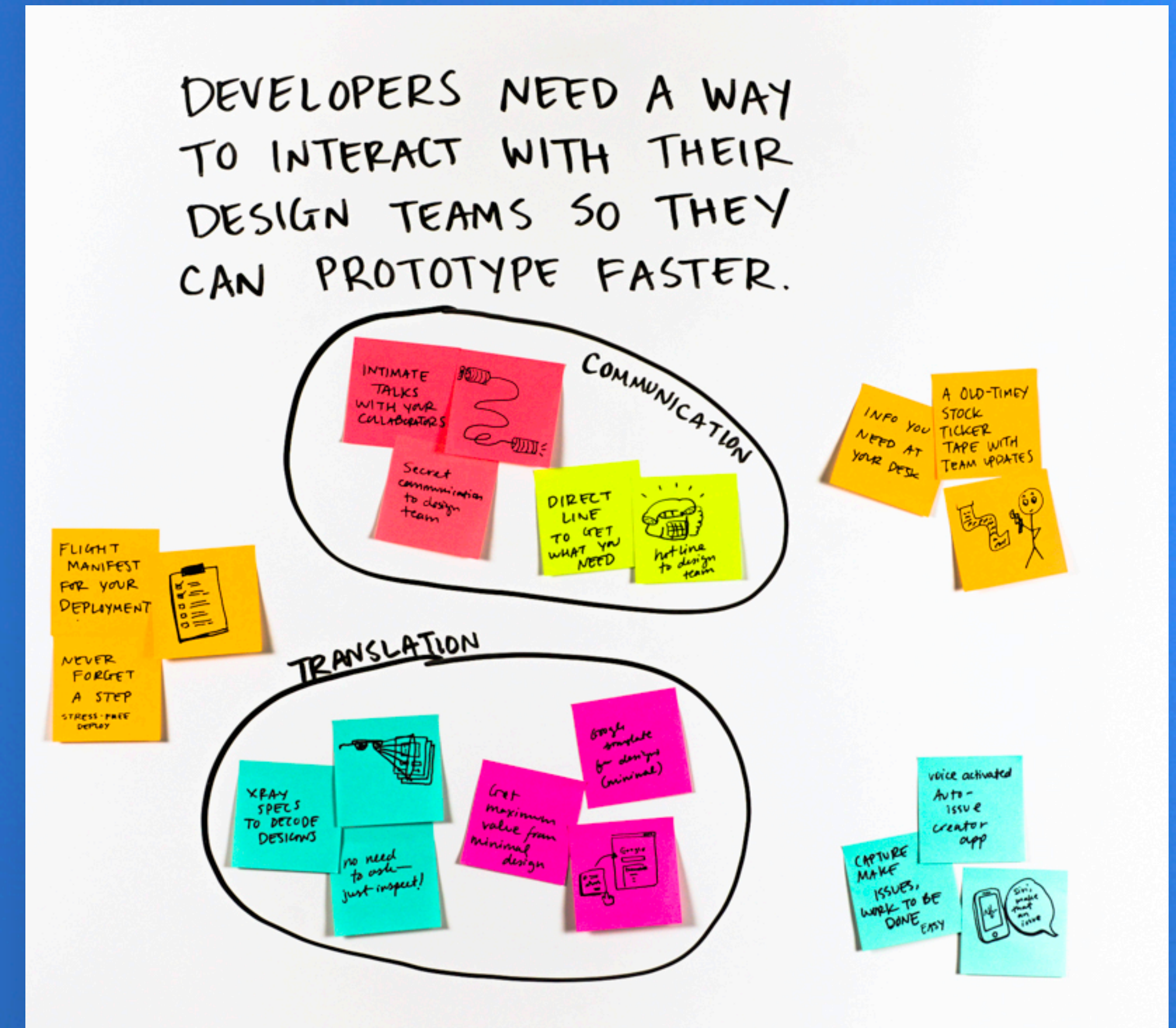
DIVERGE

Create many Big Ideas and quickly share them with each other. Build off of each others' ideas, but avoid drifting into features or talking about implementation details, including sustainability challenges.



CONVERGE

Look for similar ideas and natural affinities and move them closer together. As you do, name the clusters. Converge on a set that you want to pursue further.



PLAYBACK

Choose one person to play back each cluster of ideas.

- Review your clusters first. Feel free to discuss and add more ideas as you all review the clusters.
- Consider which ideas best represent the user needs or pain points you listed. Present these to the group.



TOOLKIT

Big Ideas: Biomimicry

INTRODUCTION

Why do we do this activity?

Use this activity to rapidly diverge on a breadth of possible solutions to meet your user and planet needs, while modeling those solutions on sustainable solutions observed in nature.

INTRODUCTION

When should you use this activity?

Perform this ideation activity once you have understood the user and planet problem and needs. You can use this ideation activity on its own, or to complement a big ideas activity.

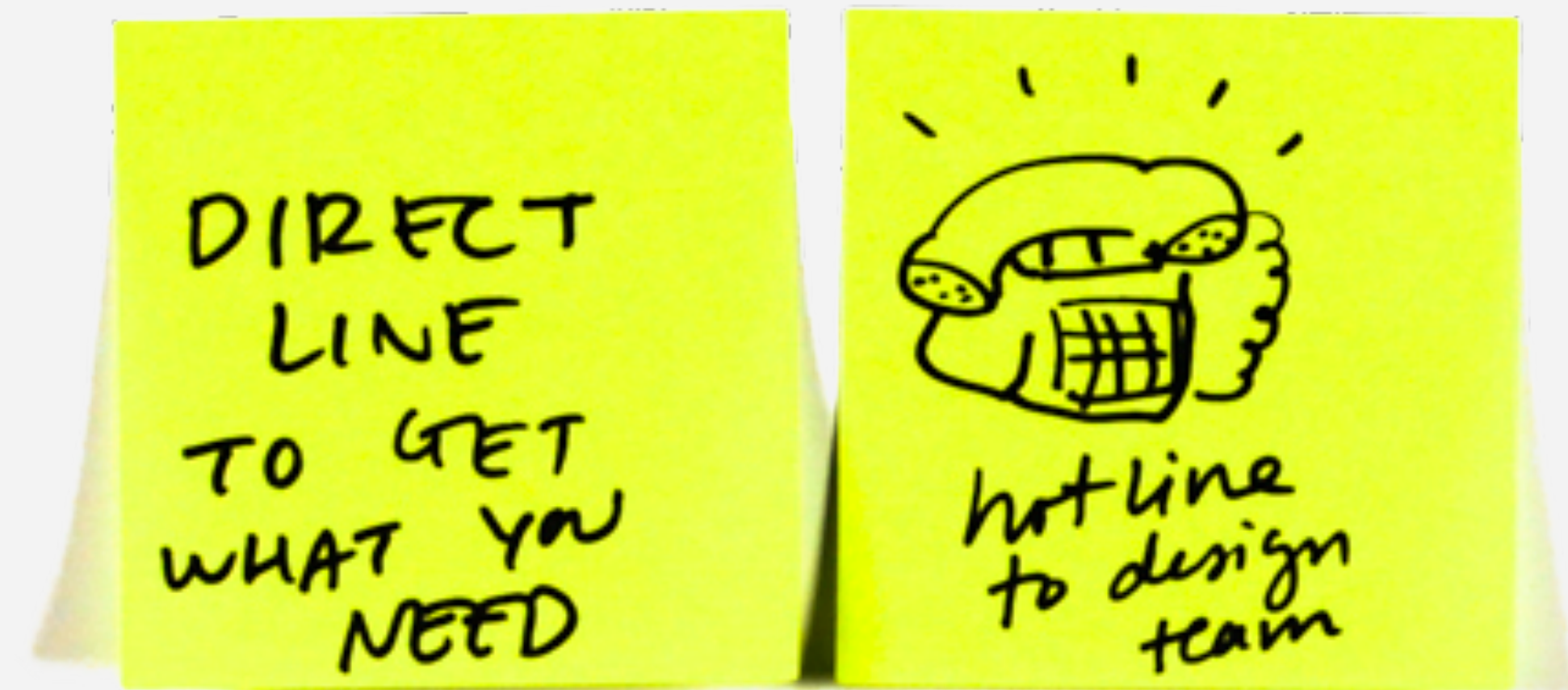
INTRODUCTION

What is Biomimicry?

Biomimicry is a method of ideation that models solutions after nature. Consider airplane wings modeled after birds' wings, or Velcro® modeled after burs. This activity is a modified version of Big Ideas using that method.

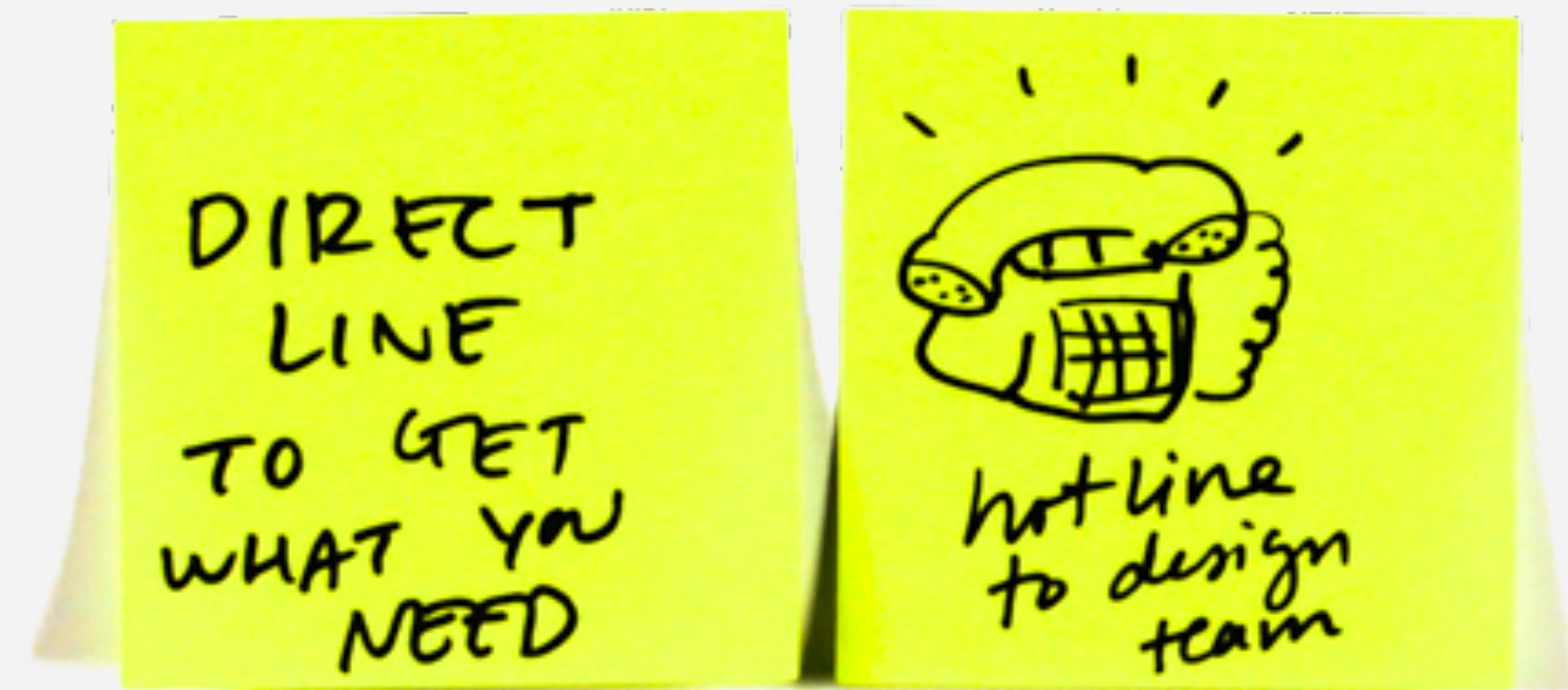
INTRODUCTION

Brainstorm ways that nature could solve our problem, or solves a similar problem.
What mechanics of this problem are similar to nature?



INTRODUCTION

Think of each idea as a single frame of a storyboard. Try sketching a visual depiction of what the idea might feel like. Label it with a one or two-word headline.



INTRODUCTION

We suggest **30 minutes** for this activity.
How much time you spend is up to you!

- **Write before you talk.** Write or sketch lots of your ideas on sticky notes *before* talking about them.
During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users.** Tell stories about users to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.

INTRODUCTION

If you get stuck, reference these sites for examples or to search for solutions.

- [AskNature](#) has searchable examples of biomimicry, if you know what to solve but struggle finding ideas in nature.
- [Teach Engineering](#) has examples and a simplified version of this activity for kids.
- [The Biomimicry Institute](#) has examples of Biomimicry in action.
- [The Circular Design Guide](#) has more examples and additional techniques, and information on how it fits into circular design.



Ready, set, go!

SET UP

Begin the activity with a good prompt, such as a needs statement, a user story, a Hill, or just a pain point identified in an As-is Scenario Map. Write this prompt somewhere everyone can see.

My product needs to _____

How does nature _____?

SET UP

Take the essential problem or theme of your prompt and ask: “How does nature do this?”

You may want to use multiple sheets for multiple problems.

My product needs to pool resources.


How does nature pool resources?

DIVERGE


In this activity, you can explore the features or implementation of the idea, as long as you still keep the big idea top of mind.

My product needs to pool resources.
How does nature pool resources?

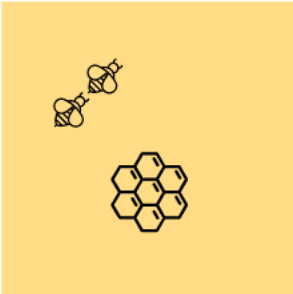
fungi that live with tree roots help move water between trees




clouds carrying water - water systems



bees collecting honey



trees with a shared root system



DIVERGE

Create many ideas and quickly share them with each other. Build off others' ideas, but avoid drifting into features or talking about implementation details.

My product needs to pool resources.

How does nature pool resources?

fungi that live
with tree roots
help move
water between
trees



clouds
carrying water
- water
systems



bees
collecting
honey

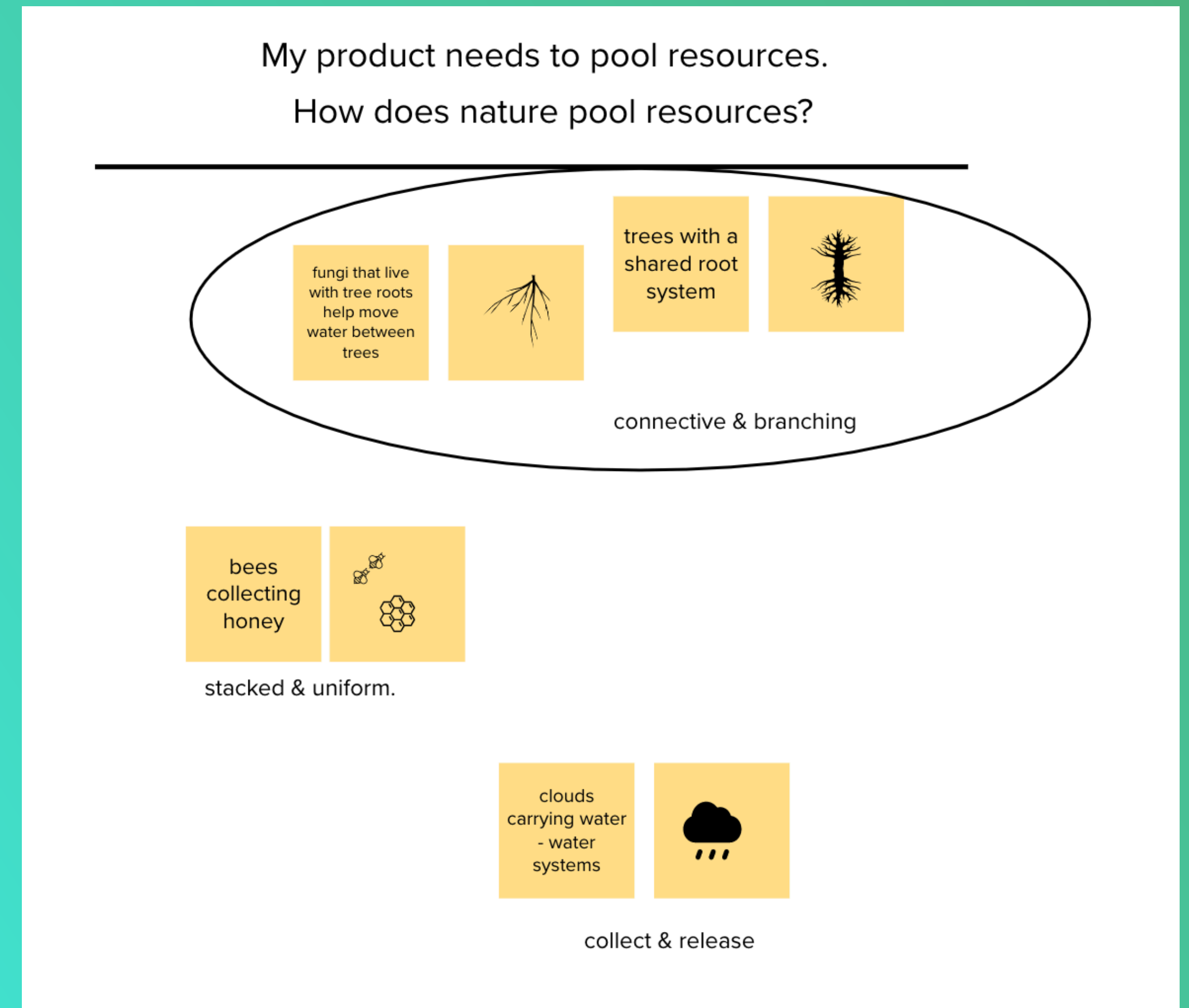


trees with a
shared root
system



CONVERGE

Look for similar ideas and natural affinities. Move them physically closer together. As you do, name the clusters. Converge on a set that you all want to pursue.



PLAYBACK

Choose one person
to play back each
cluster of ideas.

- Review your clusters first. Feel free to discuss and add more ideas as you all review the clusters.
- Consider which ideas best represent the user needs or pain points you listed. Present these to the group.
- As a potential follow-on discussion, consider as a group how these ideas might be adapted into the world.

TOOLKIT

Big Ideas: Sustainability Prompts

INTRODUCTION

Why do you use this activity?

Use this activity to rapidly diverge on a breadth of possible solutions to meet your user and planet needs, while keeping sustainability principles in mind to spark innovation and creativity.

INTRODUCTION

What are the benefits of this activity?

Increases the diversity of ideas and supports participants that are finding it difficult to ideate. This activity includes some examples. Facilitators that prepare contextual prompts will be rewarded with more specific ideas quicker.

INTRODUCTION

When should you use this activity?

During ideation, any time your team gets stuck or wants to improve the sustainability value, use these cards as keywords to spark ideas. Turn them into questions - for example, how might we “re-use” something in the process?

INTRODUCTION

We suggest **30 minutes** for this activity.
How much time you spend is up to you!

- **Read the prompts before you ideate.** Think about these prompts and how they apply *before* writing or sketching ideas.
- **Group ideas by these prompts.** Stand back and look at how many ideas you have as a group related to each prompt.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users.** Tell stories about users to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

SET UP

Begin the activity with a good prompt, such as a needs statement, a user story, a Hill, or just a pain point identified in an As-is Scenario Map. Write this prompt somewhere everyone can see.

Needs Statement:

Volunteers need a way to reduce their environmental impact so that they can live up to our mission of helping the environment!

Goal:

Track Carbon usage and report to third parties.


SET UP

Review the sustainability prompts and select 3-4 to use as guiding principles in ideation. If you are unsure which prompts apply, review which ones might help you meet your original goals in this space.

Using the sustainability goals and values you and your company have, pick a 2-4 of these and ideate with them as a focus.


REDUCE

Minimise harm to the environment through reducing use of particular materials, systems, services or resources.




REMOVE

Remove a process, system or need for a resource if it has the potential to cause harm to the environment. Be careful about removing vs substituting - they are not the same thing!




RE-USE

Re-use materials, processes and tools wherever possible - reducing the need to create new ones which may cause additional harm.




RECYCLE

Recycle resources, processes and systems as much as possible. Think about your physical touch points and how you promote the recycling of these objects.




CONSERVE

Embed conservation principles to help users conserve energy, water, food and resources wherever possible. Encourage conservation at every opportunity.




ANTICIPATE

Anticipate the future trends and concerns of users. How will their impact to the environment change and how can we help them adapt for the future?




GO ZERO

Strive for zero waste and emissions where possible. What additional measures might you need to embed or change in your service to meet this?




LOCALISE

Keep things local. What do we have at our fingertips which could be better used or served? How might our service embed itself in the local community better?




EMPOWER

Give users the tools to be "in charge" of their usage and impacts through using your product or service. Give them the confidence to make decisions.



EDUCATE


Help users to learn as much as possible; knowledge is power! What can you teach them that will help them, their future and the planet?



Volunteers need a way to reduce their environmental impact so that they can live up to our mission of helping the environment!


GO ZERO

Strive for zero waste and emissions where possible. What additional measures might you need to embed or change in your service to meet this?




CONSERVE

Embed conservation principles to help users conserve energy, water, food and resources wherever possible. Encourage conservation at every opportunity.



EMPOWER

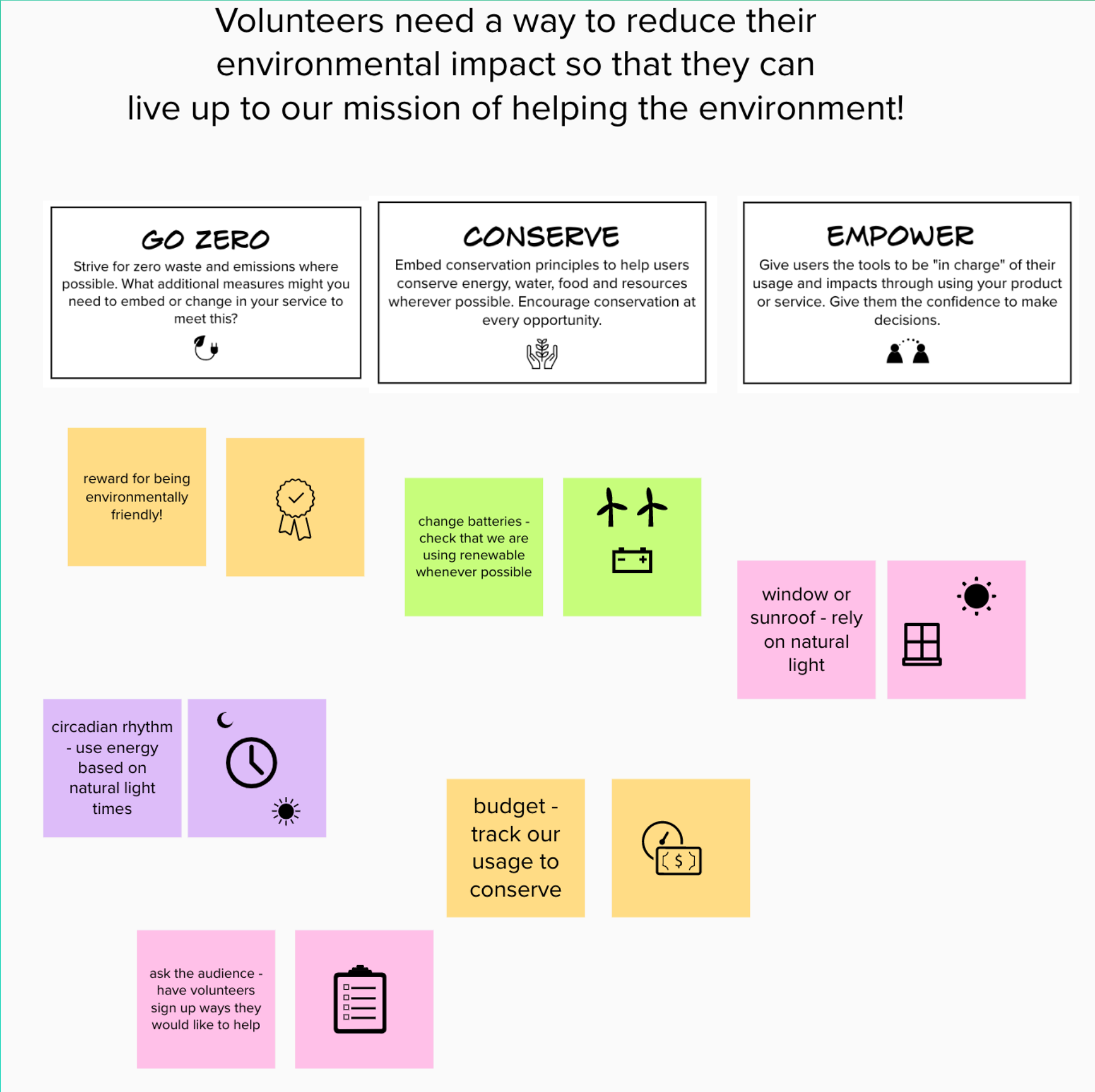
Give users the tools to be "in charge" of their usage and impacts through using your product or service. Give them the confidence to make decisions.



Sustainable Design Thinking Toolkit • © 2020 IBM Corporation

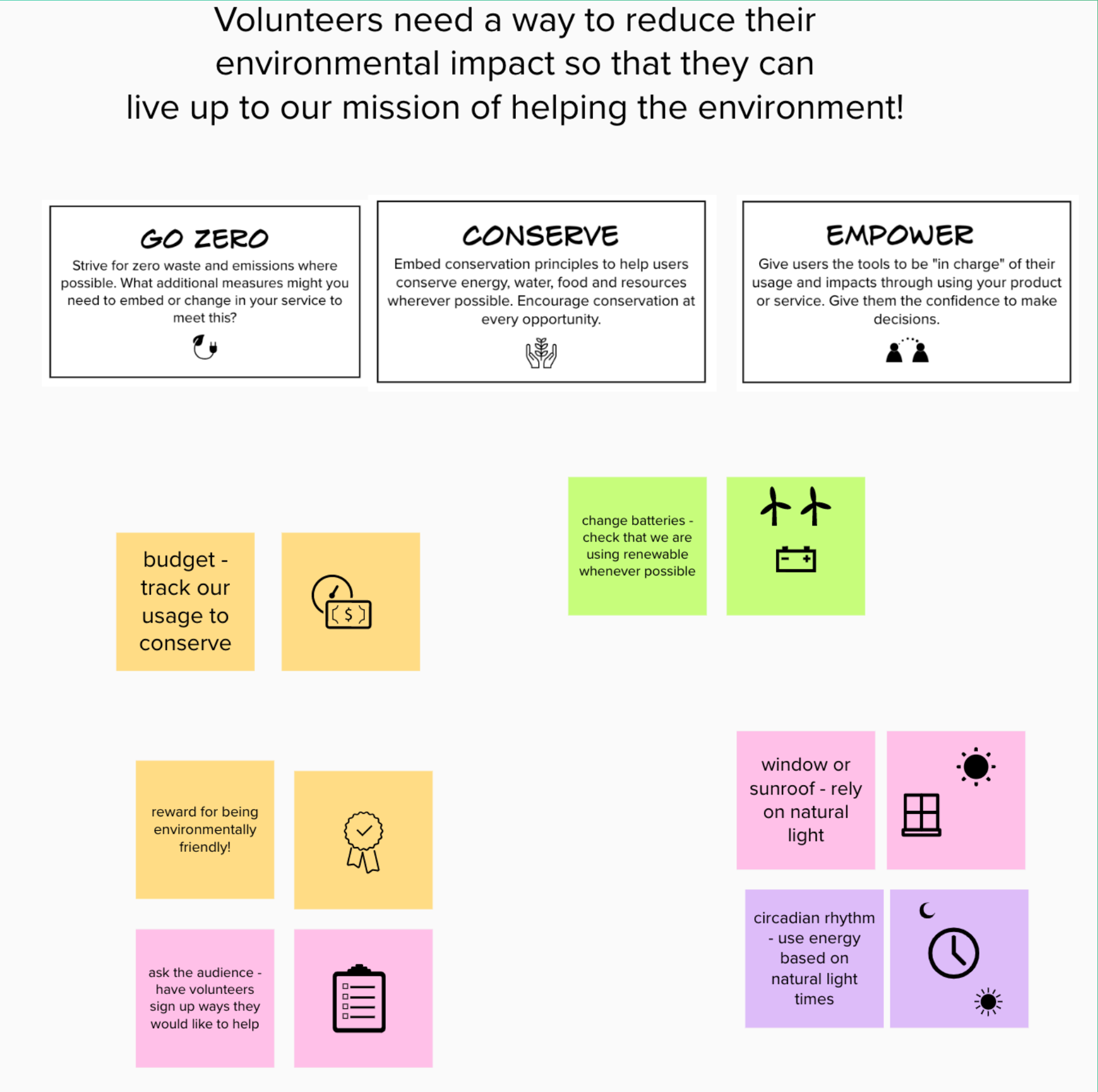
IDEATE INDIVIDUALLY

Ideate individually first for how you might solve this problem - diverge on ideas before you converge. Note concepts and be sure to stay away from features.



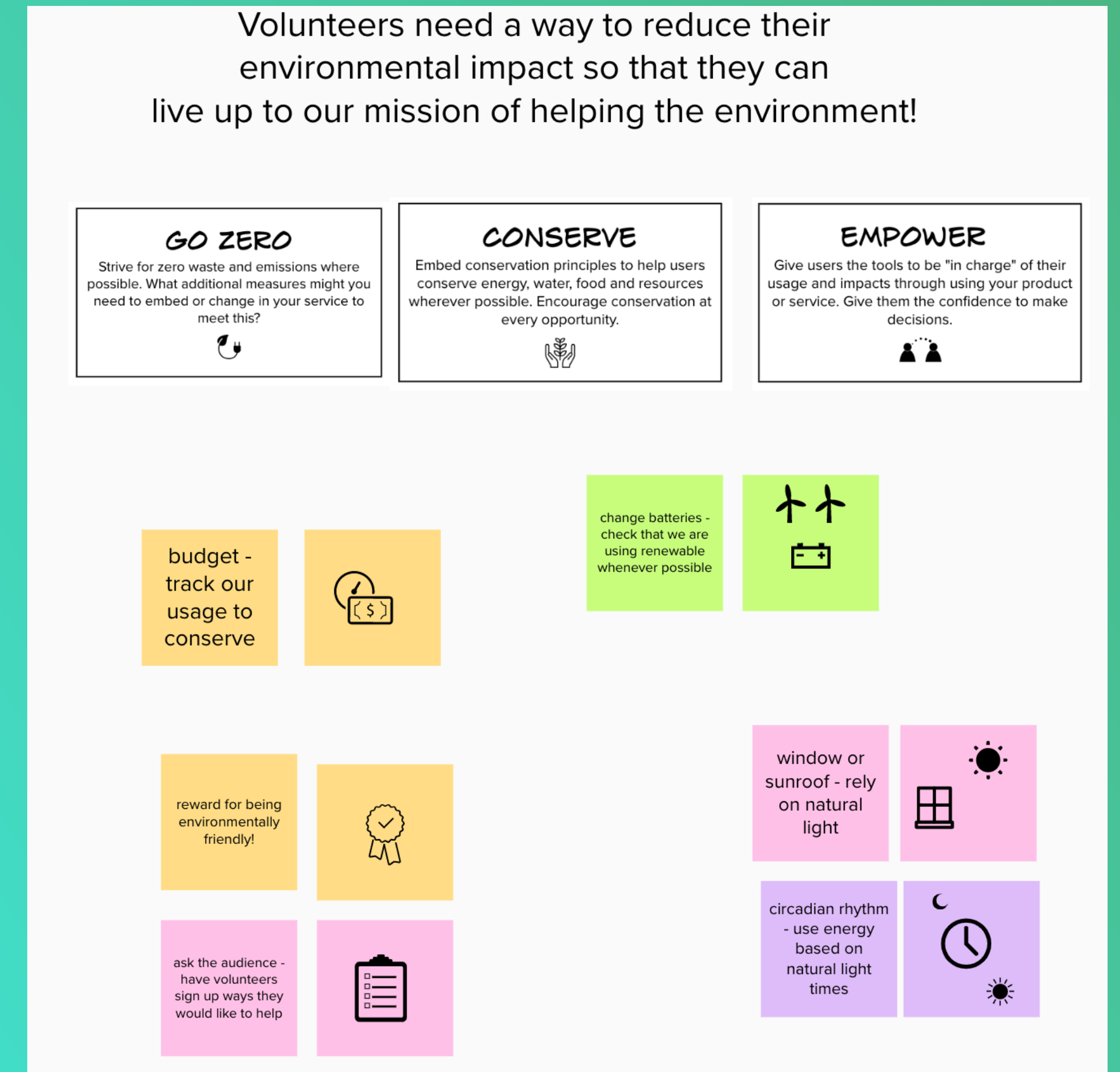
CONVERGE

Once all ideas have been gathered, start clustering ideas together. You can do this by specific prompts or sustainability themes. Encourage discussion on concepts and vote on ideas if needed.



REVIEW

Review your prompts and re-visit your ideas - have you got at least 1 idea up there for each prompt? Consider how these ideas might feed into each other - could you form 1 idea which solves multiple prompts?



Choose one to two people to present the ideas to the team.

-
- A man with curly hair and a beard, wearing a grey t-shirt and a light blue button-down shirt, stands on the left. A woman with dark hair, wearing a white cardigan over a teal top and patterned pants, stands on the right, gesturing towards a whiteboard. The whiteboard is covered with numerous colorful sticky notes (yellow, orange, pink, blue) containing handwritten text. Some notes include "F1 Race", "Hippo", "S", "X", "J", "W", "The One True", "Schitt's Creek", "Adrian City Limits", "CUTRA/ SOURCE DANCING", "LOCAL ARTIST", "Hess Out", "Franklin's BBQ", "Ice skate at Minute Frogs", "Tentative", "Food", "Scout", "Texas", "Cool beer in general", "cool coffee shop", "use bar & the living food", "mini car", "mini people", "UT football game", "Go Soccer", "Schitt's Creek", "Adrian City Limits", "CUTRA/ SOURCE DANCING", "LOCAL ARTIST", "Hess Out", "Franklin's BBQ", "Ice skate at Minute Frogs", "Tentative", "Food", "Scout", "Texas", "Cool beer in general", "cool coffee shop", "use bar & the living food", "mini car", "mini people", "UT football game", "Go Soccer", "Schitt's Creek". The background shows a modern office setting with a large screen and a window.



TOOLKIT

Prioritization Grid

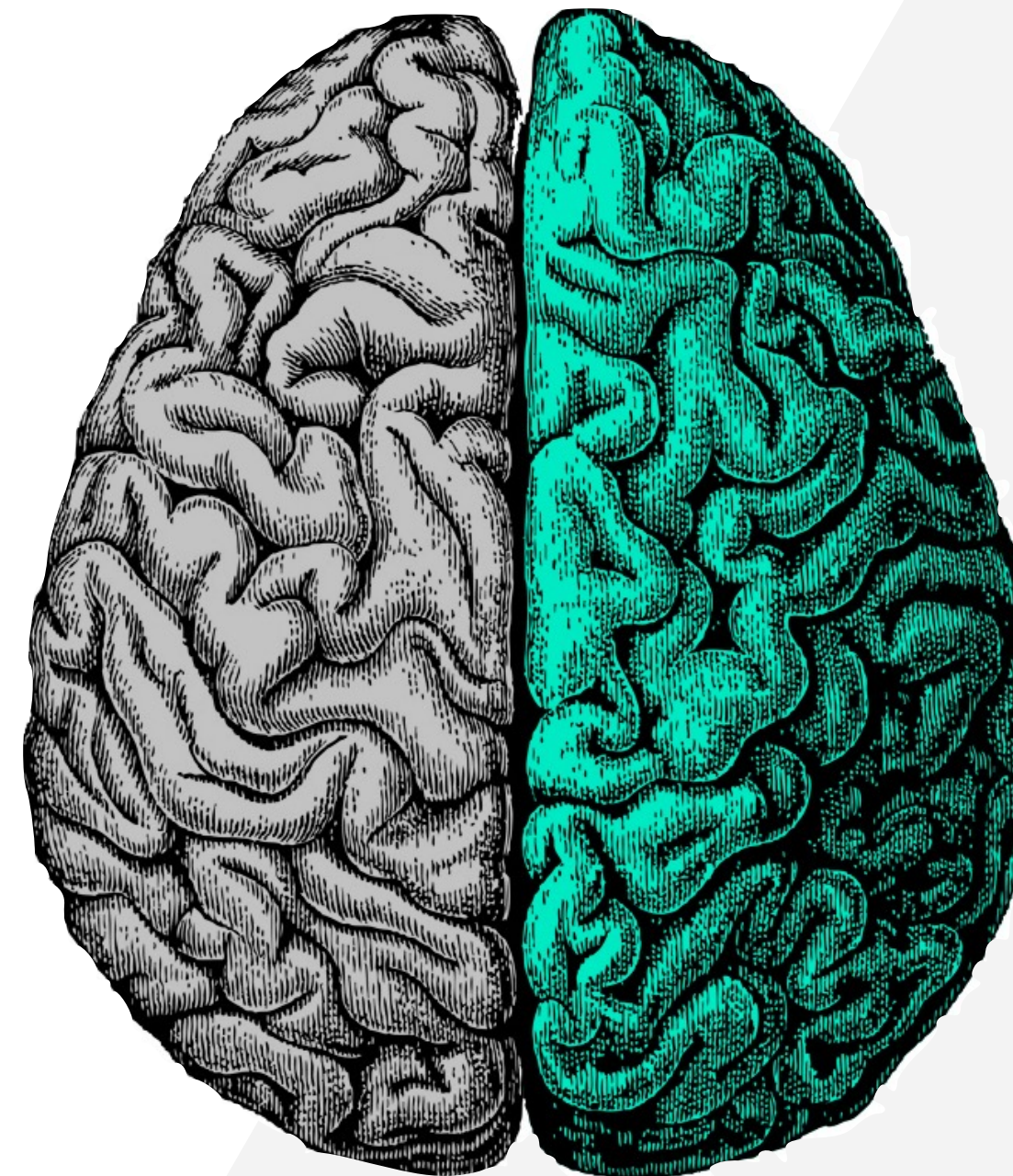
INTRODUCTION

Why do you use this activity?

Use this activity to decide your next move by focusing on the intersection of value and feasibility from a sustainability lense.

Most people evaluate too soon and too often, and therefore create less.

Create first, then use a Prioritization Grid to evaluate after that.



It's nearly impossible for our brains to **evaluate** and **create** at the same time.

INTRODUCTION

What are the benefits of this activity?

This activity benefits the team by aligning different perspectives, and allows us to see the sustainability benefits more clearly without user value bias. It also ensures that the best ideas are developed further - enabling more sustainable, user value focused experiences.

INTRODUCTION

When should you use this activity?

Use this activity when the team has come up with a range of ideas and is need of identifying which ideas to pursue for maximum impact.

As part of a typical voting and prioritization session you extend this with the additional sustainability vote.

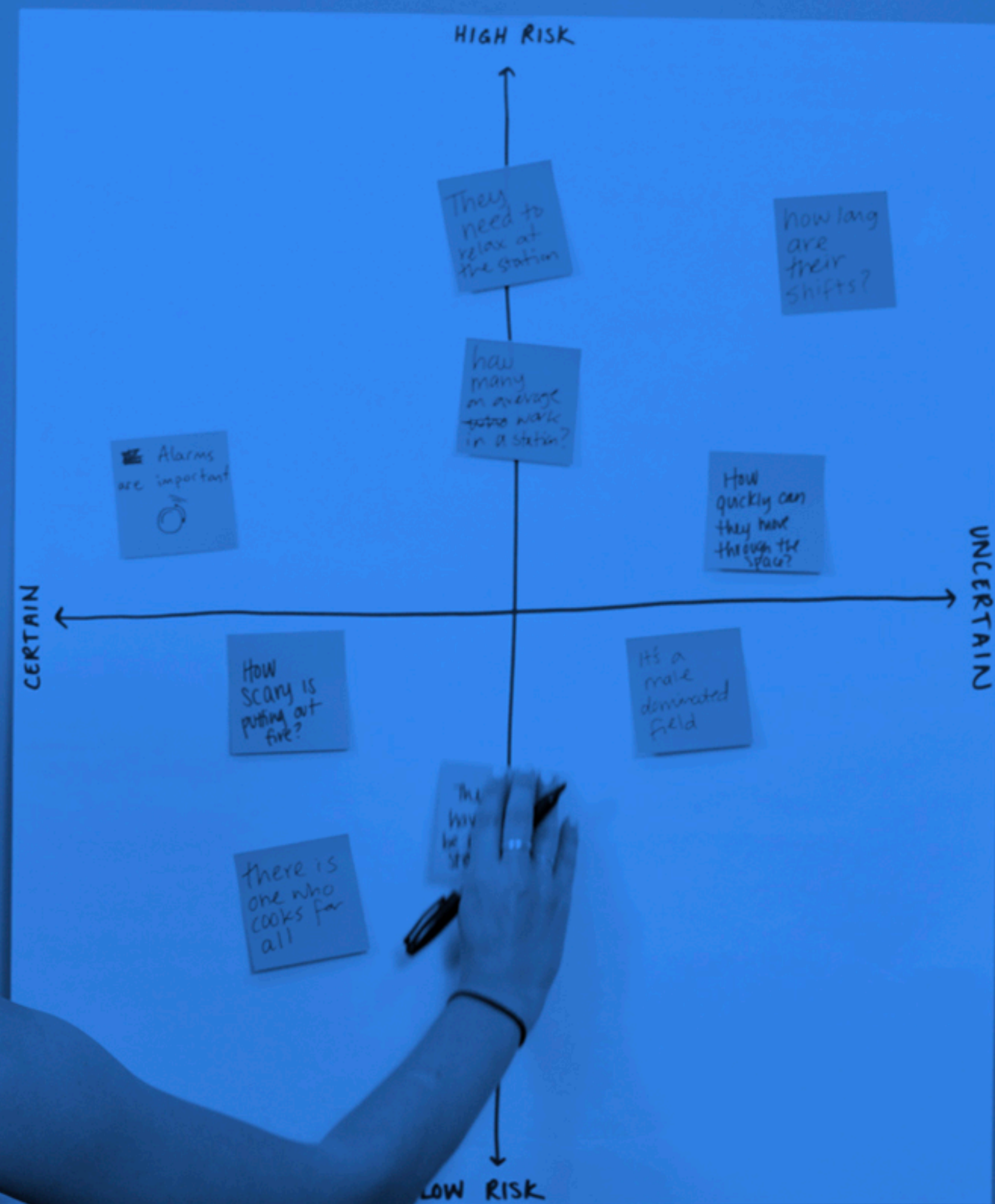
INTRODUCTION

We suggest **20 minutes** for this activity.
How much time you spend is up to you!

- **Consider before you vote.** Think about the original user and planet pain points before you vote on these separately.
- **Vote as individuals.** Vote individually, then discuss the output and number the total votes.
- **Stay focused on your users.** Tell stories about users to keep them at the center of your attention.
- **Stay focused on your planet needs.** Tell stories about your sustainability problem to keep them at the center of your attention.
- **Everyone participates.** Everyone has a marker and a pad of sticky notes.
- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.



Ready, set, go!



BIG IDEAS

Prioritization is only as valuable as the ideas you bring to the table, so make sure you have a strong set of ideas to prioritize.

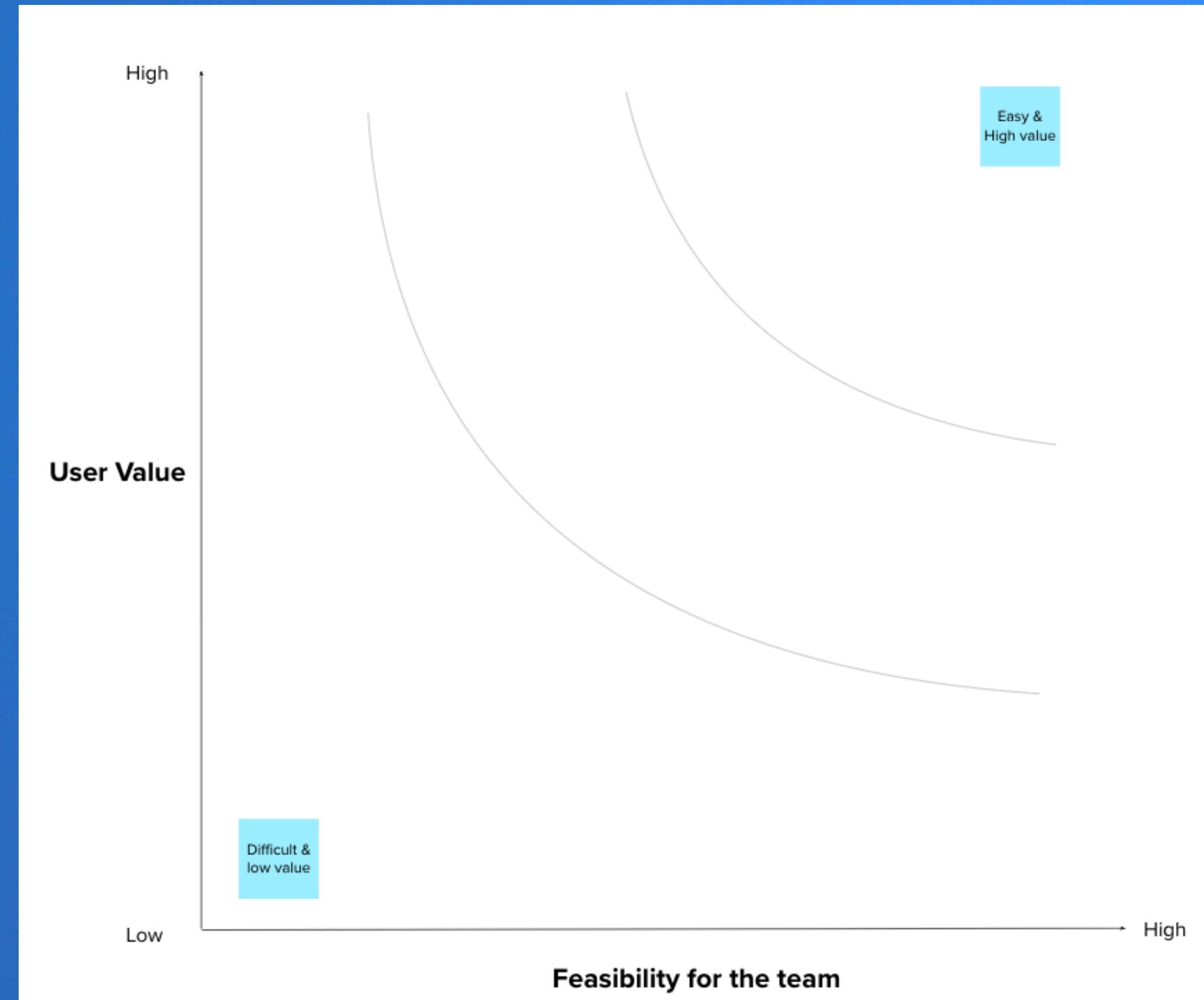
- **Example idea sources:** Big-Idea Vignettes, Biomimicry, or Sustainability Prompts



SET UP

On your whiteboard, large sticky pad, or virtual whiteboard, draw two axes: “Importance to the user” (low to high) and “Feasibility for the team” (difficult to easy).

- When deciding on importance, focus on *value delivered to the user by the idea*.
- Alternatively you can prioritize against *Business value*.



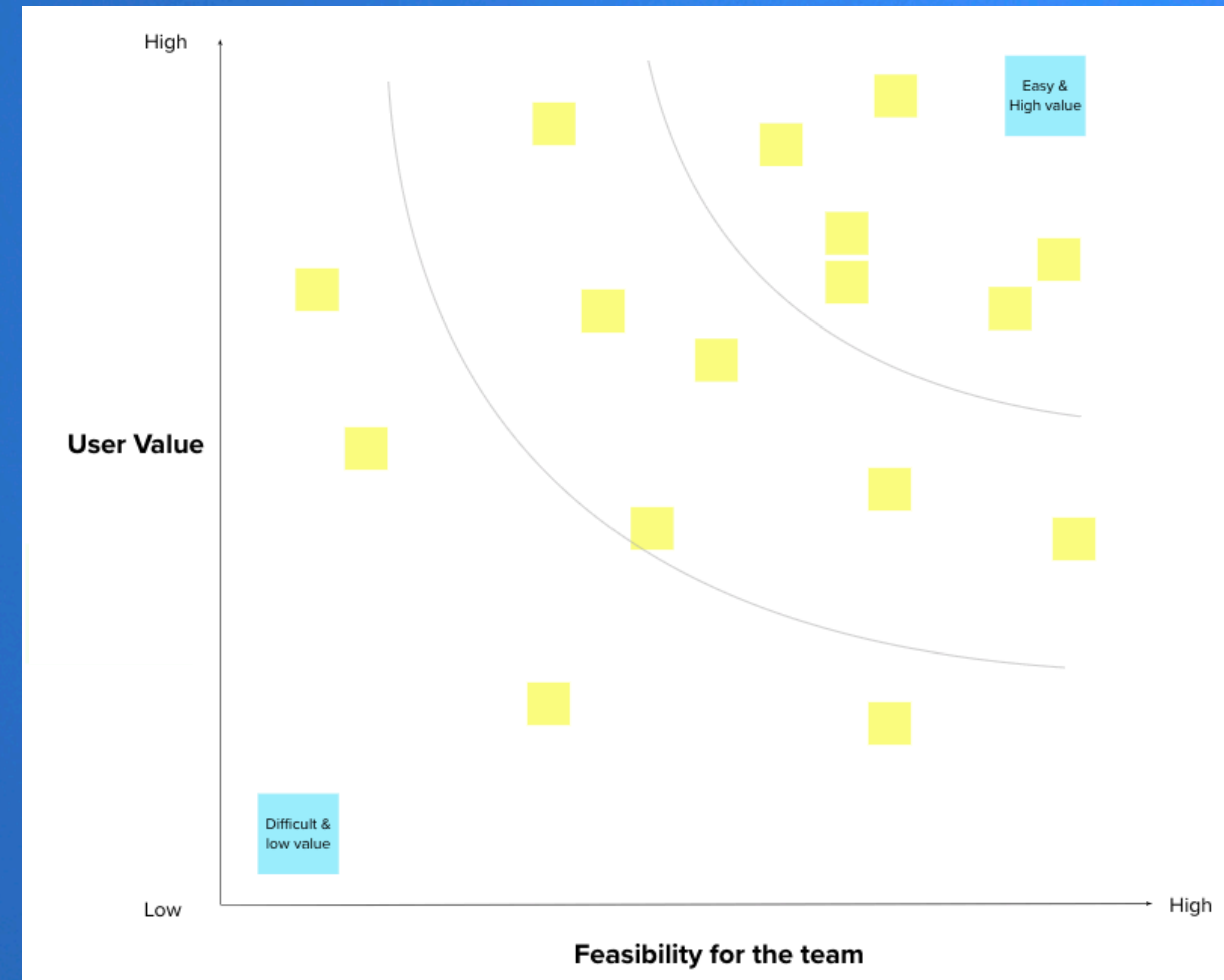
VOTE

Each participant receives the same amount of votes for value and feasibility.



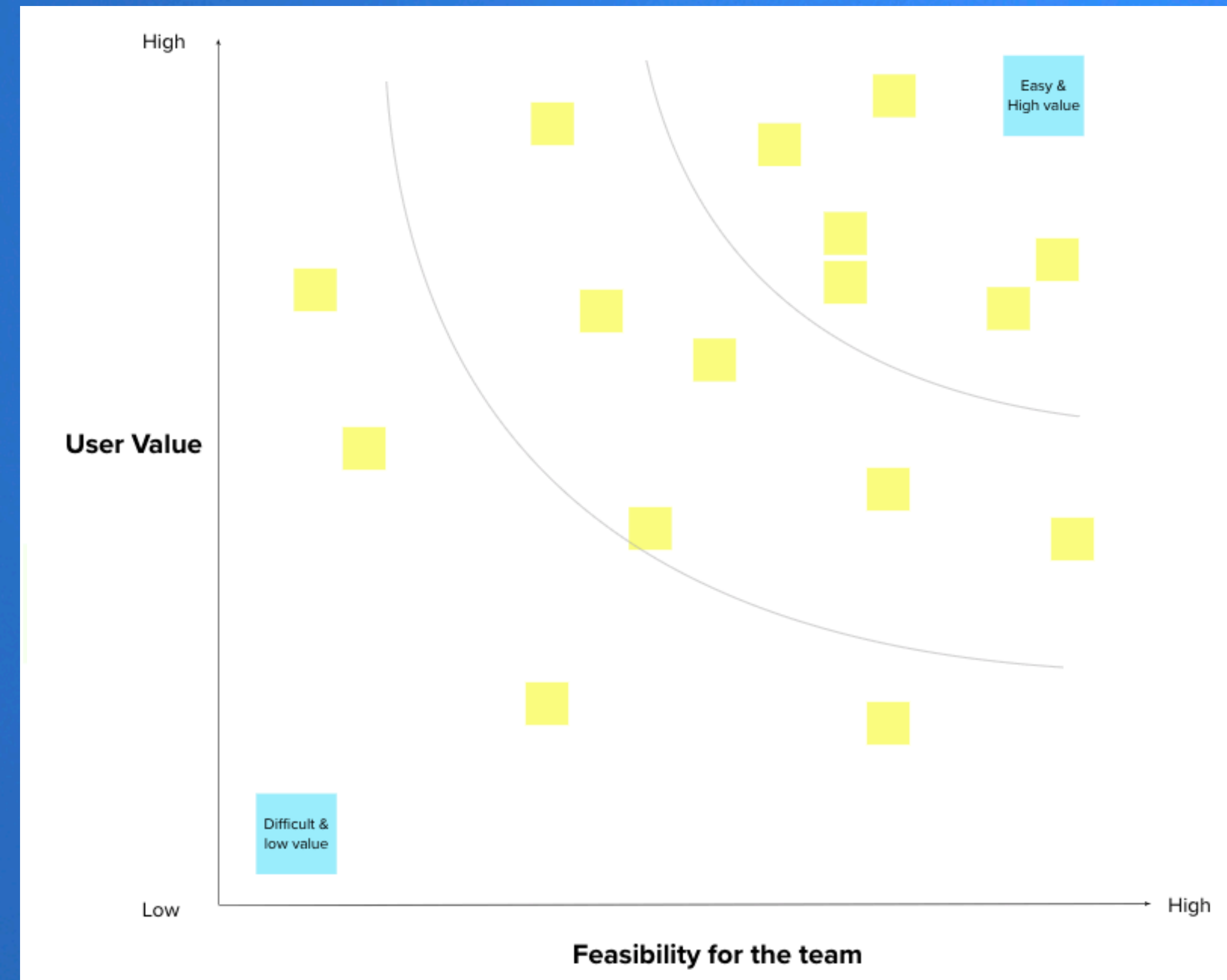
EVALUATE IDEAS

Quickly evaluate ideas individually that aim to help your user reach their goal, and roughly plot them on the grid where they make sense (based on your votes).



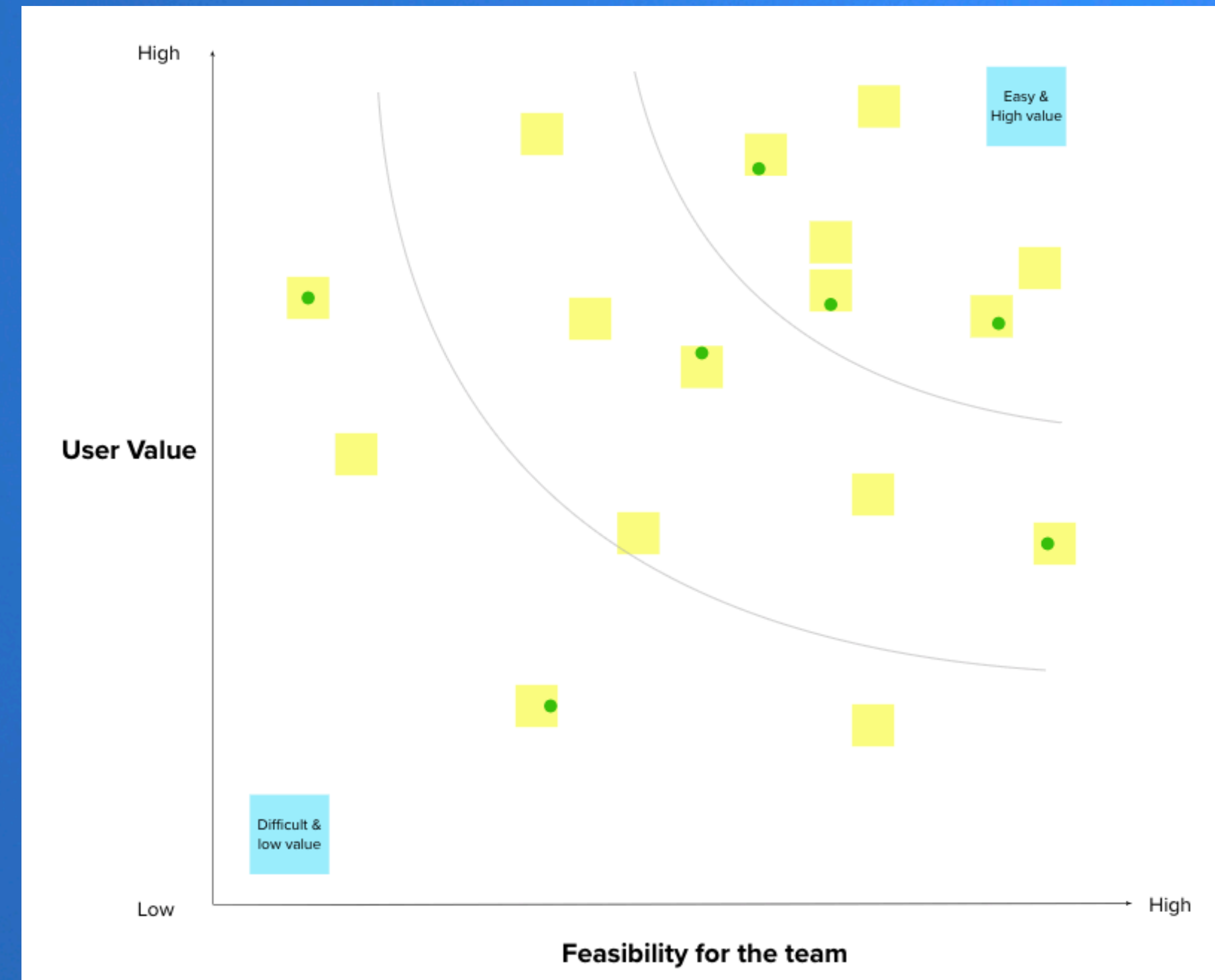
EVALUATE IDEAS

Now consider the sustainability value of these ideas - the planet, people and financial values. Discuss as a team.



SUSTAINABILITY VALUE VOTE

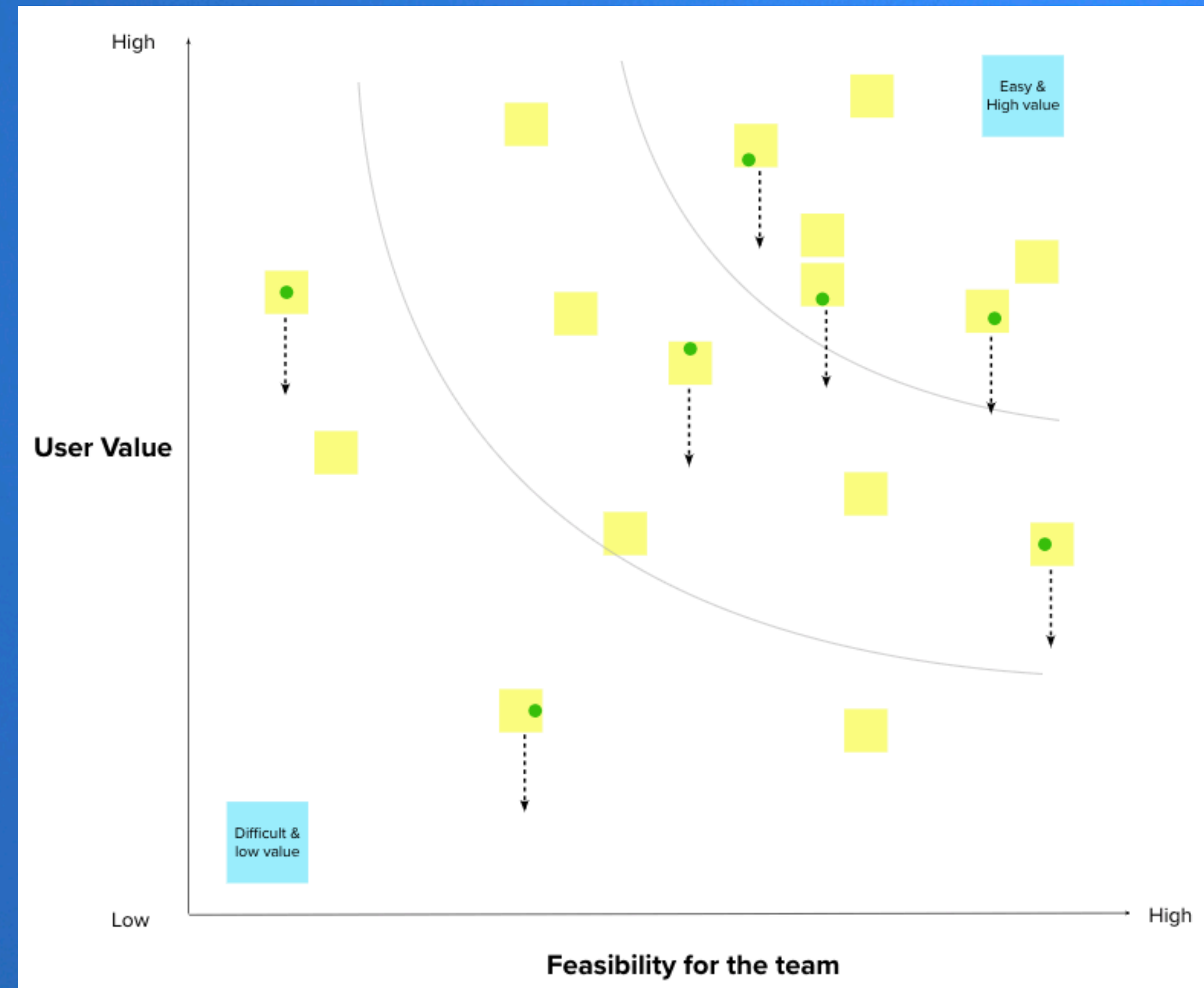
Ask participants to vote on the ideas that would create the most value in meeting the sustainability objectives.



REARRANGE IDEAS

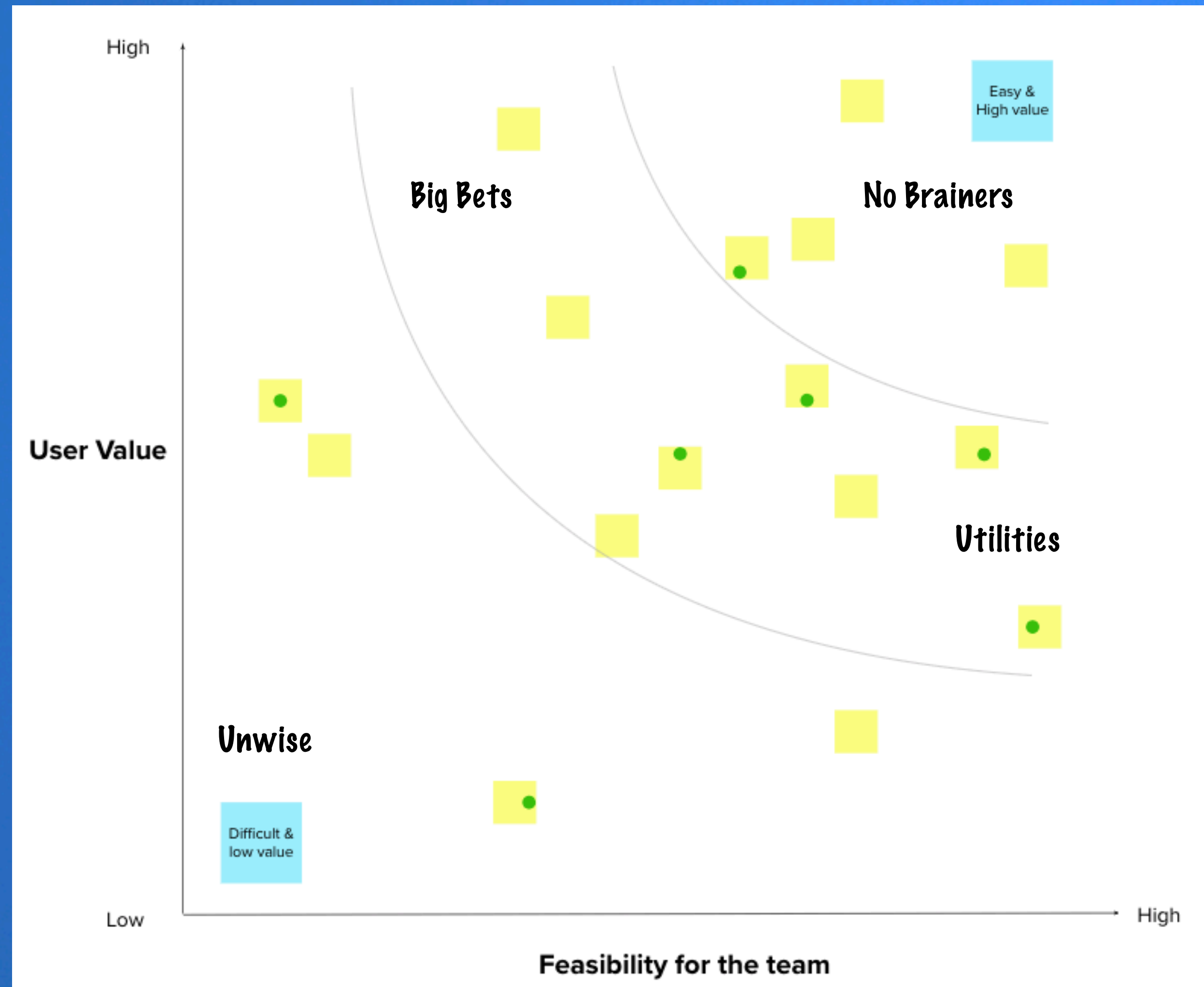
Adjust the user value accordingly, so that your chart reflects what your most beneficial ideas are - for the users, the planet and communities.

- Note, some ideas may move up based on sustainability value and others may move down.



FOCUS CONVERSATIONS

Draw rough sections across the map radiating out from the upper left. Label them *No brainers*, *Utilities*, *Big bets*, and *Unwise*.



Choose one to two people to present the prioritization to the team.

- [illegible]



TOOLKIT

Idea Valuation

INTRODUCTION

Why do we do this activity?

Use this activity if you need to quickly understand how well your ideas solve your sustainability problems across the main dimensions.

INTRODUCTION

When should you use this activity?

Any time you need to understand the benefits your ideas really give to individuals, the planet and the business on the identified sustainability problem(s).

INTRODUCTION

We suggest **20 minutes** for this activity.
How much time you spend is up to you!

- **Write before you talk.** Write or sketch lots of your ideas on sticky notes before talking about them. During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
- **Stay focused on your users.** Tell stories about users to keep them at the center of your attention.
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- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.

SETUP

Draw five rows and label them **Ideas**, **Planet benefits**, **Employee benefits**, **Customer benefits**, and **Financial benefits**.

Idea	
Planet and society benefits	
Employee benefits	
Customer benefits	
Financial benefits	
Considerations	

CAPTURE YOUR IDEAS

Take your top ideas from your ideation activity and place labels for them in the first row next to "idea". Note, this can take some time to do for each idea so it's usually best to use no more than 10 ideas.

Idea	Promoting electric car usage	Promoting cannibilization of flagship Locations	Expand partnerships with sustainable companies	Ensure that standards do not change in different Geos.	
Planet and society benefits					
Employee benefits					
Customer benefits					
Financial benefits					
Considerations					

THINK ABOUT THE PLANET AND SOCIETAL BENEFITS

For each idea, consider the planet benefits - how does this idea help the sustainability cause? Tip: Go back to your sustainability problem/goals and consider how effective this idea could be in addressing those.

Idea	Promoting electric car usage							Promoting cannibilization of flagship Locations	Expand partnerships with sustainable companies			Ensure that standards do not change in different Geos.		
Planet and society benefits	Reduced Co2 Emissions from vehicales		Reduced Co2 Emissions from vehicales		Reduced oil consumption		Sustainable supply chain - Improved suppliers, reduced co2 emissions		More funding for sustainability initiatives		More awareness on key issues		Growth without planet impact	
Employee benefits														
Customer benefits														
Financial benefits														
Considerations														

THINK ABOUT THE PEOPLE BENEFITS

For each idea, consider the employee and customer benefits - how could this idea help customers achieve their sustainability goals, or help employees perform their jobs more efficiently/more sustainably? Tip: Go back to your sustainability problem/goals and consider how effective this idea could be in addressing those.

Idea	Promoting electric car usage										Promoting cannibilization of flagship Locations										Expand partnerships with sustainable companies										Ensure that standards do not change in different Geos.																																							
Planet and society benefits	Reduced Co2 Emissions from vehicales										Reduced Co2 Emissions from vehicales										Reduced oil consumption										Sustainable supply chain - Improved suppliers, reduced co2 emissions										More funding for sustainability initiatives										More awareness on key issues										Growth without planet impact									
Employee benefits	More charging opportunities at work										Reduced cost of commuting										Nicer vehicle										Upskilling in greener jobs										Prestige, enjoyment of work										Consistent experience globally																			
Customer benefits	Greater charging network nationwide										Improved charging experience										greater sustainable offerings										Ability to consume at a lower carbon footprint										Consistent customer experience globally																													
Financial benefits																																																																						
Considerations																																																																						

THINK ABOUT THE FINANCIAL BENEFITS

For each idea, consider the financial benefits - how could this idea help improve efficiencies and consequently have financial impacts? Consider what you might be removing/replacing from your supply chain which has a real financial impact. Tip: Go back to your sustainability problem/goals and consider how effective this idea could be in addressing those.

Idea	Promoting electric car usage							Promoting cannibilization of flagship Locations	Expand partnerships with sustainable companies	Ensure that standards do not change in different Geos.	
Planet and society benefits	Reduced Co2 Emissions from vehicales		Reduced Co2 Emissions from vehicales		Reduced oil consumption		Sustainable supply chain - Improved suppliers, reduced co2 emissions		More funding for sustainability initiatives	More awareness on key issues	Growth without planet impact
Employee benefits	More charging opportunities at work		Reduced cost of commuting		Nicer vehicle		Upskilling in greener jobs		Prestige, enjoyment of work		Consistent experience globally
Customer benefits	Greater charging network nationwide		Improved charging experience				greater sustainable offerings		Ability to consume at a lower carbon footprint		Consistent customer experience globally
Financial benefits	People preferring to use bp charging points		More sales, more customers				Increased customer loyalty & return customers		Grow customer base		
Considerations											

THINK ABOUT ADDITIONAL CONSIDERATIONS

Finally, for each idea you may want to think about the additional considerations or concerns for this idea - for example, could this cause any additional sustainability problems? Consider what you might be removing/replacing from your supply chain and how this might have other effects. Tip: You may want to leave out this final step if you are planning to perform a 'planet consequences' activity.

Idea	Promoting electric car usage							Promoting cannibilization of flagship Locations	Expand partnerships with sustainable companies	Ensure that standards do not change in different Geos.	
Planet and society benefits	Reduced Co2 Emissions from vehicales		Reduced Co2 Emissions from vehicales		Reduced oil consumption		Sustainable supply chain - Improved suppliers, reduced co2 emissions		More funding for sustainability initiatives	More awareness on key issues	Growth without planet impact
Employee benefits	More charging opportunities at work		Reduced cost of commuting		Nicer vehicle		Upskilling in greener jobs		Prestige, enjoyment of work		Consistent experience globally
Customer benefits	Greater charging network nationwide		Improved charging experience				greater sustainable offerings		Ability to consume at a lower carbon footprint		Consistent customer experience globally
Financial benefits	People preferring to use bp charging points		More sales, more customers				Increased customer loyalty & return customers		Grow customer base		
Considerations											

INTRODUCTION

Choose one person to play back the snapshot of benefits for each idea.

- Discuss which ideas your team had prioritized and why.
- Play back the ideas you now see as having the most impact and how these were represented across people, planet and profit gains.



Enterprise
Design
Thinking
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TOOLKIT

Deliver

Enterprise
Design
Thinking
by IBM

TOOLKIT
Hills

INTRODUCTION

Why do we do this activity?

If you don't know where you're going, you might not get there. Use Hills to clearly state your intent in terms of user and market value, as well as sustainability for future users.

INTRODUCTION

When should you use this activity?

Hills describe something a specific user is enabled to do—not an implementation. They give teams the creative space they need to come to breakthrough ideas. Write Hills at the beginning of a project or initiative, **as you identify** the real needs of your users.

INTRODUCTION

When should you use this activity?

You can also define **sustainability hills** for your team or company.

These will focus the solution around the planet or future users.

INTRODUCTION

We suggest **60 minutes** for this activity.
How much time you spend is up to you!

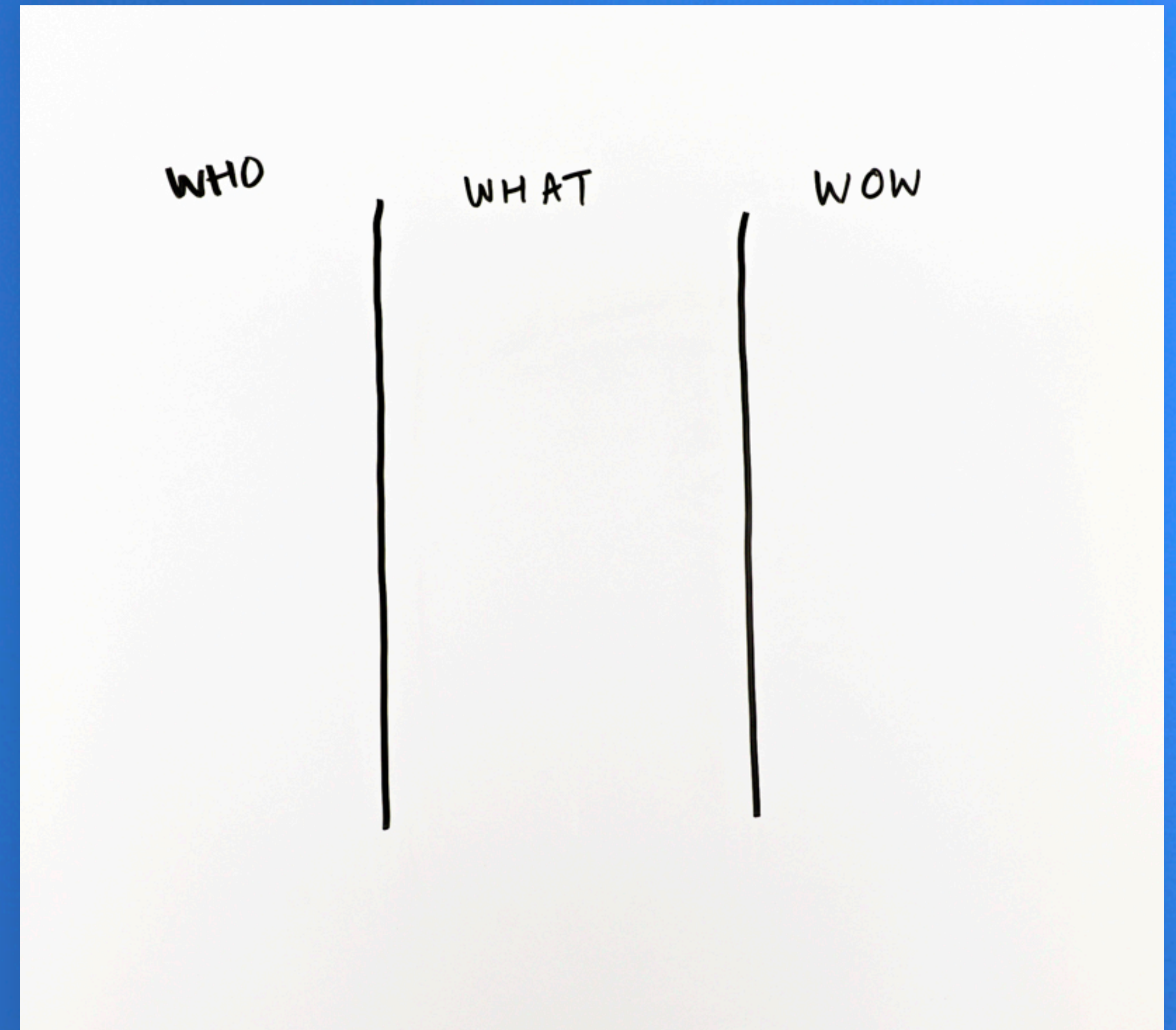
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- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

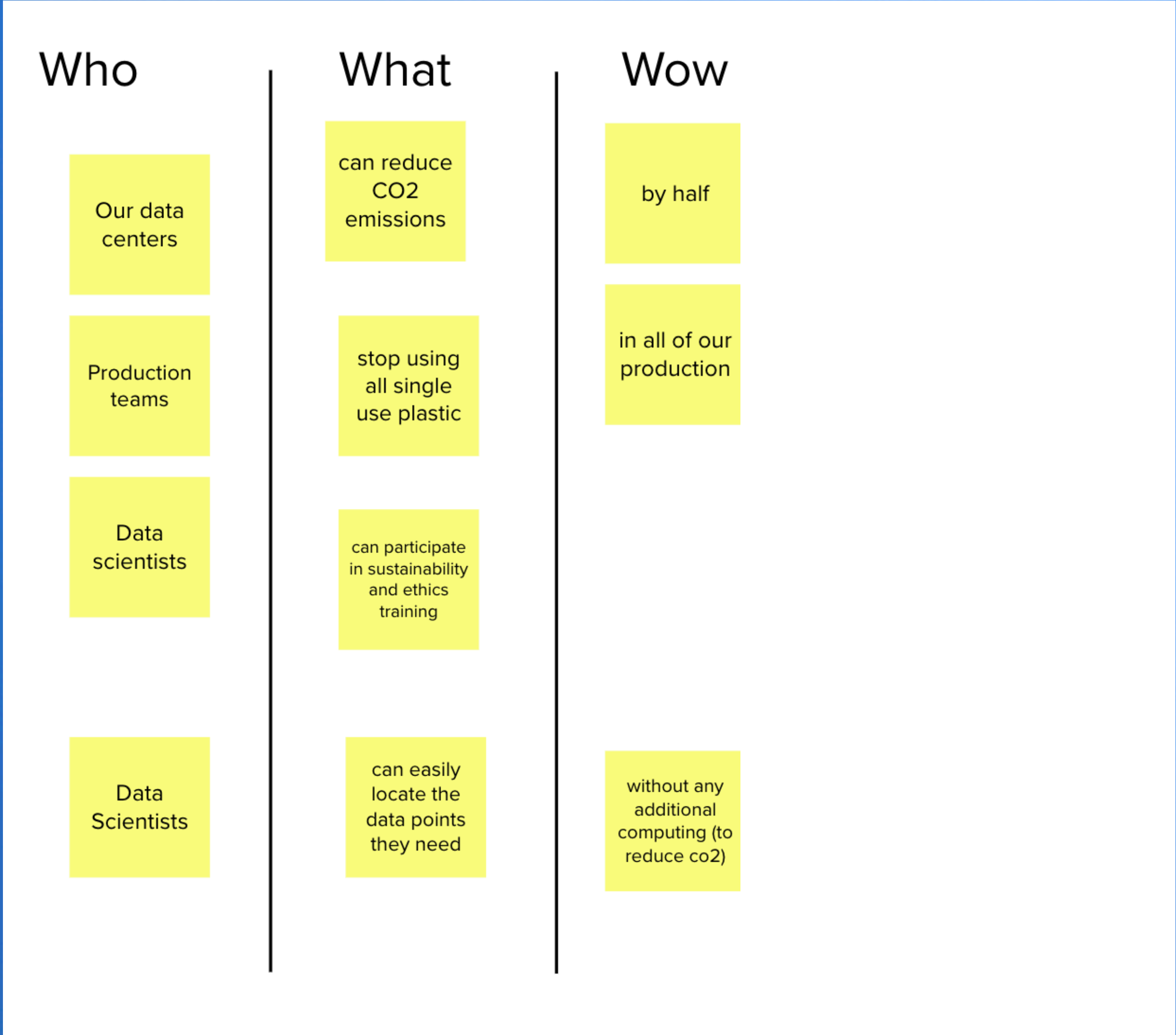
SET UP

On your whiteboard, large sticky pad, or virtual whiteboard, draw three sections: *Who*, *What*, and *Wow*.



IDEATE

Diverge on many ideas for each section and quickly share them with your teammates. Build off of others’ ideas, but focus on quantity over quality and avoid drifting into features or talking about implementation details.



BUILD

Build sentences using your ideas under *Who*, *What*, and *Wow* (and maybe *When*).

- Draft them quickly and begin to mix and match until you find a combination that clearly describes your intention for your user.



Data scientists can easily locate the data they need without any additional CO2 generation by next year

SET UP

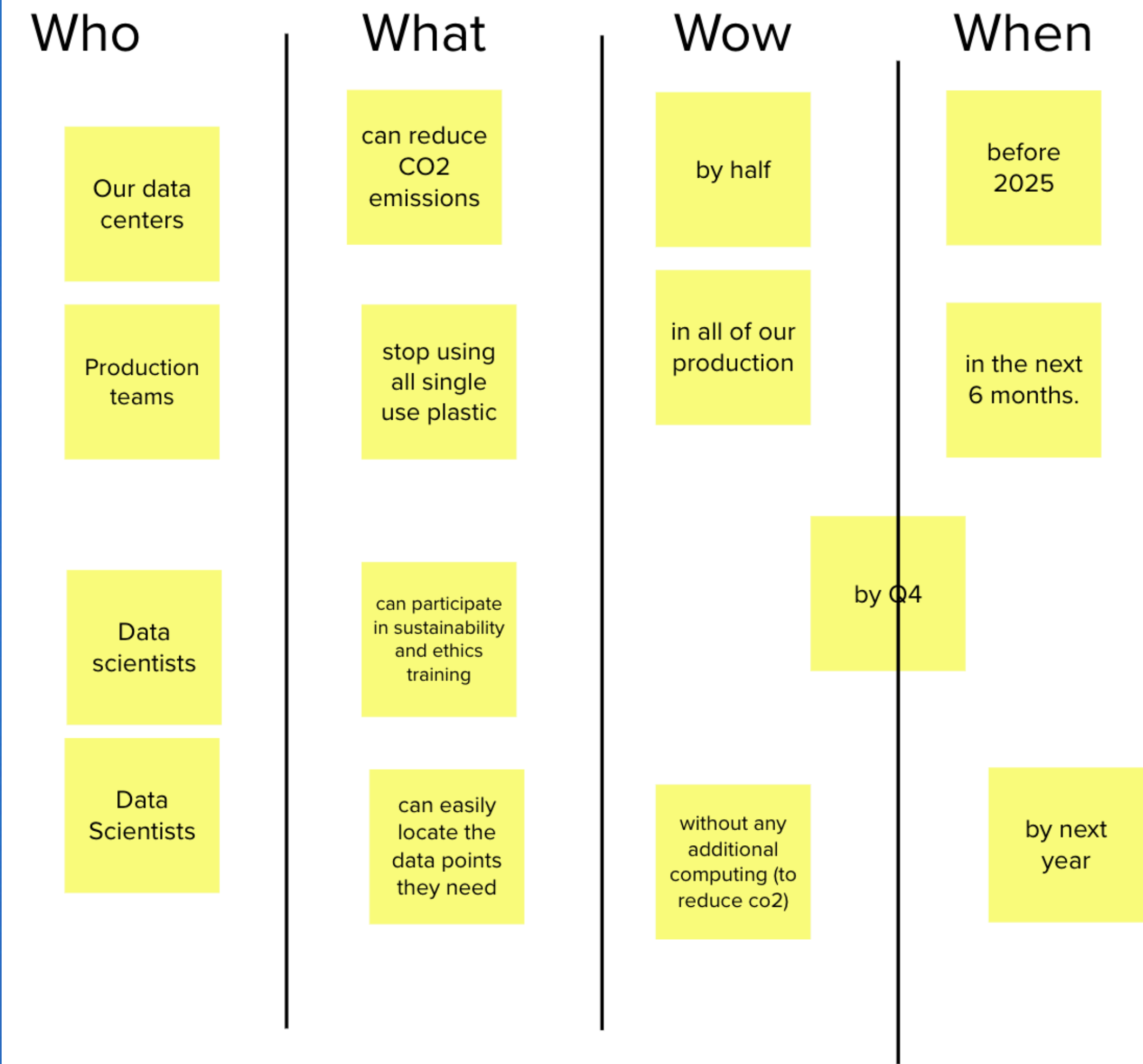
Now you have your statements, add the "When" column. This should reflect whether you are focusing on current, near-future or far-future users for each statement.

Who	What	Wow	When
Our data centers	can reduce CO2 emissions	by half	before 2025
Production teams	stop using all single use plastic	in all of our production	in the next 6 months.
Data scientists	can participate in sustainability and ethics training		by Q4
Data Scientists	can easily locate the data points they need	without any additional computing (to reduce co2)	by next year

Data scientists can easily locate the data they need without any additional CO2 generation by next year

REFINE

Find a fresh pair of eyes to read your drafted Hill and give feedback.
Remember: Your Hills will evolve based on your continued understanding of the problem and your users.



Data scientists can easily locate the data they need without any additional CO2 generation by next year

TOOLKIT

To-be Scenario Map

INTRODUCTION

Why do you use this activity?

Reflect on how your team's ideas address your users' current needs and their invisible impact on the planet and communities by drafting a vision of their future experience.

INTRODUCTION

When should you use this activity?

Use To-be Scenario Maps as your team ideates potential solutions. This is a great artifact to put in front of stakeholders and users to align on your team's intent.

INTRODUCTION

What makes a good To-be Scenario Map

- Relates back to your As-is map
- Resolves user pain points or fulfills need statements
- Tells an engaging story

INTRODUCTION

When should you use this activity?

Use this method early and often to test your prototype or solution by seeing how users work through a series of tasks while speaking their thoughts out loud. There are no bad ideas.

INTRODUCTION

What do I need to know?

Before you begin, review or reference the Planetary Impact slides at the end of the deck.

This information can help you walk through the last row of the activity if you have not already found this information.



INTRODUCTION

We suggest **60 minutes** for this activity.
How much time you spend is up to you!

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- **Stay engaged.** Avoid side conversations. Use a “parking lot” to capture issues that are off-topic.
- **Start on time, stay on time.** To meet our goals, we need to watch the clock and stick to the plan.
- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

SETUP

Draw five rows and label them: *Steps*, *Doing*, *Thinking and Feeling*, *Contributing Factors*, and *Impact on the Planet and Communities*. Draw a line of visibility between *Thinking and Feeling* and *Contributing Factors*.

Phases	
Doing	
Thinking and feeling	
Contributing factors	
Impact on the planet and communities	

BRAINSTORM

Ask yourselves: “What is our user doing, thinking, and feeling throughout their experience?”; “What are the invisible factors contributing to that experience?”; “What are its invisible impacts on the planet and communities?”.



CLUSTER AND IDENTIFY PHASES

Use this time to cluster similar stickies, refine the order, and draw rough columns that represent the unique phases of your user’s current experience. Be sure to name the phases.



IDENTIFY HIGHS AND LOWS

Circle and label areas that are particularly positive or negative for your user, the planet and communities. Leave blank areas where you need to learn more.



TOOLKIT

Layers of Effect

Activity based on AI Essentials: Knowledge.

INTRODUCTION

Why do you use this activity?

To anticipate the full intended and unintended impacts of an idea you're exploring. This enables your team to identify areas where you should reduce negative behavior and reinforce positive behavior.

Activity based on AI Essentials: Knowledge.

INTRODUCTION

What are the benefits of this activity?

Experiences can create positive or negative behavior environmentally and socially. The team can predict what may lead to unintended consequences and work towards mitigating them.

This activity helps us differentiate between whether we are creating a solution or an alternative to the As-Is.

INTRODUCTION

When should you use this activity?

After selecting ideas that you are developing further. Give time to people involved to brainstorm as many negative and positive effects of your idea and experience. Evaluate this impact as a group and develop a plan to counteract or reinforce it.

Tip: You may need additional research after ideation to inform this activity.

INTRODUCTION

We suggest **60 minutes** for this activity.
How much time you spend is up to you!

- **Write before you talk.** Write or sketch lots of your ideas on sticky notes before talking about them. During discussions, capture the main points on sticky notes and post to the wall.
- **There are no bad ideas.** Start big. Diverge to get everyone's ideas out there. Come back together to discuss, cluster, and seek patterns. Then, converge to determine the strongest ideas.
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- **Yes, and...** Instead of dismissing the ideas that your teammates suggest, push yourself to build on them.



Ready, set, go!

SET UP

Write down your intent in the format [Business] can [intent] by [Big Idea]. Then draw the primary, secondary and tertiary layer boxes.

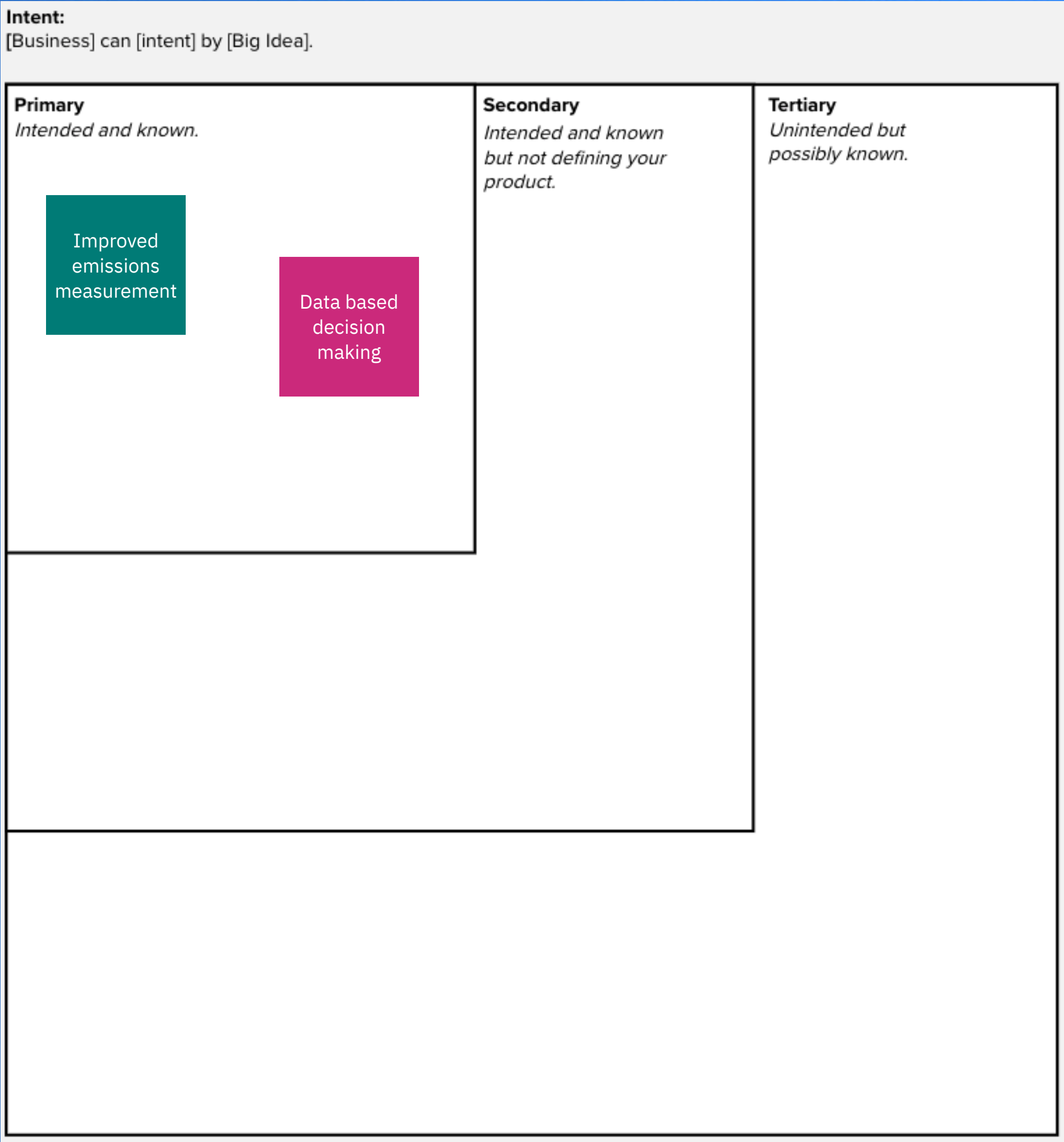
Intent:
[Business] can [intent] by [Big Idea].

<div>Primary <i>Intended and known.</i></div>	<div>Secondary <i>Intended and known but not defining your product.</i></div>	<div>Tertiary <i>Unintended but possibly known.</i></div>

IDEATE PRIMARY OUTCOMES

List out the primary effects of your product or. Primary effects are intended and known. Include user, society, environmental and business effects.

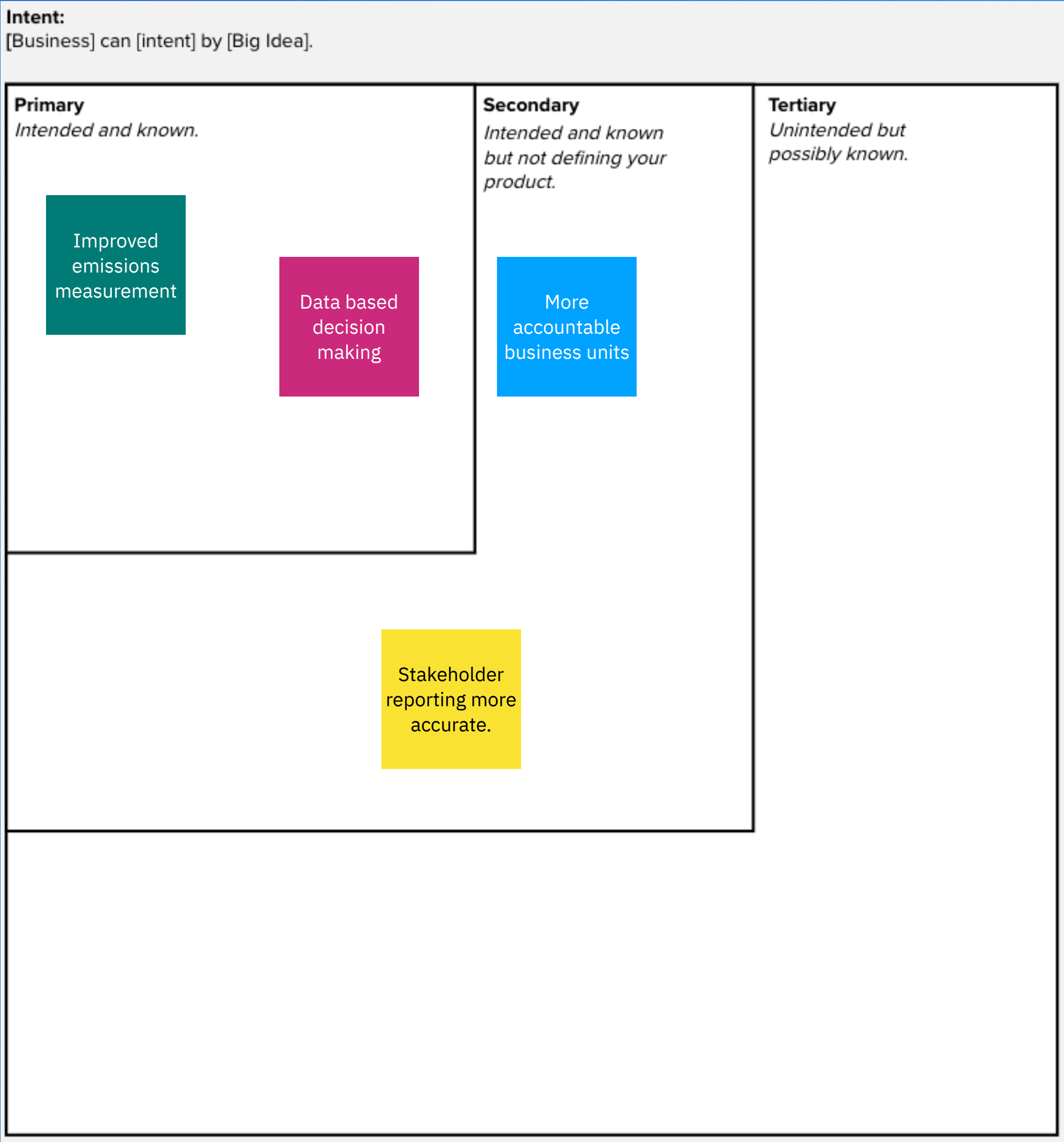
For example: Reduced waste



IDEATE SECONDARY OUTCOMES

Next, list out the secondary effects of your product. These effects are also intended and known but not necessarily the defining characteristic of your product.

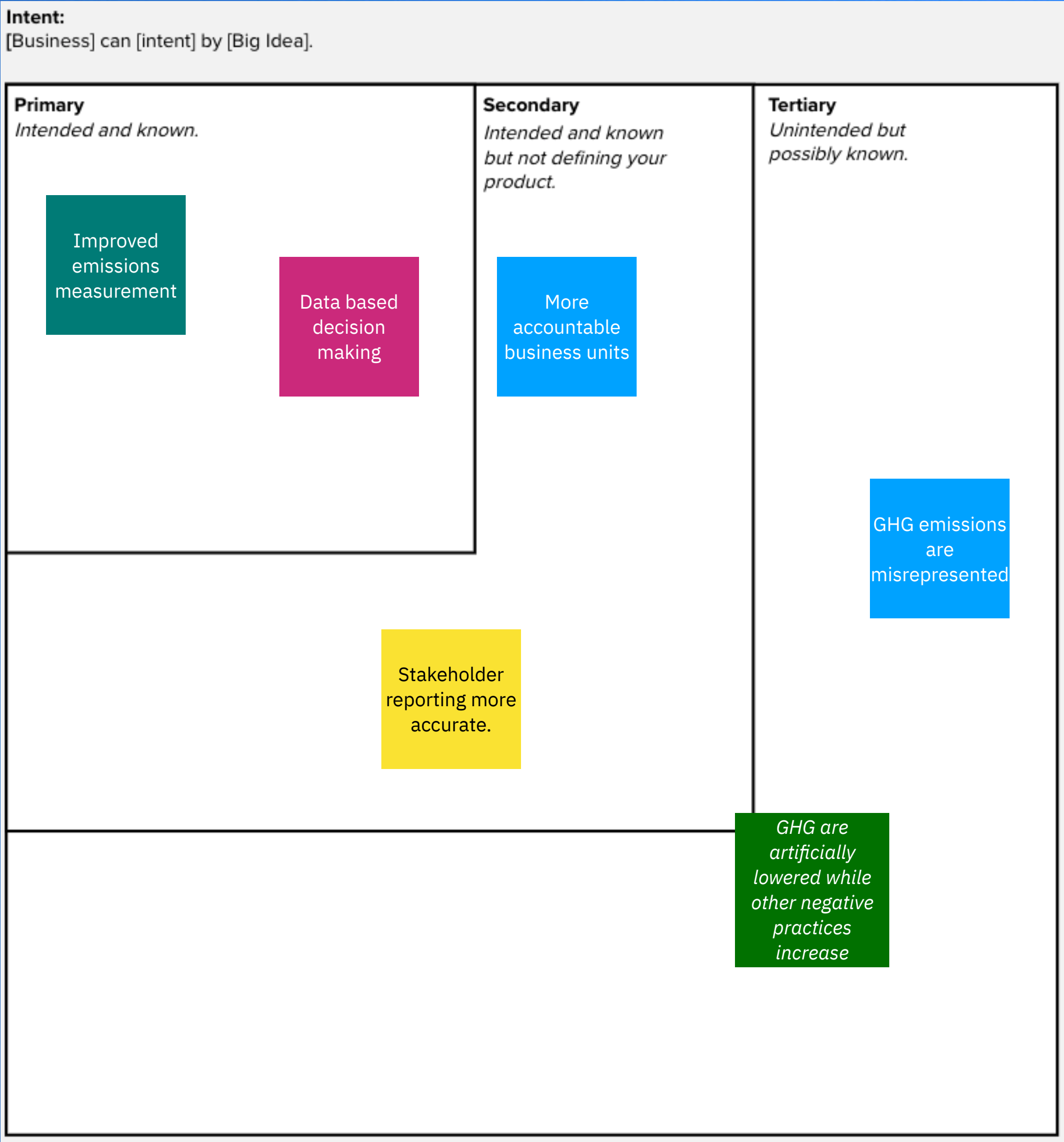
For example: Shareholder holding company more accountable, GHG data may make new solutions less lucrative.



IDEATE TERTIARY OUTCOMES

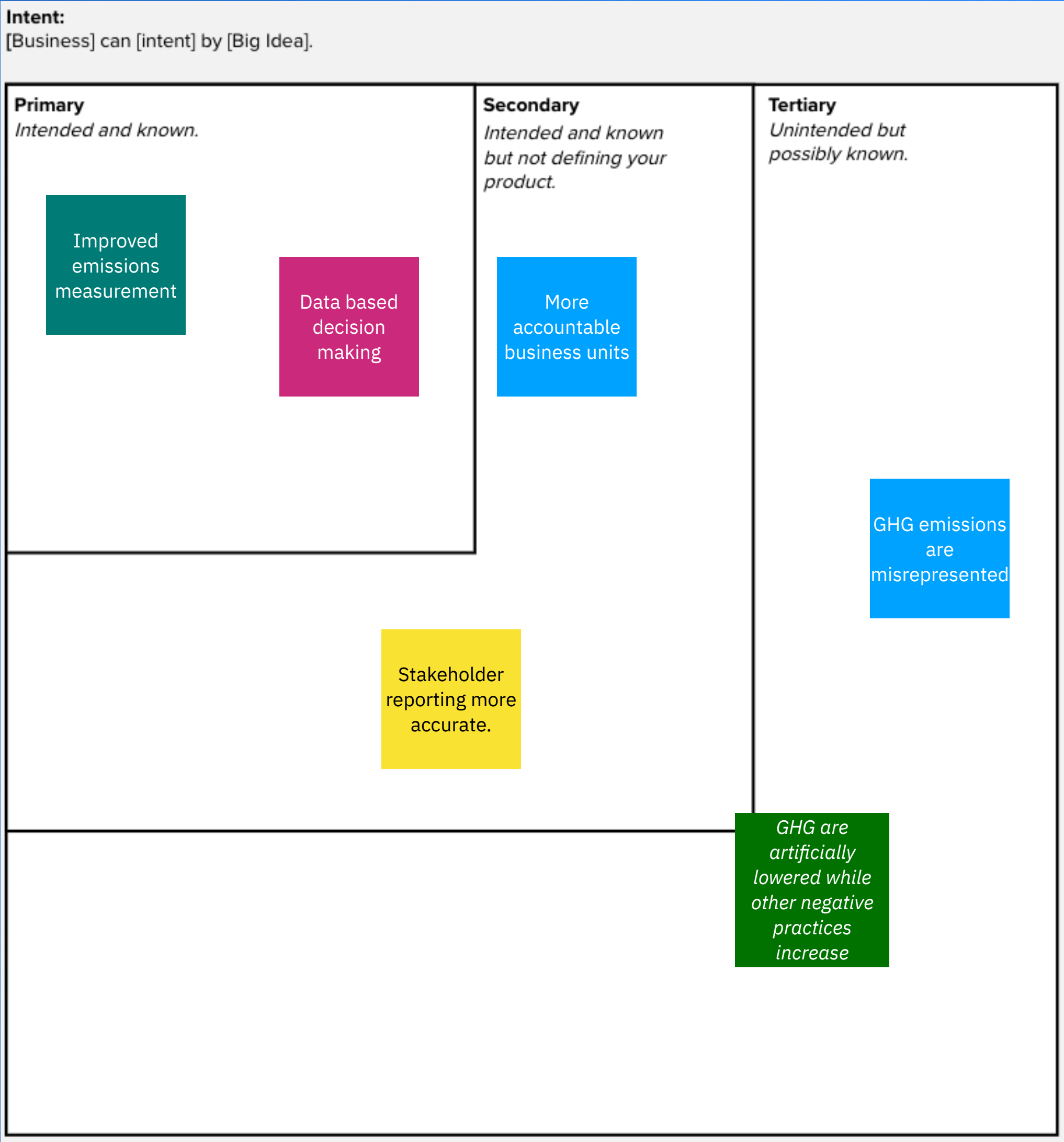
Finally, think about the tertiary effects for everything you have up on the board. Tertiary effects are unintended but possibly known.

For example: GHG emissions are misrepresented, GHG are artificially lowered while other negative practices increase.



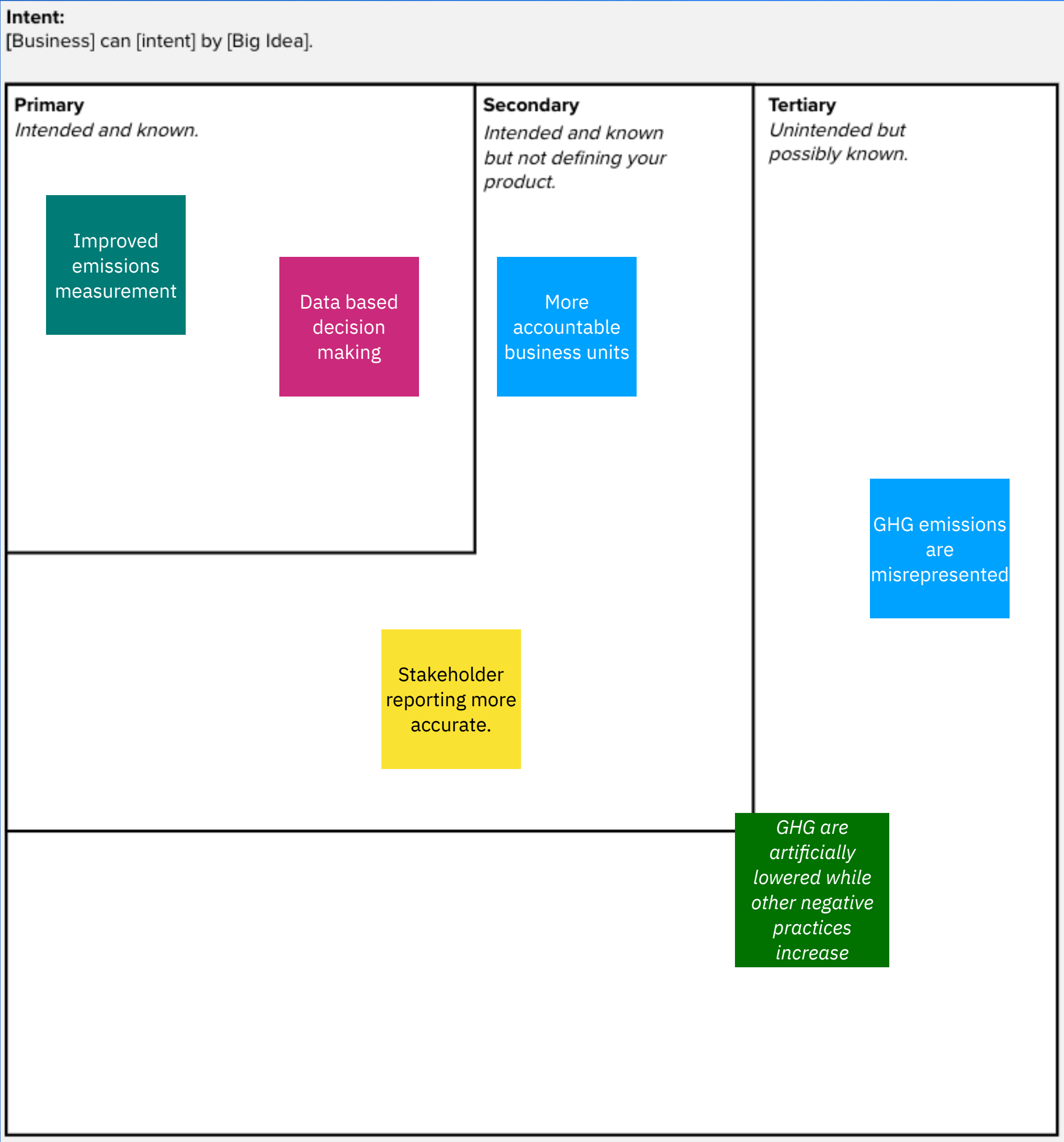
TERTIARY OUTCOMES CONTINUED

Try to specify as much as possible here, but don't shy away from guesses if you need to think through areas where you may not control all of the outcomes. What are the worst possible outcomes and circumstances?



CONVERGE

Identify how you may strengthen primary, make unintended impacts managed and how you can avoid tertiary impacts in your iterations.



PLAYBACK

Choose one to two people to present the results to the team.

- What areas are you certain are true?
- Where are there still gaps in your team's knowledge?



TOOLKIT

Appendix

TOOLKIT

Planet Impact

INTRODUCTION

What is **Planetary Impact**?

- Planetary impact is quite simply **anything that affects our planet**.
- This can include things that can **harm our planet**, such as CO2 emissions, trash that goes to landfills, pollution, and more.
- It also includes things that **benefit our planet** (and us), such as using recycled materials, absorbing CO2, planting trees, and generating compost.
- Some things may be **neutral**, which you can choose to include or leave out.
- Some examples of neutral impacts are: using water and replacing it in the water system, releasing CO2 and using Carbon offsets, or anything that might affect the planet in neither a positive or negative way.

INTRODUCTION

Need some help getting started?
Here are some planetary impact prompts.

- **Is any waste generated?** What kind and would it be considered trash, recycling, compost, or other materials?
- **Where do the materials used come from?** If they are raw or refined, could they be recycled?
- **How much CO2 does this activity generate?** If you are using data centers or machine learning, there may be lots of CO2 generated (see the next slide for quick resources).
- **Does this process consume or produce water?** Does it pollute water?
- **Are there any benefits to this process?** Is it more sustainable than the alternative? (ex: Cloud Computing is typically better for the environment than on premise data centers, but still generates CO2 and uses energy)
- **How much electricity or energy does this activity consume or create?** Is it sustainably sourced (wind, solar, hydraulic, etc?)

Planetary Impact

INTRODUCTION

If you're stuck or need more information, look up impact by industry.

Cloud

- Has the benefit of being better than storing things on-premise, but data centers can be CO2 intensive.
- [Environmental Benefits of Cloud Computing](#)
- [Why Does Cloud Computing Affect the Environment?](#)
- [People, Planet, Clouds](#)

Cognitive and AI

- Typically CO2 intensive, unless otherwise indicated.
- [Why we should care about the environmental impact of AI](#)
- [Can the planet really afford the exorbitant power demands of machine learning?](#)

Planetary Impact

INTRODUCTION

If you're stuck or need more information,
look up impact by industry.

Engineering, Web, Development

- [Sustainable Web Development: Is Your Website Hurting the Environment?](#)

Supply Chain

- [Starting at the source: Sustainability in supply chains](#)
- [Environmental Sustainability in Supply Chain Management](#)

Oil, Gas, Petroleum

- [Mapping the Oil and Gas Industry to the Sustainable Development Goals](#)
- [Oil And Gas Industry Guidance On Voluntary Sustainability Reporting](#)
- [Issues Impacting Sustainability in the Oil and Gas Industry](#)