



BOOKLET

Outcomes of the project

'Grow - Eat - Repeat'

The Circular Economy of Food
Austria 2023



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1.1. DEFINING CIRCULAR ECONOMY OF FOOD

SEBASTIAN LABNIG



A Circular Economy of Food means using food and resources wisely by finding new ways to reduce waste, recycle, and make sure nothing goes to waste.

The 7 Rs of circular economy of food:

1. **Rethink:** Reimagining food production and consumption for sustainability.
2. **Reduce:** Minimizing food waste and resource usage.
3. **Reuse:** Encouraging the reuse of food containers and materials.
4. **Repair:** Repairing and maintaining equipment for food production.
5. **Refurbish:** Transforming food by-products into new products.
6. **Recycle:** Recycling food packaging and waste efficiently.
7. **Recover:** Recovering energy or nutrients from food waste.

1.2. CULTIVATION

SEBASTIAN LABNIG



- Breed **climate resistant plant varieties** to ensure a stable food supply by enabling crops to thrive under changing climate conditions
- **Crop rotation:** maintains soil fertility, controls pests and prevents nutrient depletion, resulting in healthier and more productive fields
- Let the land rest by **planting legumes:** enhances soil fertility by fixing nitrogen and reducing the need for synthetic fertilizers
- **Integrated crop protection:** reduces reliance on chemical pesticides, safeguarding both the environment and human health while effectively managing crop pests
- **No-till or strip-till practices:** preserve soil structure, prevent erosion, and reduce fuel and labor costs associated with traditional ploughing
- Herbal leys: improve soil health and provide diverse forage options for livestock, supporting both the environment and animal well-being

1.2. CULTIVATION

SEBASTIAN LABNIG



- **Cover crops:** protect against soil erosion, enhance nutrient cycling, and contribute to overall soil health, making farmland more resilient and sustainable
- **Phosphorus recovery:** reduces environmental pollution and conserves this vital nutrient, ensuring its availability for future agricultural needs while minimizing ecological harm
- **Reintroduction of agricultural topics into the general education system:** enhances awareness, fosters informed decision-making about food choices and farming practices, promotes responsible consumption, and encourages active engagement in sustainable agriculture, ultimately contributing to a more environmentally conscious and food-secure society

2.1. MEAT PRODUCTION

JOHANNA MICHENTHALER



Meat production presents a multifaceted challenge, with health benefits tempered by concerns over saturated fats and cancer risks. Social and cultural influences are driving increased meat consumption globally, while Western countries are witnessing a decline in meat consumption, coinciding with a rise in vegetarian and vegan diets due to animal welfare and ethical concerns.

Europe leads in high-quality meat production, but faces political difficulties such as free trade agreements. Environmental issues surround cattle's role in climate change, with methane emissions differing from CO₂ emissions.

Understanding the entire food chain, from production to consumption, is essential. Meat and dairy products have significant climate impacts, and overconsumption contributes to 8-9% of global agricultural CO₂ emissions.

2.1. MEAT PRODUCTION

JOHANNA MICHENTHALER



Space usage in food production varies, with grasslands being crucial for livestock grazing. However, ecological impact depends on whether animals can sustain themselves on these lands or require imports. Food waste, originating partially from farms, is a major concern, as is soil contamination.

In conclusion, responsible consumption and production, as outlined in Sustainable Development Goal 12, require addressing the complexities of meat production, including health, environment, economy, society, and culture.

2.2. TRANSPORTATION & RETAIL

MARTIN SIEMEN



Expert panel/World conference:

- EU Green Deal/CEAP/farm to fork
- Supermarkets vs. Farm shops (good and bad practises over the whole life cycle)
- Big Food Corporations (influence, good practises, greenwashing, rethink/design products, business value)
- Packaging (types, functions, challenges, solutions)
- Restaurants, other food providers(e.g. butcher, bakery) -challenges, innovations and regulations

Roleplay:

In this roleplay, participants assume roles related to food security and sustainability in two scenarios: a global pandemic's impact on hygiene measures and an environmental scandal involving a chemical leak at a recycling plant. Roles include government officials, industry leaders, and innovators, each addressing critical issues in these contexts.

3.1. EXCURSION 1 - ORGANIC AGRICULTURE



1 Stop: Biohof Lautemann ...where milk and honey flow (dairy farm and beekeeping)
Römerweg 20, 9062 Moosburg; www.lautemann.at

Biohof Lautemann has been farming organically since 1995 and is a member of the "Bio Austria" association. The main focus of this family business is dairy farming and beekeeping. A bee nature trail with 12 display boards was built near the farm and informs about beekeeping and bee colonies. The glazed display panels allow visitors to safely observe the bees behind the glass.

2nd Stop: Von der Leiten - Wein und Schwein (winery, pig farm & restaurant)
Leiten 6, 9063 Klagenfurt am Wörthersee., www.leiten.eu

Is a combination of organic free-range pig farming with the breeds Mangalizza and Duroc, and a winery. The winery Karnburg with about 9.5 hectares presses Chardonnay, Pinot Grigio, Sauvignon blanc, Zweigelt and Pinot Noir. Regionality and seasonality are the top priority of the Leiten restaurant - that's why all of the products and ingredients come from their own vineyards, vegetable and herb gardens and the free-range pig farm as well as from companies in the region.

3.2. EXCURSION 2 - MEAT / DAIRY PRODUCTION



1 Stop: Kärntner Abfallbewirtschaftung (waste management facility)

Ziegeleistraße 50, 9020 Klagenfurt am Wörthersee; <http://www.kab.co.at>

The goal of KAB is the collection, sorting, and processing of recyclable materials for a clean environment. It is the leading and most innovative waste management company in Carinthia. State-of-the-art technology is used to recycle almost 100 percent of all waste delivered to KAB into either material or thermal recovery.

2. Stop: Wildgatter Zöhrerhof (venison farm)

Hochfeistritz 6, 9372 Eberstein; <https://www.zoehrerhof.at/>

The Zöhrer family farm has been passed down from one generation to another since 1880. In recent years, they shifted from dairy farming to the breeding of young deer calves. They are an EU-certified slaughter and processing facility that produces without preservatives and artificial flavor enhancers. Among their products are ham, smoked, roasted, and dried sausages, as well as venison salami. The products are sold directly from the farm and at weekly markets in Klagenfurt am Wörthersee and in St. Veit an der Glan.

3.2. EXCURSION 2 - MEAT / DAIRY PRODUCTION



3. Stop: Milcherlebniswelt Sonnenalm (milk processing facility)

Milchstraße 1, 9373 Klein St. Paul; <http://www.milcherlebniswelt.at/>

In the year 2008/2009, a modern production facility with its own biomass heating plant and electricity generation was established in Klein St. Paul. Here, all the milk from approximately 20 cow and goat milk farmers is processed and marketed.

The fresh milk is heated to approximately 30°C, inoculated with cheese cultures and rennet, and then allowed to mature for about 2 hours. Once the milk has thickened, it is cut into pea-sized pieces with a cheese harp, gently stirred for about ½ hour (cheesed), and the curd is washed.

The cheese is filled into molds, and the whey drains off. The cheese must now be turned several times to allow the whey to drain properly. After a drainage phase of approximately 12 hours, the cheese goes into a salt bath and then into the cheese maturing room.

However, the Sonnenalm company doesn't just produce cheese, but also yogurt, shakes, and the crucial curd cheese for the Carinthian "Käsnudel" (= cheese dumplings).

3.3. EXCURSION 3 – NICHES



1. Stop: Wormfarm “Prime Insects”

<https://www.primeinsects.com>

As Austria's first organic mealworm farm they are revolutionary for both traditional farming and human consumption. Their mission is to create awareness about sustainability and quality in nutrition.

2. Stop: Private Brewery “Hirter”

<https://www.hirterbier.at>

Real beer requires real tradition. That's why Hirter has always been, is, and will remain an independent family-owned business deeply rooted in the region.

in Hirt, genuine sustainability is lived. From our 24 in-house water sources, including our hydroelectric power plant, to 1368 photovoltaic panels, reusable containers, and sustainable gift packaging at the beer counter.



3.3. EXCURSION 3 - NICHES

Lunch Stop: **Gasthof Lindenwirt**
<https://www.lindenwirt-jause.at>

The majority of the products sold come from their own agriculture, their own garden or regional partners.

3. Stop: “ Krappfelder Eis” - Organic dairy farm with ice cream Manufactory
<https://www.krappfeldereis.at>

Since 2013, over 70 varieties have been handcrafted at the organic farm from the Pobaschnig family. The family business places particular emphasis on regional ingredients and hand crafted on their farm.



4.1. FOOD CONSUMPTION

DANIELA HINTEREGGER
ELISABETH FLEISCHHACKER

In an age where environmental concerns are at the forefront of global discussions, making conscious choices about our diets can significantly contribute to a more sustainable future. Here are some key steps to consider when aiming to make your diet more environmentally friendly:

- **Reduce Meat Consumption:** One of the most impactful changes you can make is reducing your meat consumption, particularly red meat. Beef and lamb, in particular, have a high carbon footprint. Vegetables and plant-based alternatives such as legumes can substantially lower your dietary environmental impact.
- **Choose Local and Seasonal Options:** Opt for local and seasonal produce to shorten food transportation chains. This choice not only supports local farmers but also reduces the carbon footprint associated with long-distance shipping.



4.2.1. ZERO WASTE

DANIELA HINTEREGGER
ELISABETH FLEISCHHACKER

- **Go Organic:** Prioritize organic choices in your diet. Organic farming practices prioritize sustainability and reduce the use of synthetic chemicals, supporting healthier ecosystems and lowering the environmental impact of agriculture.
- **Reduce Food Waste:** Combat food waste by planning meals, storing food properly, and creatively using leftovers. Every meal saved from the trash bin supports sustainability.
- **Minimize Packaging and Waste:** Choose products with minimal packaging, carry reusable shopping bags to decrease your reliance on single-use plastics and packaging.

By incorporating these sustainable practices into your diet, you actively reduce your carbon footprint, conserve resources, and promote eco-conscious food consumption. These changes benefit both the planet and contribute to a healthier, more sustainable future for all.



4.2.2. WASTE POLICY

COCOREADO

Policy brief

- Examples: Free Schools Meals sourced from Small-Scale Farmers, Human rights on EU food system transformation
- There are different ways to spread policy brief content
- Common objective: mobilization, awareness raising, and promoting change

Education:

- Old, closed mindsets
- Topics like agriculture and food production should start early
- Educator and teacher training for relevant content

Participation in decision-making:

- Young people not involved enough
- Suggested solution: Minimum percentage of young people in law reviews and approvals
- At local, regional, national, and EU levels

4.3. BREAD BAKING WORKSHOP

ELISABETH FLEISCHHACKER
JULIA FRITZ



Bread production demands extensive resources: water, land, energy. Yet, a significant portion goes uneaten, landing in waste.

Solutions for unnecessary bread waste begin with you:

- **Mindful Consumption:** Buy what you need, especially bread which tends to stale quickly.
- **Store properly:** If too much bread was bought, freeze it.
- **Creative Cooking:** Transform stale bread into bread crumbs or other dishes.
- **Support Initiatives and be a role model:** Join efforts to address food waste in your community.
- **Advocacy:** Encourage businesses and policymakers to prioritize waste reduction.

5.1. WASTE MANAGEMENT

LYDIA LIENHART
@lydiaexplains



Impact of Food Waste Food waste's consequences are profound, affecting both the environment and society. Discarded food decomposes in landfills, generating methane—an impactful greenhouse gas. This worsens climate change and wastes resources like water, land, and energy used in production, transportation, and processing.

Tackling Climate Change In Europe, food activities contribute 20-30% of greenhouse gas emissions. Remarkably, 20% of this is wasted, accounting for about 6% of total EU emissions. Globally, the situation is worse, emphasizing the need to prevent food waste and lessen the carbon footprint linked to food production and distribution.

5.1. WASTE MANAGEMENT

▶ LYDIA LIENHART
@lydiaexplains



Globally, **one-fifth** of all produced food is wasted, with a troubling one-third wasted in the EU.

Diverse Challenges of Food Waste Food waste brings multiple issues:

- **Inefficient Resource Use:** Strains the environment due to resource mismanagement.
- **Social Disparities:** Highlights inequalities in food access and distribution.
- **Economic Impact:** Hurts economies through lost production and distribution investments.
- **Climate Change:** Contributes to greenhouse gas emissions, exacerbating global warming.

5.1. WASTE MANAGEMENT

▶ LYDIA LIENHART
@lydiaexplains



Sustainable Solutions Effective solutions require collective efforts:

- **Support Initiatives:** Engage through volunteering, consumption choices, and social media advocacy.
- **Role Modeling:** Lead by example; encourage waste prevention strategies in group settings.
- **Take Action:** Regardless of your role—farmer, restaurant worker, office employee—make a difference where you are.
- **Vote and Support:** Back politicians dedicated to tackling food waste through your votes.
- **Stay Informed:** Embrace curiosity, explore new recipes, and follow food sustainability influencers.

5.2. TALKING ABOUT SOLUTIONS

DENISE WORNIG



The guiding question: "How can my organization be more sustainable?"

Participants approached this question from two distinct perspectives: the Practical Person/Implementor and the Futurist/Visionary.

The Practical Person/Implementor brought a pragmatic lens, focusing on immediate, actionable steps to enhance sustainability within their organization. They emphasized practicality and efficiency, seeking solutions that were Specific, Measurable, Achievable, Relevant, and Time-Bound (SMART).

On the other hand, the Futurist/Visionary offered a forward-thinking viewpoint, envisioning a future where sustainability was deeply integrated into the organization's DNA. They emphasized innovation, long-term strategies, and the alignment of sustainability with the organization's core values and mission.

5.2. TALKING ABOUT SOLUTIONS

DENISE WORNIG



During the session, participants collaborated to create an action plan that harmonized these two perspectives. This plan aimed to bridge the gap between practical implementation and visionary goals, ensuring that sustainability efforts were both immediate and forward-looking.

The resulting action plan consisted of concrete, measurable steps that could be taken in the short term while also aligning with the organization's long-term vision for sustainability. These steps were not only achievable but also relevant to the organization's goals.

Finally, participants presented their action plans to the group, fostering a collective commitment to sustainability and providing an opportunity for feedback and refinement. This collaborative approach ensured that the organization's sustainability efforts were well-rounded, combining practicality with visionary thinking to create a sustainable future.

5.2. TALKING ABOUT SOLUTIONS

DENISE WORNIG



Action plan ideas:

- Training on food waste
- Encourage litter picks
- Car pool to events
- Create videos to promote what was learnt
- Encouraging public transport
- Get rid of plastic glasses
- Become more selfless
- Design a quiz on sustainable food consumption
- Reducing bread waste by turning it into garlic bread
- Field trip to waste recycling plant
- Share knowledge (fairs, etc.)
- Engaging in club exchanges with different nations
- Field trip to sustainable agricultural enterprises
- Go paperless
- Agri + Rural Affairs Conference - Meat production session/sustainability
- Reduce food waste - proposal to competitions and events committee
- Proposal to leadership teams of organizations to create a sustainable plan and begin to implement this
- strengthen project groups

5.2. TALKING ABOUT SOLUTIONS

DENISE WORNIG



Action plan ideas:

- Organizing conferences, camps or forums on food waste/teaching children how to waste less food
- Implement partly plant based food options at events
- Youth education on sustainability and food waste (camps, workshops, excursions)
- Cooperations with local companies
- Weighing food waste at events and share
- Including sustainability training in orientation workshops at youth organizations
- Publish articles on what we learnt
- Reduce food waste at camps + pick up waste and clean up after camps end
- Grow vegetables in your own garden
- Teach children how to grow & cook vegetables
- Spread awareness for sustainability
- Get sustainable events certified (Green event)
- Organize a zero waste cooking lesson
- Publish educational content
- Motivate leaders of our organization to implement sustainability as a main topic in the workplan for the year

GROW - EAT - REPEAT



“Remember, reducing food waste is not just an obligation—it's a chance to shape a sustainable future. Let's unite, adopt simple solutions, and effect lasting change. Together, we can curb food waste and create a world where everyone enjoys access to nourishing meals.”

GROW - EAT - REPEAT

