

ResourCEd

INSTRUCTION RULEBOOK

For 3-4 players / Ages 14+



WPI

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Background

Hi everyone! We are one of the Worcester Polytechnic Institute student teams located in the USA! Our names are Jonathan Metcalf, Sean O'Connor, Elitumaini Swai, and Evan Vadeboncoeur. We spent several months creating this board game for all of you to play. The goal of this board game is to educate and engage the community around Broadmeadows (that's you!) in climate resilience planning — basically, doing all we can do to slow climate change as much as possible, and making sure the community is aware of the resources made available by BGCS to help mitigate around events like heat waves, droughts, and so on. This game teaches the principle of the circular economy, which says to recycle and reuse whenever possible. Reusing and recycling “closes the loop” of the local economy, because resources are reused whenever possible. In our board game, the goal of the game is to fully develop the area around Banksia Gardens Community Services, but doing so in a way healthy to the environment. This is shown through the Waste mechanic, which must be lowered to zero before the players are allowed to expand. If the players waste too many resources, then they can potentially lose the game. We hope you have a good time trying out this game!

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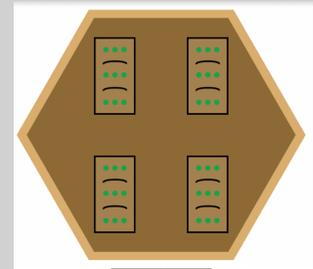
Game Overview



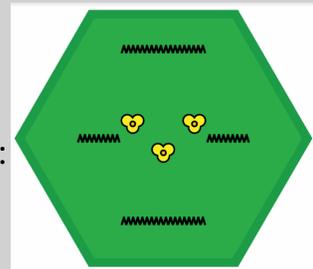
1. Banksia Gardens lies before you, ready for sustainable expansion. It consists of Banksia Gardens Community Center (the BGCS Tile) and 3 Rings of hexagons of open fields around it. Your goal is to work together to expand the circular economy of BGCS to the second and third Rings and remove all Waste.
 - a. This is a cooperative game; players win and lose **together**.
 - b. Players win if they have fully expanded to every Ring and have zero Waste at the end of a Round.
 - c. Players lose if Maximum Waste is met at the end of a Round, or if the last Round ends before they have completed the win conditions above.
2. There are 5 Resources in the game represented by Resource Cards:
 - a. Wood, Metal, Compost, Food, and Water.
3. There are 4 types of Resource Tiles that all produce different Resources. Here's what each Resource Tile produces:
 - a. Food Forest → Wood
 - b. Social Housing → Metal
 - c. Heat Haven → Water
 - d. Community Garden → Food
 - e. Note that Compost is not created by a Resource Tile; instead, it is created by specific Player actions (operating a Composter).
 - f. Additionally, BGCS produces one resource of any type of the player's choice.
4. Players work together throughout 20 Rounds, each taking 1 turn during the Round in clockwise order.
 - a. At the start of each Round before any turns, each Social Housing produces 2 Waste and requires 1 Food and 1 Water to sustain itself (any player may source these Resources).
 - b. Next, an Event occurs that affects all players. These Events may be good or bad, the probability of each being influenced by the current amount of Waste (refer to the table on the board).
Players work together on all Events.
5. Definitions:
 - a. "Use" means to return the Resource Card to the Resource Bank from the player's hand.
 - b. "Waste" means to place the Resource Card in the Waste Pile from the location specified.
 - c. "Recycle" means to return from the bottom of the Waste Pile to the Resource Bank in the proper Resource pile.
 - d. **Food and Water is Wasted instead of Used until a Composter is built; everything else in Resource costs is Used unless otherwise specified.**
6. On their turns, Players follow an Action → Move → Action turn structure, where their movement is controlled by the spinner.
 - a. Players first take an Action on their current Tile.
 - b. Players may move up to the number they spin (0 up to the number spun) on Placeable Tiles.
 - c. Players take a second action on the Tile they end on (can be the same Tile they began on).
 - d. Players can trade on their turn with 1 other player at any time, as long as it is a valid trade (below the trade limit and with a player in trading distance).

Game Overview Cont.

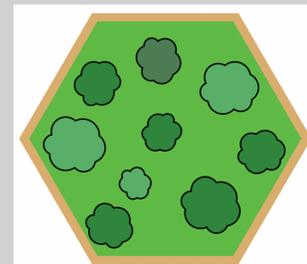
- a. At the end of their turn, if players have more cards in their hand than the current hand limit, they Waste Resources until they meet the hand limit.
- b. The game begins with a hand limit of 7 cards. This can be increased with Upgrades.
7. A player has 3 choices when taking an action: Gathering, Crafting, and Operating.
 - a. If a player chooses to Gather, they acquire Resources according to the Tile they are on.
 - b. If a player chooses to Craft, they may craft a Tile or an Upgrade **as long as they are on the BGCS Tile**.
 - i. These have a certain Resource cost that must be paid to craft.
 - ii. When a player crafts a Tile or an Upgrade, players immediately choose as a majority where to put
 - c. If a player chooses to Operate, they may operate an Upgrade on a Tile.
8. Upgrades may be crafted at BGCS and can be placed on their corresponding Tiles:
 - a. Food Forest → Irrigation System
 - b. Social Housing → Shipping Container
 - c. Heat Haven → Shelter
 - d. Community Garden → Composter
 - e. BGCS → Bus Stop
9. All Upgrades cause their respective Tiles to produce one more Resource of the type that the Tile produces when the player chooses to Gather Resources as an action.
 - a. Certain Upgrades have Operations, which may be Operated when a player is on the Tile containing the Upgrade.
 - i. Generally, players Use some amount of Resources to get other types of Resources.
 - b. Certain Upgrades have Effects, which affect all players no matter where they are on the board.
 - c. For example, if a player Gathers on a Heat Haven in the first Ring with a Shelter Upgrade on it, instead of Gathering 2 Water cards, they get to Gather 3 Water cards.
10. Players may Operate the Recycler Tile to remove Waste from the Waste Pile and decrease the likelihood of a bad Event happening.
 - a. Each player can only Operate a Recycler once per turn so it is a good idea to Craft a few.
 - b. Recyclers in Rings further away from BGCS cost more Resources to Craft, but in return remove more Waste from the Waste Pile.
11. Players must craft a certain number of **Social Housings** before progressing to the next Ring.
 - a. 3 total **Social Housings** to progress from Ring 2 to Ring 3
 - b. 6 total **Social Housings** to progress from Ring 3 (i.e. win)
12. Read the rest of the Instruction Rulebook for more in depth explanations of the topics and have fun playing!
13. See the Setup section to begin playing.



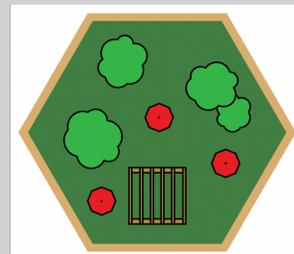
Free Tile



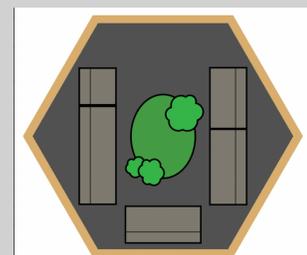
Community Garden Tile



Food Forest Tile



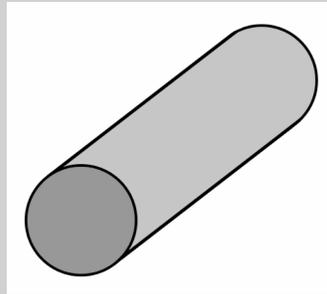
Heat Haven Tile



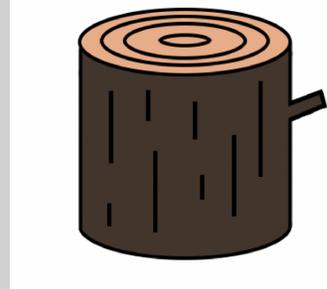
Social Housing Tile

Pieces

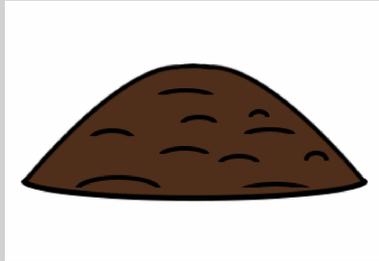
- Game Board
- 12 Food Forest Tiles
- 12 Heat Haven Tiles
- 9 Social Housing Tiles
- 12 Community Garden Tiles
- 5 Recycler Tiles
- 1 BGCS Tile
- 4 player Tokens
- 1 Round Token
- 1 six-sided die
- 1 Spinner
- 16 Metal Resource Cards
- 16 Wood Resource Cards
- 16 Compost Resource Cards
- 16 Water Resource Cards
- 16 Food Resource Cards
- 5 Composters
- 5 Recyclers
- 5 Irrigation Systems
- 5 Shipping Containers
- 5 Shelters
- Event cards (see Appendix A).



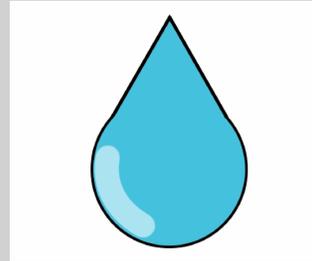
Metal Resource



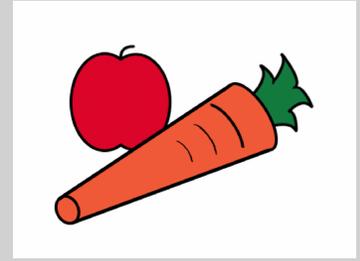
Wood Resource



Compost Resource



Water Resource



Food Resource

Objective

Players cooperate to win together by emptying the Waste Pile and completely developing all three Rings of Banksia Gardens by building and upgrading Tiles, thus establishing a Circular Economy. Players can lose in two different ways:

If Maximum Waste accumulates in the Waste Pile at the end of a Round.
If the outermost Ring has not been developed and Waste has not been dropped to 0 before the last Round is over.

Players can also choose an easier difficulty and only develop the inner two Rings in a shorter amount of time (see [Alternate Difficulty section](#)).

Setup

1. The BGCS Tile is placed in the center of the game board. All four player Tokens start on this tile.
2. Place the Round Token on “Setup” in the Round Counter on the board.
3. Separate the Resource Cards into individual piles based on their types.
4. Separate the Good Event Cards and the Bad Event Cards into individual piles.
5. Separate the Upgrades into individual piles based on their types.
6. In the first Ring surrounding the BGCS Tile, choose empty Tiles to place 1 Food Forest Tile, 1 Community Garden Tile, 1 Heat Haven Tile, 1 Social Housing Tile, and 1 Recycler Tile.
7. Choose 1 Tile of Food Forest, Community Garden, or Heat Haven to place in the final spot in the first Ring. An example picture is below.
8. Each player receives 1 Food and 1 Water to begin.

Rounds

A Round is completed when each player has taken their turn in a clockwise fashion starting with the youngest player. Rounds go from 1 to 20 — players lose if the objective has not been completed before the Round limit. At the start of every Round, the Round Token is moved to the next number to mark what the current Round is.

1. **Players must handle the Social Housing Upkeep at the very beginning of each Round.**
2. **Events take place after the Social Housing Upkeep.**

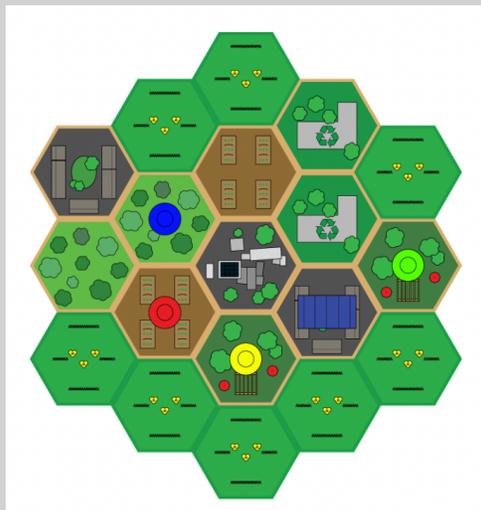
Social Housing Upkeep

1. Each **Social Housing** produces 2 Waste at the start of the Round (see Rounds section).
 - a. This means to take ($2 * \text{Number of Social Housing}$) Resource Cards from the Resource Bank and Waste them.
 - b. Players may choose which types of cards to Waste.
 - c. For example, if players are in Ring 1, there is only 1 **Social Housing**, so 2 cards must be wasted.
2. Each **Social Housing** also Uses 1 Food and Water at the start of the Round, which any of the players may source from their hands.
 - a. **Note that this Food and Water are Wasted (not Used) before a Composter is built.**
 - b. If the players do not have enough food and/or Water to sustain each of the **Social Housings**, players must collectively Waste the number of Resources equivalent to the number of Food and/or Water Resources missed to sustain **Social Housings**
 - i. For example, if players miss 2 Food and 1 Water in the Upkeep, they must collectively Waste 3 Resources.

As an Upkeep example, if players were in Ring 2, and there were 3 **Social Housings** built, at the beginning of the round, $2 * 3 = 6$ resource cards would be Wasted from the Resource Bank, and players must work together to source 3 Food and 3 Water.

Example Round

1. Round begins.  has  ,  has ,  has  , and 
has  . There is 1 Waste.



Example Round Cont.

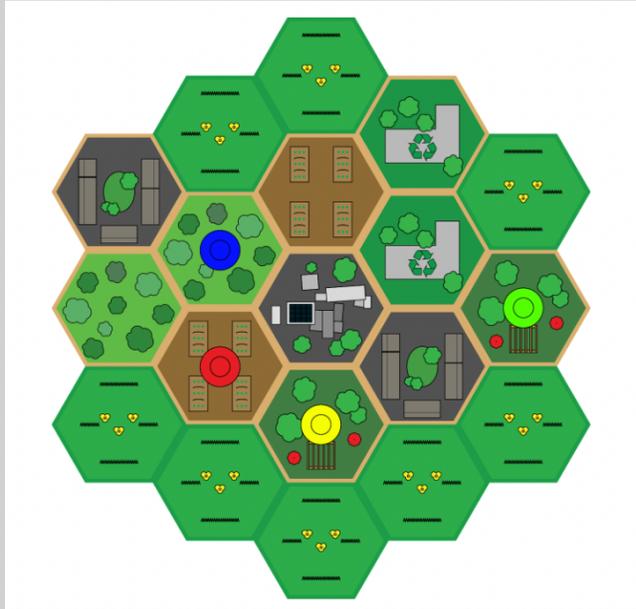
2. Social Housing Upkeep begins. The Waste increases by 4 due to there being 2 Social Housing tiles.



3. A die is rolled and a Vandalism Event card is pulled. Players do not have



to fix the container, so the Shipping Container is removed.



4. Each player takes their turn in clockwise order starting with



5. The Waste pile is checked. It is currently at 5, under the maximum Waste and ending the round.

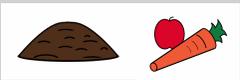
Turns

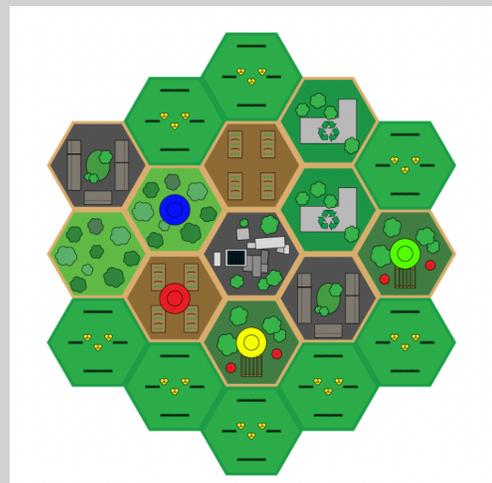
Remember to complete [Social Housing Upkeep](#) at the start of a Round before any players have taken their turn (see [Social Housing Upkeep subsection](#)). After [Social Housing Upkeep](#), remember to trigger an Event that must be dealt with (see [Events section](#)). Finally, remember to check if there is maximum Waste at the end of a Round, in which case all players lose (see [Waste Pile section](#)).

During a player's turn in a given Round:

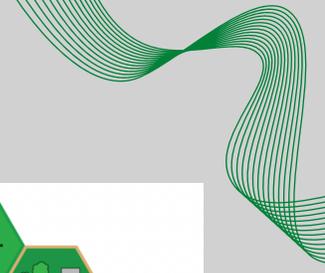
1. The current player may trade **at any time during their turn** with one other player that is on the same Tile, an adjacent Tile, or connected via a chain of players. The amount that can be traded is determined by the current Trade limit (see [Trading section](#)).
2. The current player spins the spinner to get their movement.
3. The current player must take an Action by choosing one of the below (see [Action section](#)).
 - a. The current player gathers Resources according to the type of Tile they are on and the Current Ring the Tile is in (see [Gathering subsection](#) and [Tiles section](#)).
 - b. The current player crafts, doable as long as they are on the BGCS Tile (see [Crafting subsection](#)).
 - c. The current player Operates the Upgrade of the Tile they are on (see [Operating subsection](#)).
4. The current player can move Tiles **up to the number** they spun.
 - a. Example 1: 3 is spun. The player may move 0, 1, 2, or 3 Tiles.
 - b. Example 2: 1 is spun. The player may move 0 or 1 Tiles.
5. The current player must take an Action by choosing one of the below (see [Action section](#)).
 - a. The current player gathers Resources according to the type of Tile they are on and the Current Ring the Tile is in (see [Gathering subsection](#) and [Tiles section](#)).
 - b. The current player crafts, doable as long as they are on the BGCS Tile (see [Crafting subsection](#)).
 - c. The current player Operates the Upgrade of the Tile they are on (see [Operating subsection](#)).
6. The player must Waste extra cards over the current maximum hand size.
 - a. Example 1: Current maximum hand size is 7 (no Shipping Containers have been built). The player has 9 cards. Therefore, the player Wastes $9 - 7 = 2$ cards.
 - b. Example 2: Maximum hand size is 11 (2 shipping containers have been built). The player has 12 cards. Therefore, the player must Waste $12 - 11 = 1$ cards.
7. The current player passes the turn to the next person in the Round.
 - a. If all players have taken their turn, move to the next Round.

Example Turn

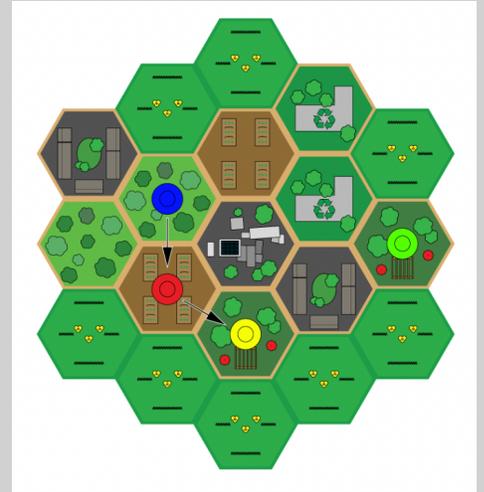
1.  starts with  and spins a 2.



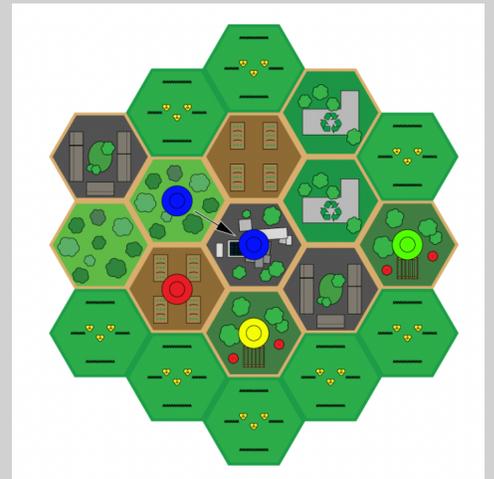
Example Turn Cont.



2.  trades with  through a Chain, giving them .



3.  gathers  as their Action then moves 1



4.  uses  to build a composter as their last Action.

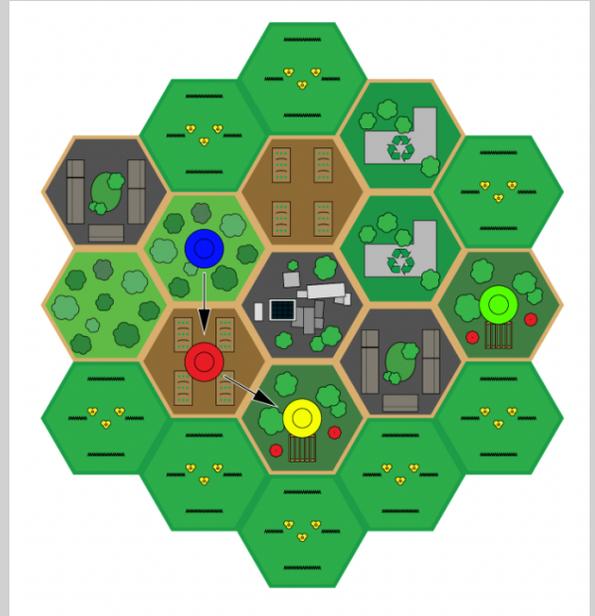
End of turn.



Trading

A player may trade **at any time during their turn** with 1 other player that is on the same Tile, an adjacent Tile, or connected via a player Chain. A Chain of players refers to an unbroken line of players on consecutive Tiles. A player may trade with any other player in that Chain (see picture to the right). Two players may trade multiple times during their turn. For example, if player A and player B trade at the start of player A's turn, player A can trade as many times as they want with player B, provided they are connected via the ways described above and follow the current Trade Limit as described below.

The player must adhere to the current Trade Limit, which changes depending on the number of Shelters crafted on the board. The trade limit is $(3 + 2 * \text{Shelter Count})$. For example, with 0 shelters, the Trade Limit is $3 + (2 * 0) = 3$. With 2 shelters, the Trade Limit is $3 + (2 * 2) = 7$



Action

Before and after moving, a player must take an Action. An Action includes Gathering resources according to the Tile they are on, Operating an upgrade, and Crafting at BGCS. Actions must be taken, which means that players may be forced to gather Resources they do not need, causing them to potentially Waste some resources.

If the player is on the Recycler during their turn when taking an Action but does not have the required Resources to Operate it, they cannot take an Action. When on any other Tile, the player must take an Action, if available. For example, if the player begins their turn on the Recycler, but does not have the necessary Resources, their first action is skipped, and they play out the rest of their turn (Trading, moving, second Action, etc.).

Gathering

A player may gather Resources according to the Tile and the Current Ring the Tile is in. Each Tile produces a different Resource and the Current Ring affects the quantity of that type of Resource produced (see Tiles section).

If a player is on BGCS, they may Gather 1 Resource of any type (2 if Bus Stop is on the Tile).

Operating

A player may Operate an Upgrade after moving their piece. Most Upgrades contain Operations that Use Resources and produce Resource(s) or remove Waste. The Shelter and Shipping Container do not contain Operations because they provide latent effects. For example, a **Community Garden** Tile that has been upgraded with a Composter Upgrade allows players to Use 1 Food to produce 2 Compost (see Upgrades section). Note that **each player can only Operate a Recycler once per turn.**

Crafting

Crafting is a special type of Action that can only be done while on the BGCS tile. Players can craft either new Tiles to place on the game board or Upgrades that can be placed on Tiles. When these Tiles or Upgrades are crafted, they are immediately placed on the game board on a specific Tile decided by the majority of the players. If there is a tie, players must talk amongst themselves to reach a final conclusion.

Each craftable item has a Cost shown in their respective table (see Resource Tiles table and Upgrades table). For example, a Composter costs 2 Wood to craft and a **Heat Haven** costs 1 Compost and 1 Wood. When these Resources are used to craft, they are returned to the Resource Bank, as they are Used, not Wasted.

Tiles

Tiles are quite literally the building blocks of this board game. Tiles are used to expand outwards and add new areas to gather resources and build upgrades. There are different types of Tiles: Resource Tiles, which are the Tiles that the players place and provide Resources when landed on, and the BGCS Tile, which the players cannot place and starts on the game board at the beginning of the game. Tiles exist in one of three Rings, excluding the central BGCS tile: Ring 1 is the innermost Ring consisting of 6 hexagons, Ring 2 is the middle Ring consisting of 12 hexagons, and Ring 3 is the outermost Ring consisting of 18 hexagons.

BGCS Tile

There is only ever one BGCS Tile, and it acts as the hub and starting location of the game. Instead of providing one type of Resource, if a player gathers Resources from the BGCS Tile, they are allowed to choose 1 of any Resource (upgraded to 2 Resources of any, possibly different, type if the Bus Stop is built). Furthermore, it also mitigates some Bad Events if a player is on the BGCS tile. For example, if a player is in BGCS when a Heat Wave strikes, a player has to use fewer resources than they would have to otherwise, and will not have to skip their turn if they are out of 1 Food and 1 Water. Finally, BGCS is the only place where players can craft Tiles or Upgrades. If players end their movement on BGCS, then they can use their Action to craft either a Tile or an Upgrade twice (see [Crafting subsection](#)).

Placeable tiles

Placeable Tiles include Resource Tiles and the Recycler that players may craft at BGCS. These have a crafting cost (see [Resource Tiles table](#) and [Recycler Information table](#)). Placeable Tiles must be placed in the current Ring that players have access to on an empty Tile (see [Progression and Winning section](#)).

Resource Tiles

There are four main types of Resource Tiles: the **Heat Haven (HH)**, **Food Forest (FF)**, **Community Garden (CG)**, and **Social Housing (HS)**. Each type of Resource Tile produces a different Resource and requires different Resources to craft; all are vital to a healthy circular economy (see [Crafting subsection and Resource Tiles table](#)). For example, if crafting a **Heat Haven**, the cost would be 1 Compost and 1 Wood.

Resource Tiles also produce more resources the further out they are (see Resource Tiles table). For example, if a **Food Forest** tile is in the third Ring, then it will produce 4 Wood

If a **Social Housing** is in the first Ring, then it will produce 2 Metal.

Resource Tiles

Name	Crafting Cost	Base Production		
		Ring 1	Ring 2	Ring 3
Heat Haven	 	 	  	   
Food Forest	 	 	  	   
Community Garden	 	 	  	   
Social Housing	 	 	  	   

Recycler Tiles

Like the Resource Tiles, Recycler (RC) Tiles are placed on available, valid empty Tiles upon crafting them. A Recycler Tile is used to eliminate Waste cards from the Waste Pile depending on the Ring the Recycler Tile is crafted in. Waste Cards are removed from the bottom of the Waste Pile. Each player can use a Recycler once per turn.

Recycler Information

Ring Location	Crafting Cost	Operating Cost	Waste Removal
1	N/A	   	5 Waste cards
2	       	   	7 Waste Cards
3	           	   	9 Waste Cards

Events

At the beginning of each Round after [Social Housing](#) Upkeep, the first turn player flips over an Event card, where players must cooperate and contribute to negate negative Events, or reap the benefits of positive Events. The subsection below denotes how to determine which pile of Event cards (Good or Bad) to draw from.

When an Event is triggered at the start of a Round, count the number of cards in the Waste Pile. This number determines the probabilities of obtaining a Good Event and a Bad Event. After the Event is completed, shuffle it back into its Event pile, so it can potentially be drawn again. See [Appendix A](#) for all Event Cards and their descriptions.

For example, if there were 7 cards in the Waste Pile, the Waste Condition would be Low, which corresponds to die rolls 1, 2, and 3 giving a Good Event, and rolls 4, 5, and 6 giving a Bad Event. If there were 19 cards in the Waste Pile, the Waste Condition would be High, and a die roll of 1 would yield a Good Event, and die rolls 2, 3, 4, 5, and 6 would yield a Bad Event.

At the end of each Round, check for maximum Waste. If the Waste count is greater than or equal to 24 Waste cards, players lose the game ([see Waste Pile section](#)).

Waste

Waste Condition	Number of Waste Cards	Die Roll	
		Good Numbers	Bad Numbers
Zero Waste	0-5	1-4	5-6
Low Waste	6-11	1-3	4-6
Moderate Waste	12-17	1-2	3-6
High Waste	18-23	1	2-6
Maximum Waste	24+	N/A	1-6

Upgrades

Upgrades are available to place on existing Tiles that provide either an Operation that is usable by any player who lands on the Upgraded Tile, a global Effect that affects all players no matter where they are, or both. Each Upgrade is only available on a certain type of Tile; for example, Composters can only be built on the **Community Garden** Tile (see [Upgrades table](#)). Upgrades cannot be moved after being crafted unless specifically stated otherwise by an Event.

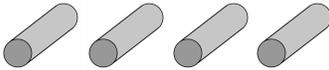
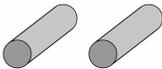
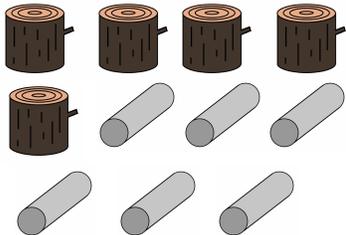
Upgrades have a specific cost associated with them (see [Crafting subsection](#)). Once the cost has been paid, the Upgrade is placed on a specific valid Tile immediately, decided by the majority of the players.

Some Upgrades provide Operations that can be done by a player who lands on the Tile, such as the Irrigation System providing the Operation to Use 1 Water to receive 2 Food. These Operations can only be used if the player is on the Tile.

Some Upgrades provide global Effects, such as the Shipping Container, which increases the hand size of all players. Players do not need to be on the Tile to get these effects. If these Upgrades are removed, the Effect is lost.

All Upgrades make the Tile it is placed on produce an additional Resource of the type it can produce. In the case of the Bus Stop and BGCS, when the Bus Stop is placed, BGCS would provide two Resources of any type, which may be different.

Upgrades

Name	Tile	Crafting Cost	Operations	Effects
Composter	Community Garden		2 Food, 1 Water → 4 Compost	1 food or 1 water is Used instead of Wasted. Produces an additional Food when landed on.
Shipping Container	Social Housing		N/A	Each player's hand size (default: 7) is increased by 2 per shipping container (can be stacked). Produces an additional Metal when landed on.
Shelter	Heat Haven		N/A	Each player can trade 2 more total Resource Cards per Shelter (can be stacked). Produces an additional Water when landed on.
Irrigation System	Food Forest		1 Water → 2 Food	Produces an additional Wood when landed on.
Bus Stop	BGCS		Travel to the Shopping Center. Get any amount of Resource Cards of any type from the Resource Bank, then Waste that many Resource Cards from the Resource Bank.	Movement of all players is increased by +1 on any spin. Produces an additional Resource of any type when landed on.

Waste Pile

Waste accumulates in the Waste Pile in the form of Resource Cards, which may be Wasted in a number of ways. The primary causes of Waste are the Social Housings and players having more Resource Cards than the maximum hand size. The Waste Pile must be empty in order for the group to progress to the next Ring of the board. Additionally, the Waste Pile determines the probability of getting a Good or Bad Event (see Events section). Finally, if the Waste Pile reaches Maximum Waste (24+ Waste) at the end of a Round, the game is lost for all players.

Players must eliminate all Waste in the Waste Pile after the third Ring has been built in order to Win the game.

Progression and Winning

For players to progress to the next Ring and to win, certain conditions must be met in building BGCS and establishing a circular economy. Referring to the table below, to progress from a Ring to its successor, the Waste Pile and **Social Housing** Conditions must be met. To progress from the second Ring to the third Ring, 2 more **Social Housings** must be built in the second Ring for a total of 3 **Social Housings** and Waste must be reduced to 0 at the end of a Round. To win the game — which is equivalent to progressing from Ring 3 — 3 additional **Social Housings** must be built for a total of 6 and all Waste must be removed by the end of a Round.

Ring Progression	Waste Pile	Total Number of Social Housings
2 → 3	0	3
3 → Win	0	6

Alternate Difficulty

If the game is being played by younger kids or with less time, players can choose to play at an easier difficulty by only developing up to the middle Ring within 10 rounds. Otherwise, the win and lose conditions are the same as normal (see [Objective section](#)).

Helpful Hints

This section provides basic and advanced hints for new and experienced users.

Basic Hints

1. Read the keys on the board to learn craft/operating costs.
 - a. Watch the tutorial video if you are still confused.
2. Plan your turn structure ahead of time.
 - a. See when it is the most beneficial to trade, which may be at the beginning, the middle, or the end of your turn.
3. You can move up to the amount you spin, including 0.
4. Make sure you take two Actions during your turn.
 - a. Remember, Gathering Resources counts as an action.
 - b. If you do not move, you can Gather Resources on the same Tile twice.
5. It's a good idea to build a composter as soon as possible.
 - a. Food and Water are Wasted each time they are used before it is built, which can add to your Waste pile quite rapidly.
6. Build Social Housings only when you are ready.
 - a. Social Housings produce Waste and can disrupt the game if players aren't prepared to deal with the extra Waste.
7. Tiles further away from BGCS produce more resources, but require more effort to get out to.
8. Staying close to other players allows you to trade Resources.
9. Spreading out Resources can be very helpful.
 - a. Some Events require everyone to use Resources with negative effects if not everyone participates.
 - b. Players can do more things on their turns if they all have Resources.
10. Every Upgrade has different benefits, making it a good idea to make at least one of all of them.
 - a. All Upgrades on tiles make them produce an additional Resource.
11. Be prepared for Events.
 - a. Events can be good or bad.
 - b. If Waste gets out of hand, Events will likely be bad.

Advanced Hints

1. Recyclers crafted in Rings further from BGCS remove more waste.
 - a. They cost more to build, but the operating cost remains the same.
2. It's a good idea to build as many Shipping Containers as possible to be able to build later game Upgrades/Tiles.
 - a. Recyclers crafted in the 3rd Ring cost 12 Resources total.
 - b. The Bus Stop costs 13 Resources.
3. The Bus Stop gives +1 movement to your spin.
 - a. It cannot be crafted until after at least 3 Social Housings and subsequently 3 Shipping Containers have been crafted due to hand size constraints.
 - b. It is necessary in the late game when the map gets large.

Advanced Hints Cont.



4. It's a good idea to build as many Shelters as possible.
 - a. Shelters allow players to trade more which is helpful for gathering Resources to craft with.
5. Make sure to leave enough space for the required amount of Social Housings in each Ring.
 - a. If you do not, you cannot progress or win, meaning you all lose the game.
6. If maximum Waste (24+) is met, players still have an opportunity to remove it before the end of the round.
 - a. If the Waste is not decreased below 24 before the end of the Round, then the players lose.
7. It is helpful to maintain a player chain as the game progresses.
 - a. Different players can obtain different Resources and trade them to the other players if they are all connected.
8. Spread out Resources to run the Recycler multiple times in one turn.
 - a. A player can only run the recycler once per turn.
 - b. This allows multiple players to get rid of Waste.

Appendix A — Events Tables

Good Events

Name of Event	Effect(s)
Rain	Rain nourishes the land. Each player draws a card from the Water pile.
Community Planting Day	Banksia Gardens Community Services plants new trees. Each player draws a card from the Compost pile.
Study Group	The study group brainstorms new climate relief initiatives. Each player randomly draws a card in turn order from the Waste pile hands down and adds it to their hand.
Harvest	The community garden is harvested. Each player draws a card from the Food pile.
Trash Pickup Day	Everyone picks up as much trash as they can find. Roll a die and Recycle that many cards.
Join CARYA	Everyone works together to support the community. Choose 1 existing Resource Tile to put a free Upgrade on.

Appendix A – Events Tables Cont.

Good Events

Name of Event	Effect(s)
Computer Access Program	Everyone gets access to a new computer. Each player draws a card from the Metal pile.
Bee Hotels	Banksia Gardens Community Services builds a new Bee Hotel to house more bees. Each player draws a card from the Food pile.

Bad Events

Name of Event	Effect(s)
Drought	<p>All Irrigation Systems on the board dry up, each costing 1 Water to fix. If an Irrigation System is not fixed, it is removed from the board. If there are no Irrigation Systems, nothing happens.</p> <p>If a player is not on a Food Forest or BGCS, they Use 1 Water, skipping their turn if they cannot</p>
Heat Wave	A heat wave hits. If a player is on a Heat Haven or at BGCS, they Use no Resources; if not, they Use one Food or one Water, skipping their turn if they cannot.
Bushfire Smoke	A Bushfire starts, spreading smoke across BGCS. Each player moves 1 step less on their next turn unless they are in BGCS.
Vandalism	Vandals break one Shipping Container on the board, costing 3 Metal to fix. If not fixed, choose a Shipping Container to remove from the board. If there is no Shipping Container on the board, nothing happens.
Flood	Each Community Garden is under threat of flood. Use 2 Wood to build a fence for each Community Garden, or lose the corresponding Composter and Use 1 Food to replant.
Propurrrty Damage	A neighborhood cat strolled into your house and caused havoc. Choose a player to Waste a card of their choice.

Appendix B – Background About Our Game



Community Garden & Composter

BGCS's community garden program is volunteer-run and seeks to educate members in gardening and life skills. It produces food for the most vulnerable of the community members. BGCS is proposing an expansion to the community garden to make it accessible to more areas of the surrounding social housing. It includes a small workshop, open gathering spaces, a storage shed, and a small trail among the gardens. The goal of this place is to provide a beautiful place for local residents to gather, relax, work, and learn together. Additionally, BGCS also composts much of their food waste to produce compost for their community garden.

Heat Haven & Shelter

The Heat Haven seeks to provide a community space where residents will get refuge from heat waves. It is planned to have large deciduous trees with overlapping canopies to provide shaded areas for residents and staff to cool down. It also further has a pergola and some umbrellas for further shade. Plants native to Banksia Gardens will be planted throughout to improve the aesthetics of the area.

Food Forest & Irrigation System

The Food Forest is a long-term vision which will provide residents with a place to cool down, develop adjacent land, and support their food program. The primary goal of this initial stage will be to provide structure and shade for additional planting in the future. It contains many types of trees: apple, plum, almonds, olive, and loquat. Further expansions to the Food Forest are desired, but have not been planned fully at this moment.

Social Housings & Shipping Containers

Banksia Gardens Residents live in public housing units in the Banksia Gardens Social Housing. BGCS procured Shipping Containers to central locations in the Social Housing as miniature community hubs, which can be used for games, gatherings, storage, and a number of other functions. The containers sport awnings above glass sliding doors, and are beginning to be furnished by BGCS. During a Community Planting Day, BGCS used the Shipping Containers as a location for shade and rest for the community members participating in the event.

Unfortunately, the Shipping Containers are often vandalized, which was the inspiration for the Bad Event Vandalism. We repeatedly saw new graffiti on the side of the new Shipping Container and evident attempts to break the lock on the container's front door.

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