

Project Agency Vocational Education for Sustainable Development of the Partner Network Vocational Education at the IZT

How is vocational education and training
sustainable and future-proof?



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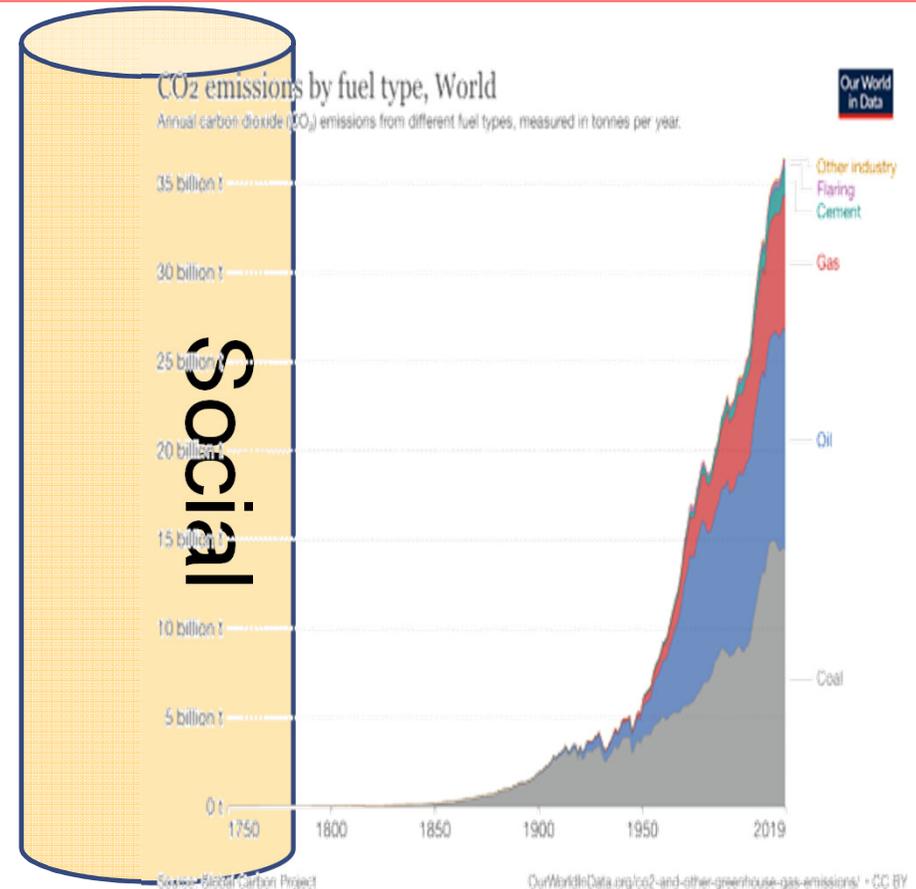
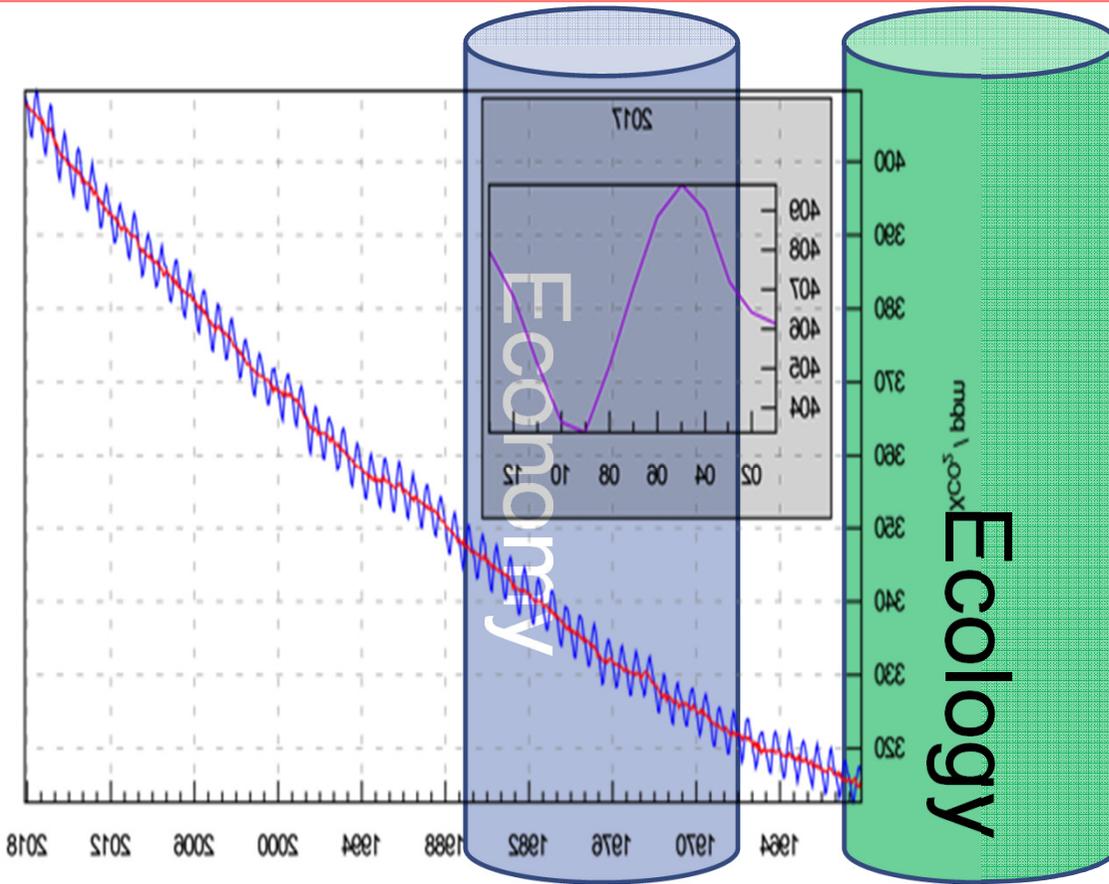
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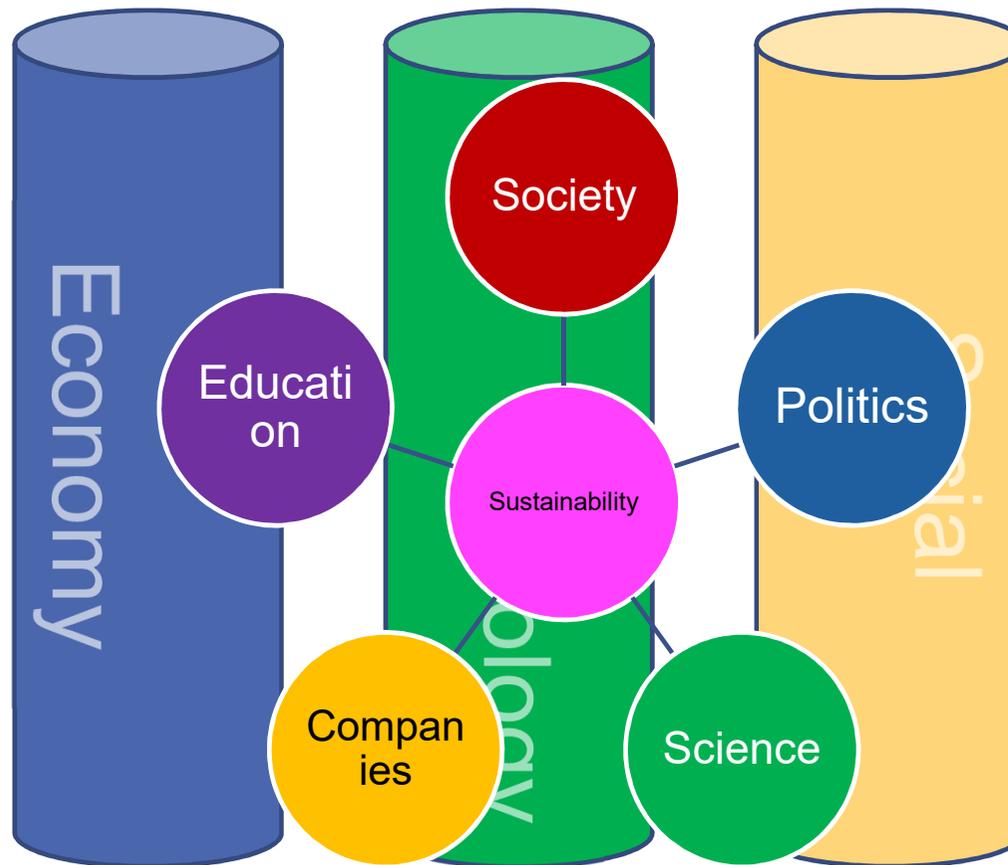
Dr Michael Scharp
(m.scharp@izt.de)

- Frame Participants Materials
- The old and the new standard job description position
- SDG, BBNE and vocational training - An example
- The didactic impulse papers (IP)
- The background material (BGM)
- Collection of slides on conflicting goals (CG)
- Supra-company training and integrative BBNE by experts

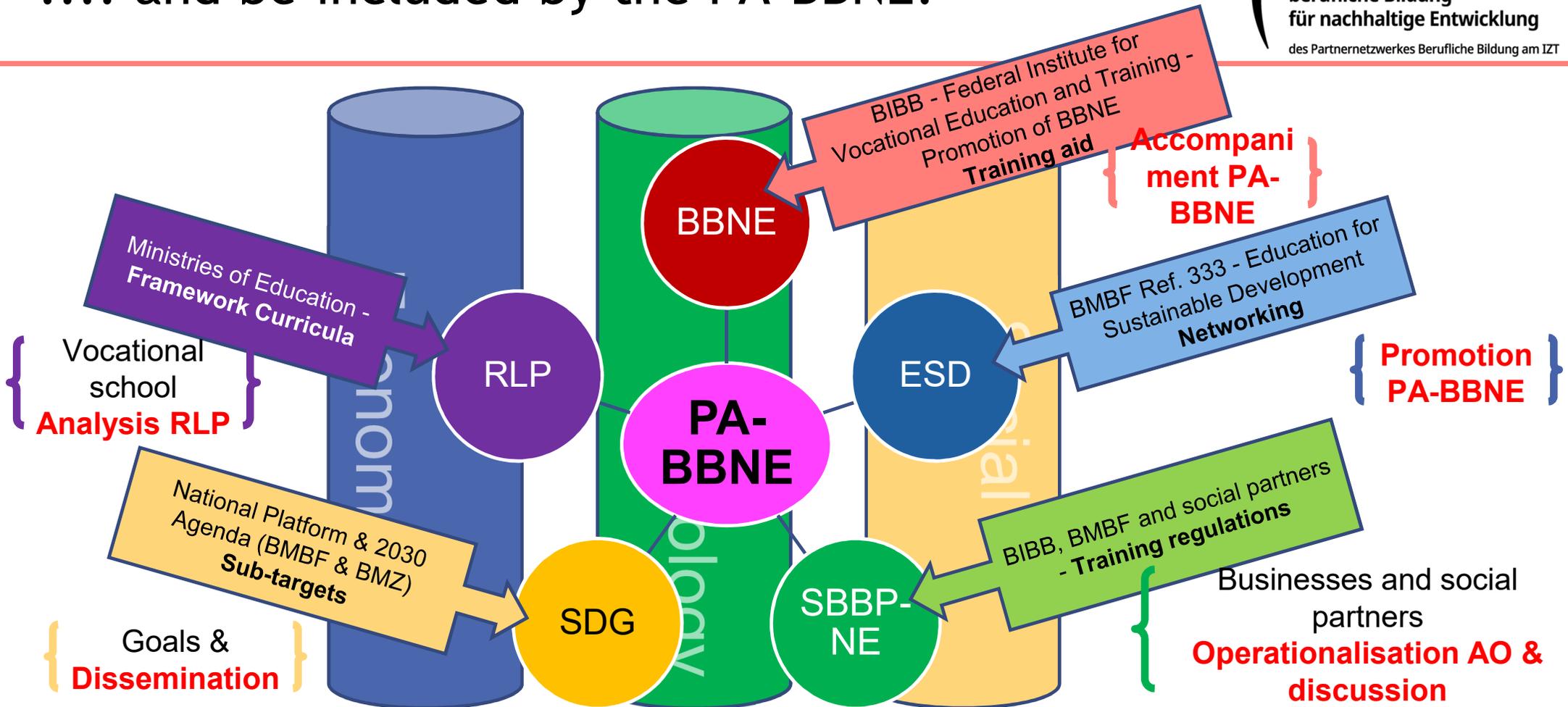
Sustainability - There is no way around sustainable management!



Sustainable development is supported by many actors...



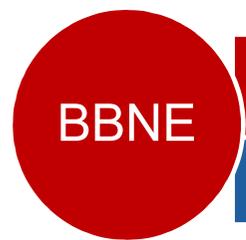
.... and be included by the PA-BBNE!



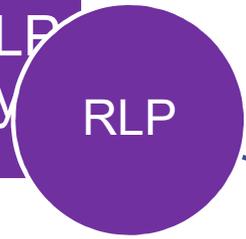
What does the BBNE Project Agency do? We want to support vocational ESD!

- We:**
- Analyse
 - Discuss
 - Produce
 - Inform

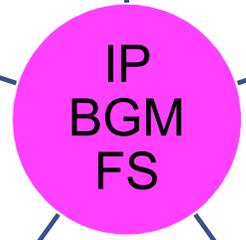
RLP: What does the RLP say about sustainability?



BGM - Background material: What do the SDGs for vocational training?

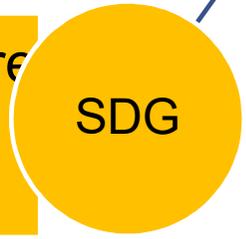


GC Set of slides: Which conflicts of objectives arise between professional action and sustainability?
professional action and sustainability?

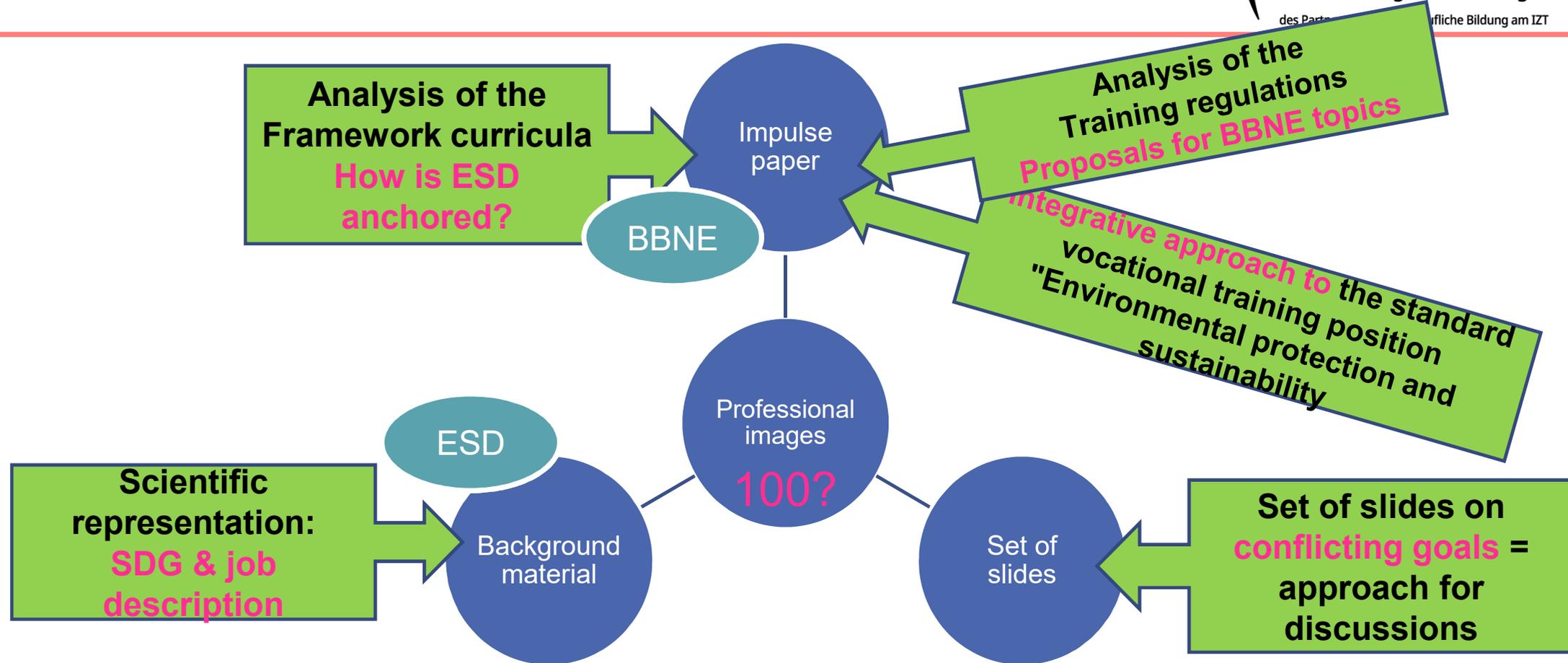


IP- Impulse paper: Which sustainability topics are relevant for the SBBP and the VET/PET positions?

SDG: Which sub-goals are important for vocational training?



The project materials



The Project Agency Vocational Training for Sustainable Development



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The old and the new standard job description
position in comparison

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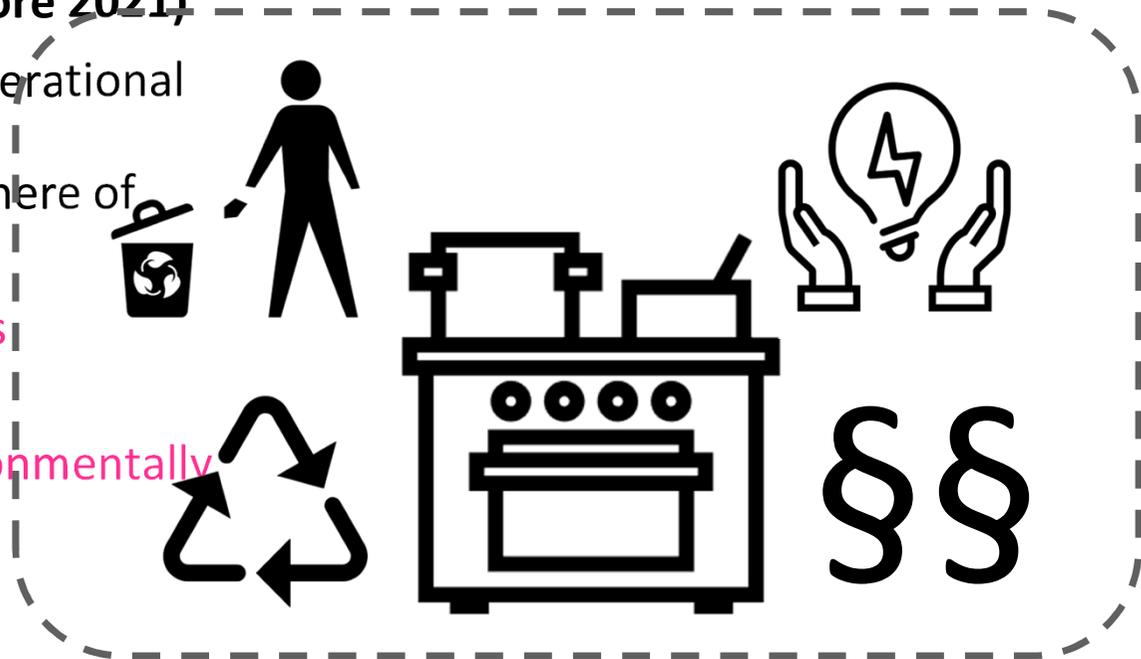
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BBNE - The old standard vocational training position...

••• Standard occupational profile position "Environmental protection" (before 2021)

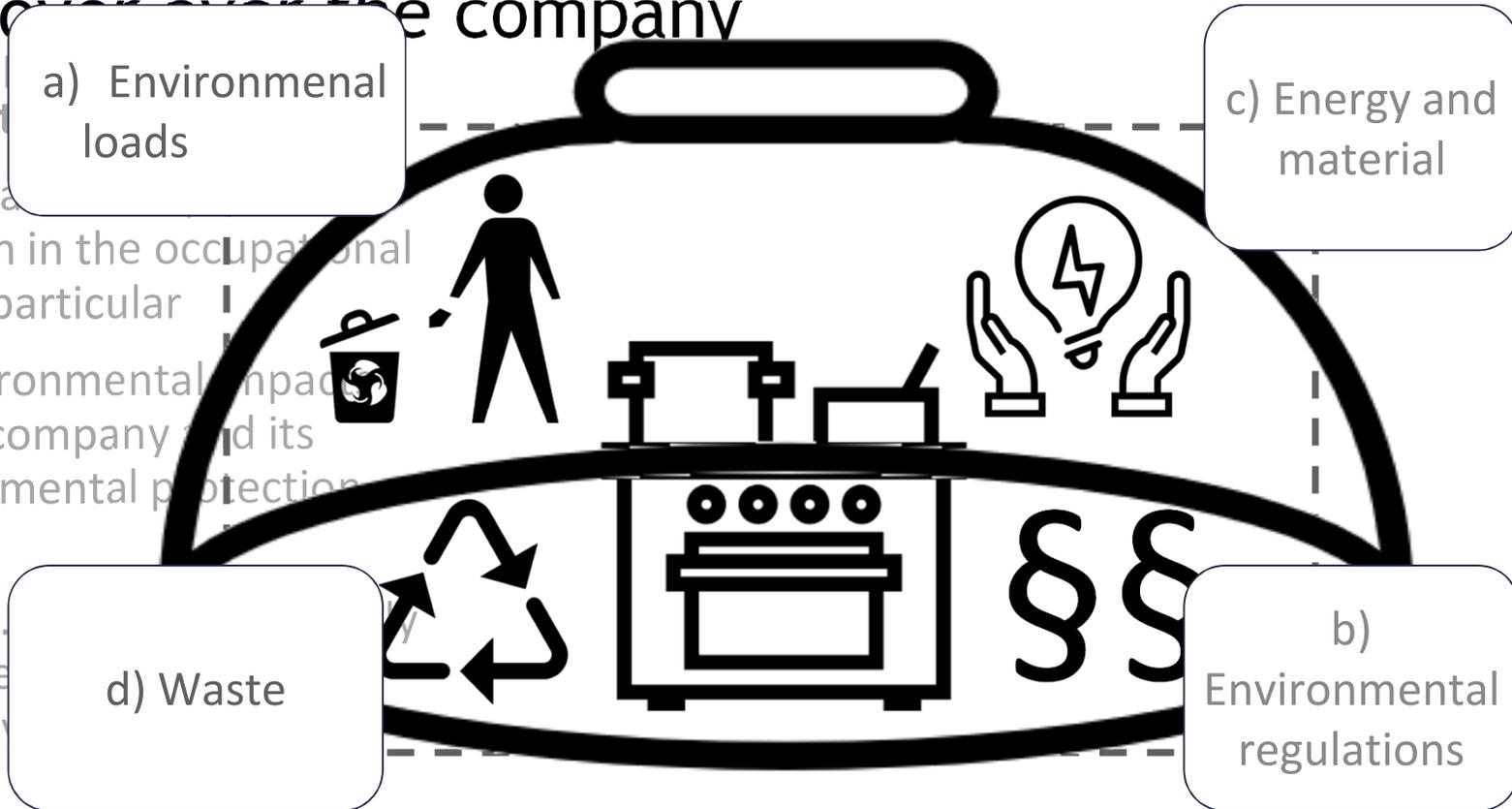
- Contribute to the **avoidance of operational environmental pollution** in the **contribute to the** occupational sphere of influence, in particular
- a) possible **environmental impacts** ... **explain** with examples
- c) Use the possibilities ... of **environmentally energy and material use in an environmentally friendly way**
- d) **Avoid waste...**



BBNE - The old standard vocational training position....

is like a cheese cover over the company

- Standard occupational "Environmental protection"
- Contribute to the avoidance of environmental pollution in the occupational sphere of influence, in particular
- a) explain possible environmental impacts caused by the training company and its contribution to environmental protection using examples
- c) Use the possibilities ... energy and material use environmentally friendly
- d) Avoid waste.



BBNE - The new standard training position "Sustainability" lifts the cheese cover

Standard job description
position (BGB 2022):

a) Identify possibilities
avoiding operational
burdens on the
environment and

Environment and society
own responsibility
and contribute to their
further development
and contribute to the
further development

Water, noise, micro-
plastics, fine dust, e-
waste, pesticides,
manure, obesity....

Three Earths,
Climate, R&R

Circular economy, bio-
economy, zero waste,
unpacked,

SDGs

N

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SDG, BBNE and vocational training
The example of system gastronomy



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BBNE - The new standard education position and the SGD of the 2030 Agenda

- The global community has adopted an Agenda 2030
- 17 Goals set the direction
- Each objective is Subgoals
- Germany underpins the goals with indicators



BBNE - The new standard training position "Sustainability" lifts the cheese cover

Standard job description
position (BGB 2022):

a) Identify possibilities
avoiding operational
burdens on the

**Burdens for ...
Society**

and contribute to their
further development
and contribute to the
further development

Organic products,
seasonal-regional, long-
distance transport, beef,
high-fat products

Climate change, resource
use, health, organic
farming, marine use

Vegan-vegetarian
menus, rice, soy, glass
disposable, plastic,
mineral water

SDGs

N

BBNE - The new standard training position What do the SDGs say?

- SDG 2 "No Hunger"
 - Sub-goal SDG 2.2. ... *end all forms of malnutrition...*
- SDG 3 "Health and well-being"
 - *Sub-goal SDG 3.4 Reduce premature mortality from non-communicable diseases by one-third by 2030 through prevention and treatment.*



What does this mean for the
gastronomic professions?
(if sustainability is to be taught in an integrative way)

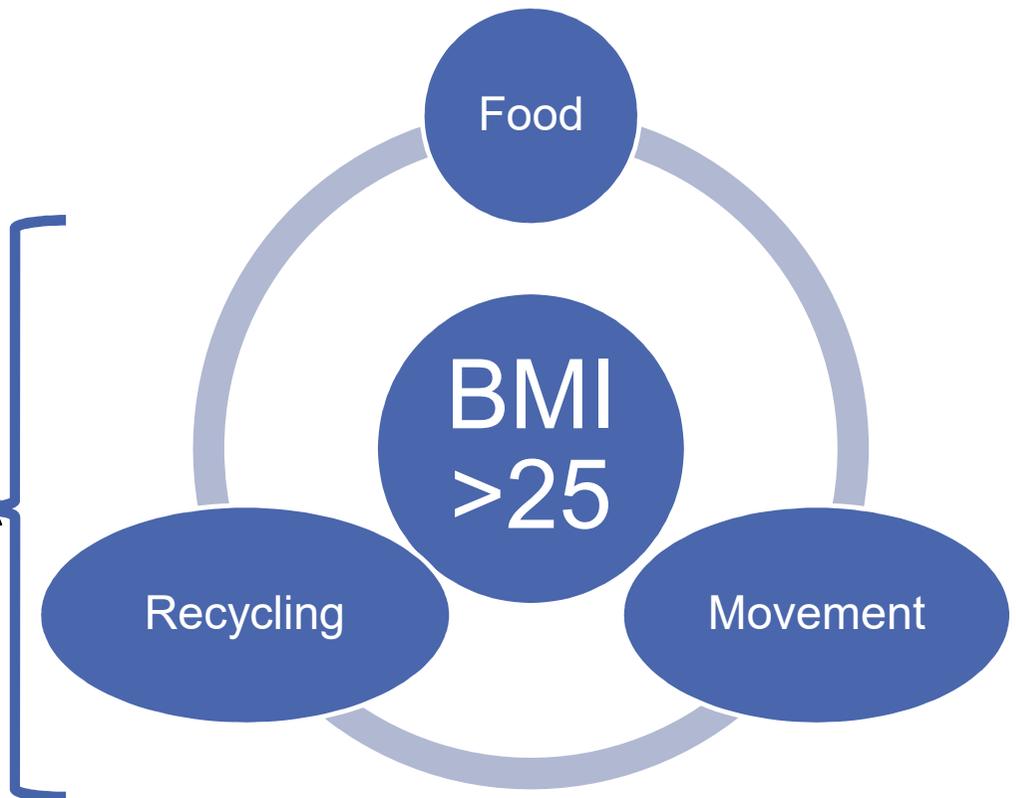
Some examples

Sustainability in the catering industry:

SDG 3.4: Reduce non-communicable diseases

RKI (non-communicable diseases):

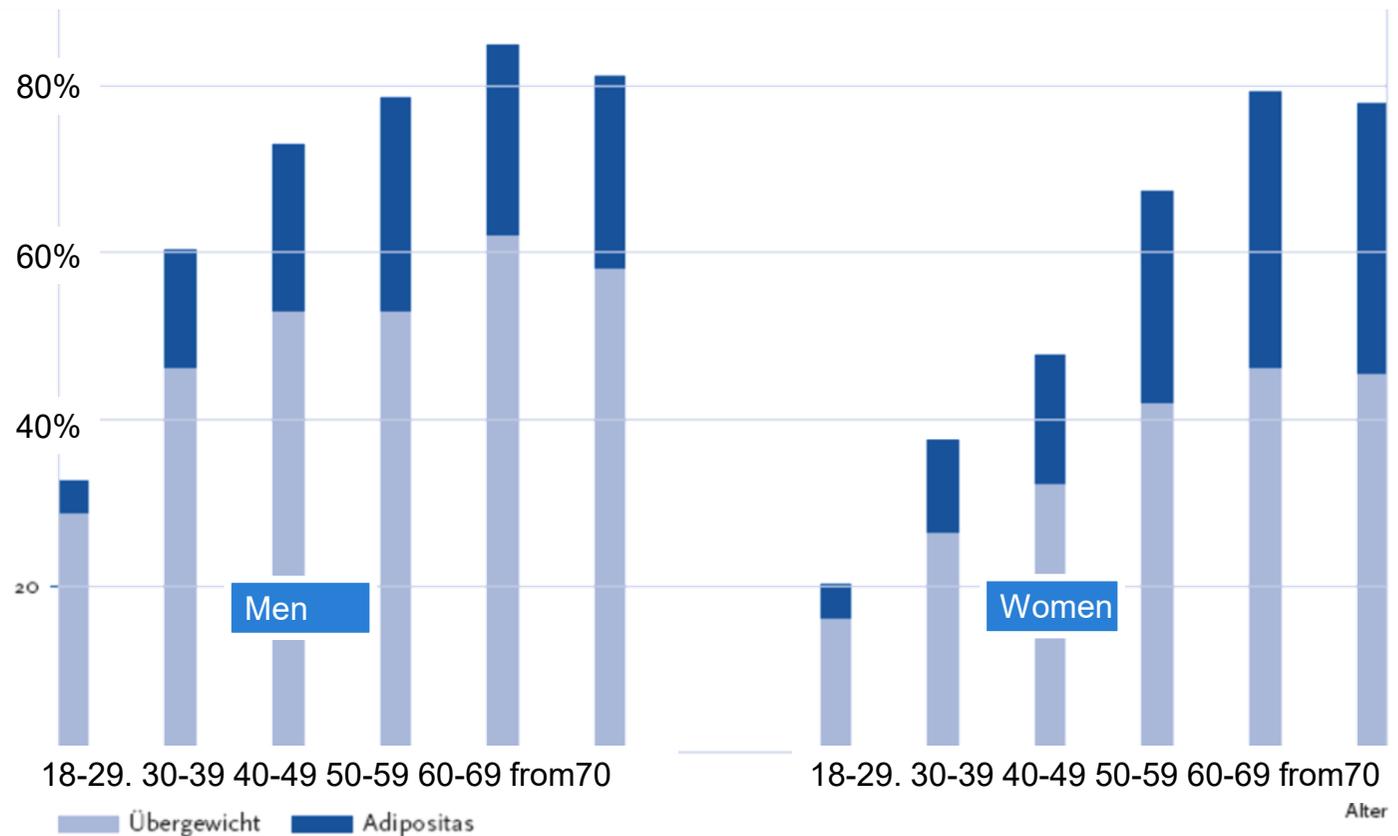
- Food allergies: Between 2 to 3% of adults and 4% of young children
- **Obesity** has become endemic throughout Europe, more than 50% of the adult population is overweight (BMI > 25) or obese (BfR o.J.).
- **Diabetes mellitus** affects more than 7% of the adult population (almost 6 million people, BfR o.J.)
- **Cardiovascular diseases** are the most common disease of civilisation and the most common cause of death in Germany (BfR o.J.).



Sustainability in the catering industry: SDG 2.2: End malnutrition

Imagine you are running a school kitchen. You notice that many children are over-preoccupied. You initiate a meeting with the school management, the school board and the canteen committee.

With what proposals do you go into the conversation?



Vocational training for sustainable development

The materials of the project agency
Didactic Impulse Paper (IP)



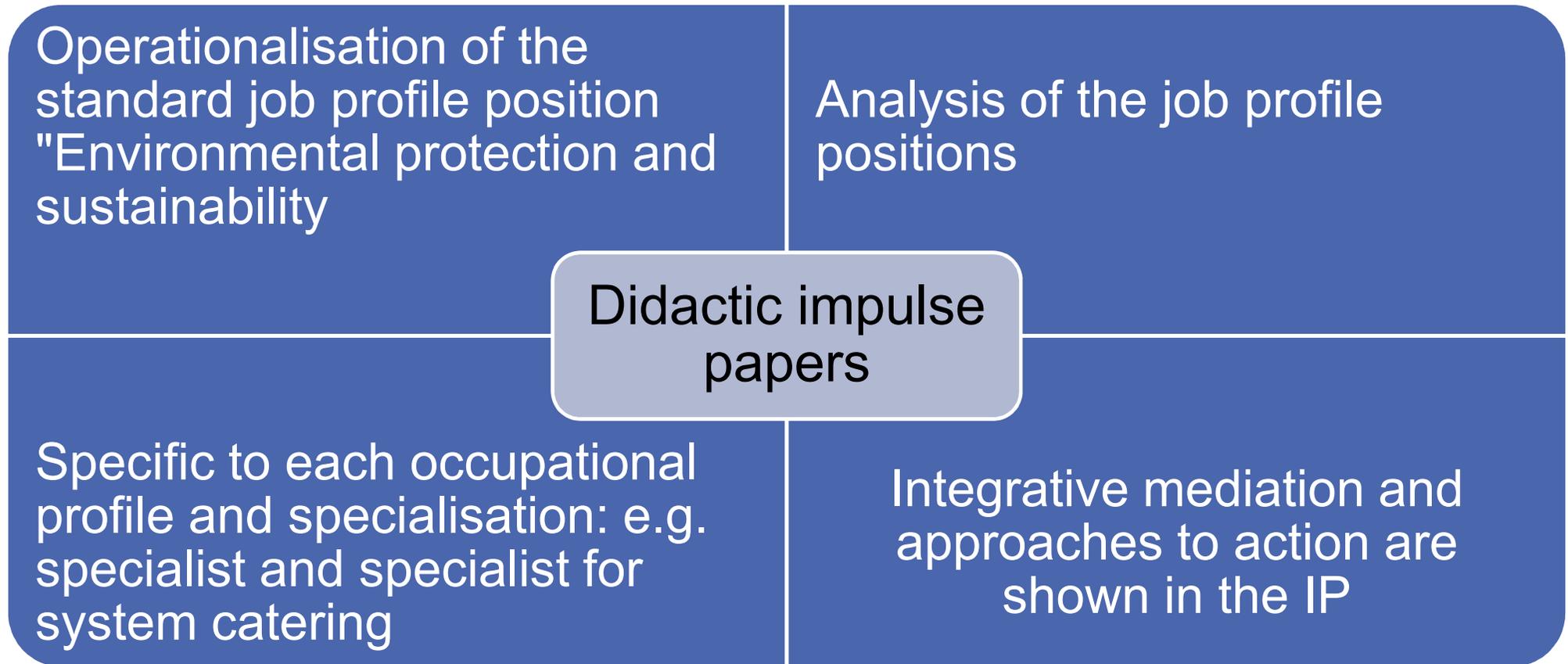
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Concept of the didactic impulse papers



Operationalisation of the standard occupational profile item "Environmental protection & sustainability"

1.

- Analysis of items 3a Environment and society; 3b Energy and materials and 3d Waste (3c is regulatory mandatory and not optional).

2.

- Subdivision e.g. environment: climate change, GHG values of food, water footprint

3.

- Proposal of skills, knowledge and abilities
- Example: Knowing foods with high GHG values

4.

- Show reference e.g. climate protection through low-emission nutrition

5.

- 3e) Develop proposals for sustainable action and allocation to SDGs

Operationalisation of the SBBP "Sustainability Positions, issues and SDGs (gastronomy)"

| | |
|----------------------------|-----------------------------------|
| Malnutrition SDG 2 / SDG 3 | Fishing & Aquaculture SDG 14 |
| Seasonal-Regional SDG 12 | Water footprint SDG 6 |
| Climate change SDG 13 | Organic and animal welfare SDG 15 |
| GHG values food SDG 13 | |

Position 3a Environment and Society

Position 3f: Communicate sustainability

| | |
|---------------------------------------|-----------------------------------|
| Energy and emissions SDG 7/13 | Fuel consumption SDG 13 |
| Energy consumption/energy SDG 7/13 | Water consumption/energy SDG 6/12 |
| Energy use/operation SDG 7/13 | One-way reusable SDG 2/12 |
| Energy efficiency appliances SDG 7/13 | Packaging & Seals SDG 2/12 |

Position 3b Energy & Materials

| |
|---------------------------|
| Waste generation SDG 6/12 |
| Waste recycling SDG 2/12 |
| Food Sharing SDG 2/12 |

Position 3d Waste

Operationalisation of the SBBP "Sustainability Positions, issues and SDGs

Position 3e: Develop proposals for sustainable action SDG 2: Reduce malnutrition

- Identify the dishes with the highest proportions of "unhealthy" components and develop options to reduce the proportions.
- Creation of similar dishes with healthier ingredients
- Development of sensible menu plan for a healthier diet

GHG values food
SDG 13

Position 3e: Develop proposals for sustainable action SDG 13: Climate action

- Know and be able to use alternatives for foods with high GHG values
- Making it possible to reduce the quantities of highly climate-relevant ingredients
- Menu plan can analyse food transported by air freight

Waste
generation SDG
6/12

Waste recycling
SDG 12

Position 3f: Communicate sus

Operationalisation of the job profile positions

Establish references to sustainability

Skills, Knowledge and Abilities (AO) and RLP

g) look after guests, inform and advise them about the range of services and products on offer
Learning Area 3: You get an overview of ... plant raw materials, ... and the nutritional-physiological ... properties.

Field of study 5: Informing guests about diets, allergies, preparations, ingredients and additives

Learning Area 6: They take into account ... nutritional trends ... regionality, sustainability ... as well as quality and quality labels.

Position and learning field

A1 - Dealing with guests
Learning field 3, 5 and 6

Exemplary references to sustainability

- Explanation of the health aspects of the dishes
- Explanation of the sustainability of food
- References to fair trade products
- Quality seal and sustainability seal
- Vegetarian and vegan menus
- Organic quality or regional-seasonal products

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The materials of the project agency
SDG Background Material (BGM)



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Operationalisation: SDG & job profile positions

Background material concept

SDG 15 Life on land

SDG 15.2: ... End deforestation / SDG 15.3: ... Aim for a soil-neutral world / SDG 15.5 End the loss of biodiversity

SDG 13 - Climate action

SDG 13.3: Increase education and awareness ... in the area of ... reducing climate impacts improve

Standard occupational profile position:
Identify **possibilities for avoiding** operational burdens for the **environment** and society in one's own area of responsibility and contribute to their further development.

Background material

SDG 15

Intensive agriculture
Agro-biodiversity
Organic products
Seasonal-regional

SDG 13

Meat and milk
Rice
Transports
User behaviour

Integrative mediation and approaches to action are shown in the IP

Operationalisation: SDG & job profile positions

Background material concept

1.

- Analysis of the SDGs and the sub-goals

2.

- Determine intersection with SBBP and VET positions

3.

- Describe topics (scientific text)

4.

- Teacher/trainer: Use for continuing education

Operationalisation of the SBBP "Sustainability Topics for "FK/FM/FF System gastronomy

SDG 2 No hunger

- Poverty in Germany
- Passing on food
- Reduction of waste generation
- Waste disposal

SDG 6 Clean water

- Water pollution
- Virtual water
- Water footprint of food

SDG 3 Health and well-being

- Malnutrition
- Non-communicable diseases
- DGE recommendations

SDG 7 Affordable and clean energy

- Renewable energies
- Environmental protection
- Area competition

SDG 8 Decent work

- Customers want "cheap
- Value chain
- Supply Chain Act

SDG 12 Sustainable/ Consumption & Production

- Seals and packaging
- Cleaning and rinsing materials
- Seasonal-Regional Nutrition

SDG 13 Climate action

- Meat & Dairy Products
- User behaviour
- Energy-efficient kitchen

SDG 15 Life on land

- Intensive agriculture
- Agro-biodiversity
- Organic products

**A material with
approx. 100
references**

Vocational training for sustainable development

The materials of the project agency
Conflicting goals - collection of slides (FS)



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Operationalisation: SDG & job profile positions

Background material concept

1.

- Development of the IP

2.

- Formulation of the BGM

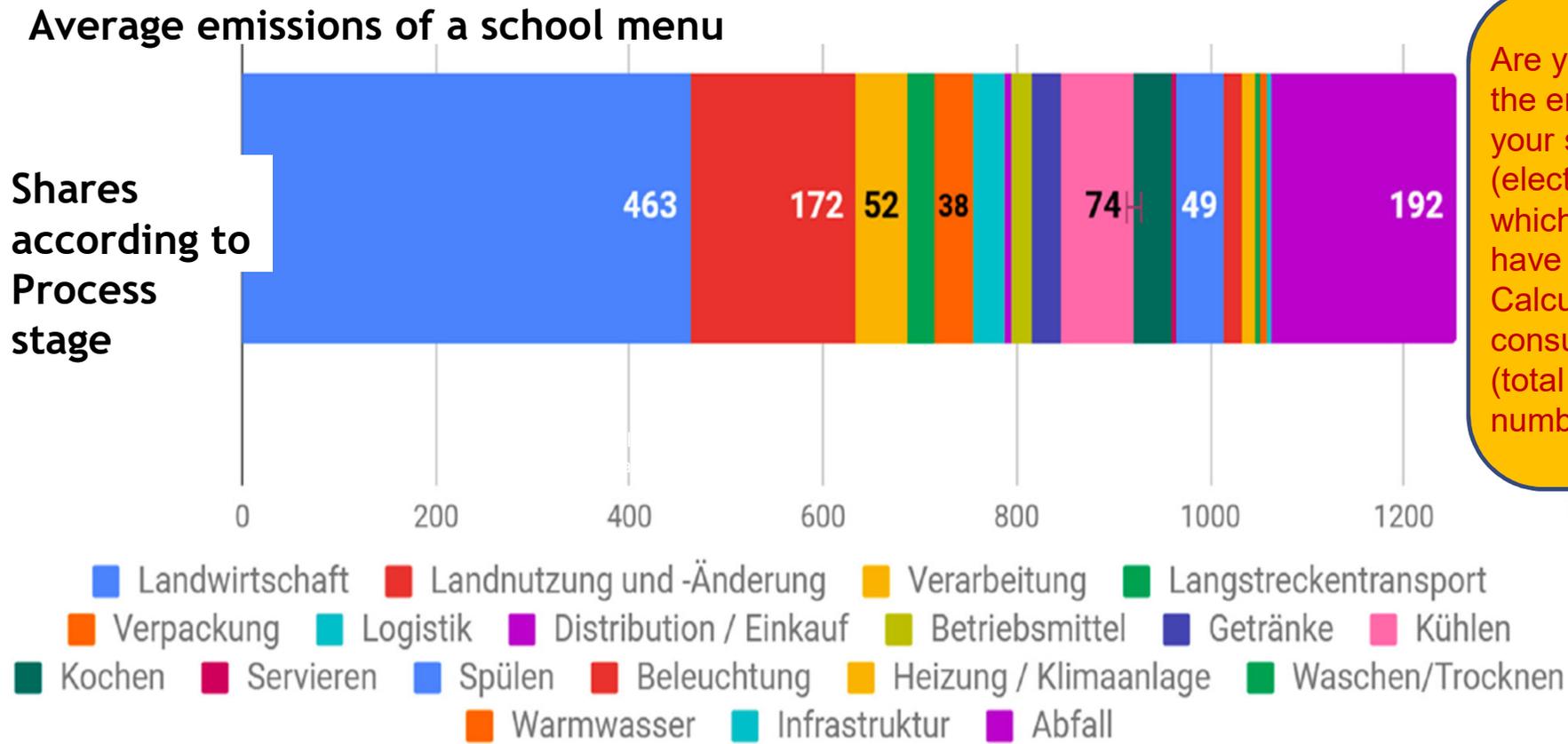
3.

- Identification of conflicting goals

4.

- Creation of appealing slides

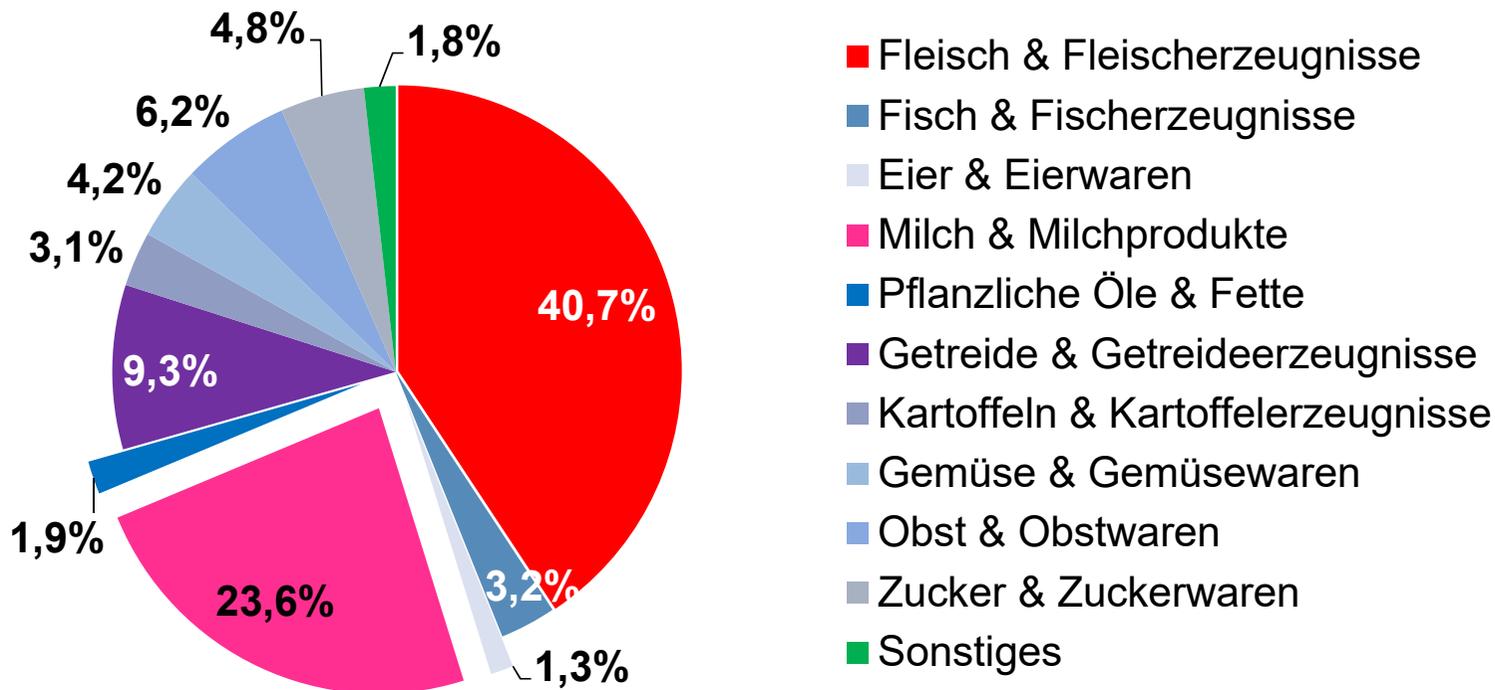
Sustainability in gastronomy: What does this mean for your system gastronomy?



Are you trying to determine the energy consumption in your system catering (electricity + gas)? For which processes do you have data? Calculate the energy consumption per menu (total energy consumption / number of menus).

Sustainability in the catering industry: Meat and dairy products are the problem

Average emissions of the diet by components



Determine the quantities of the following components of your menu:

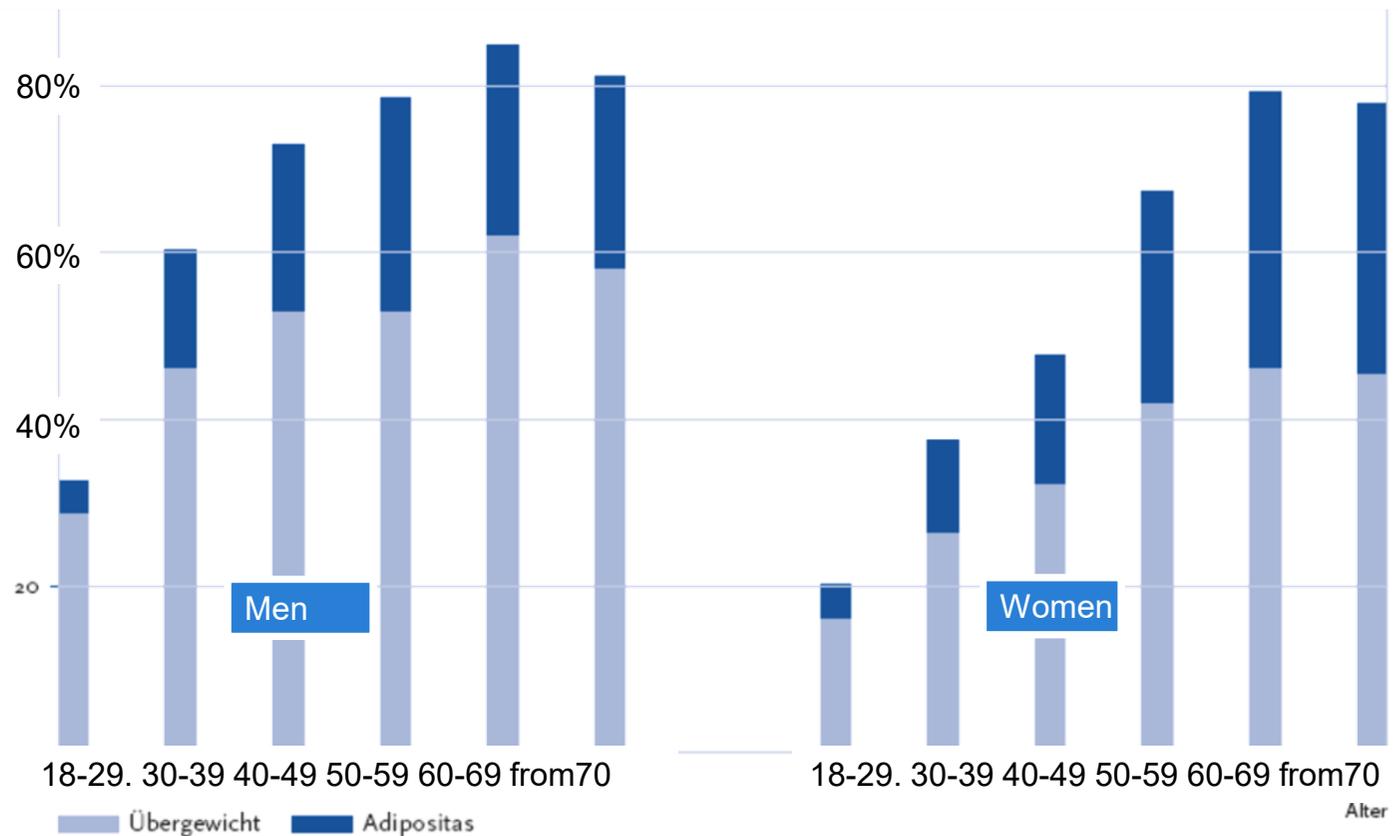
- Beef
- Chicken, turkey, pork
- Fish
- Potatoes & Pasta
- Rice

Calculate the emissions on an average basis. What is the share of which food group?

Sustainability in the catering industry: SDG 2.2: End malnutrition

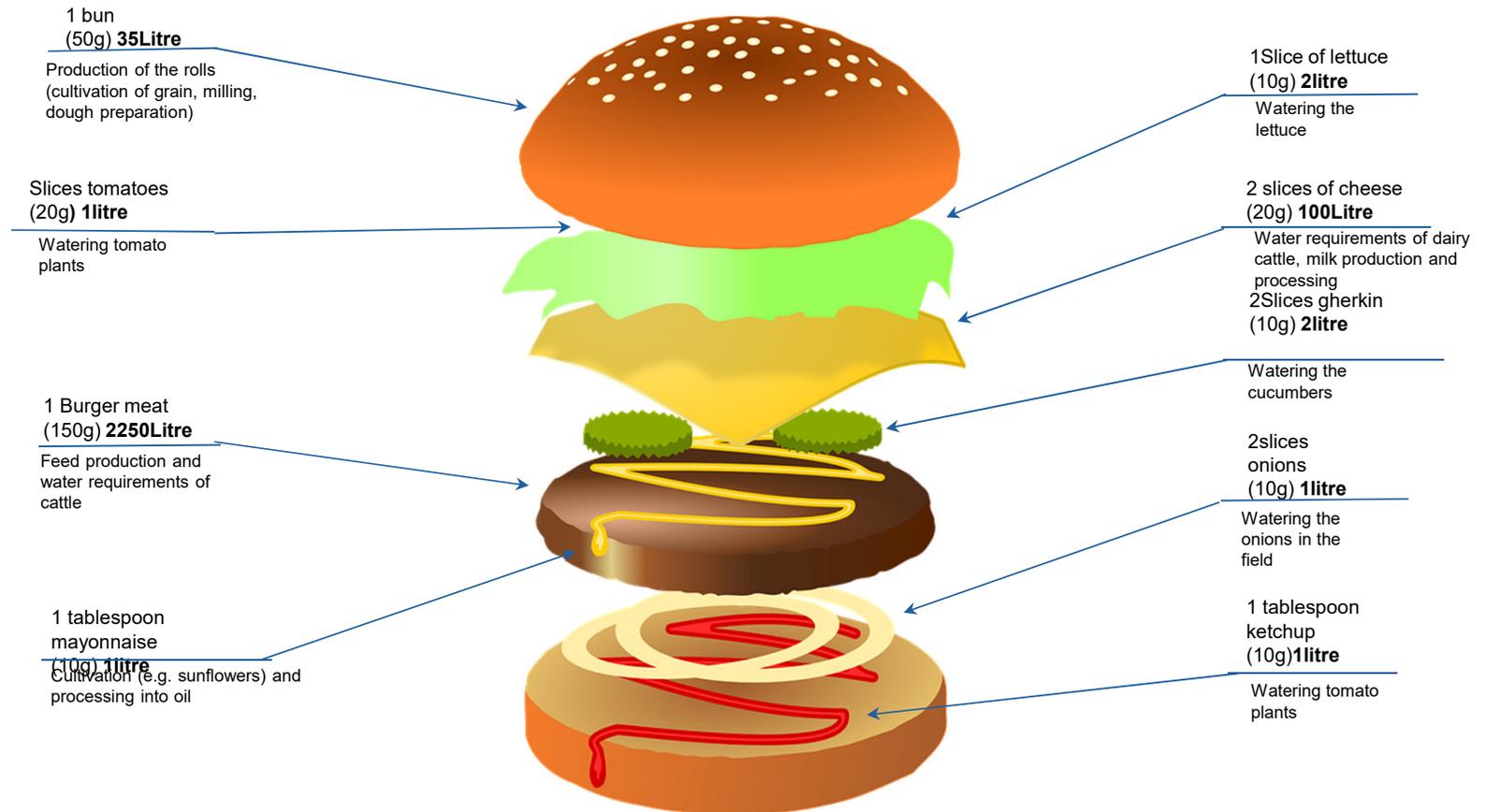
Imagine you are running a school kitchen. You notice that many children are over-prepared. You initiate a meeting with the school management, the school board and the canteen committee.

With what proposals do you go into the conversation?



Sustainability in the catering industry: The water footprint of their menus

Discuss the water footprint of different ingredients on your menu.
Which components have the largest imprint and why?



Sustainability in companies

How low in emissions is your vehicle fleet?

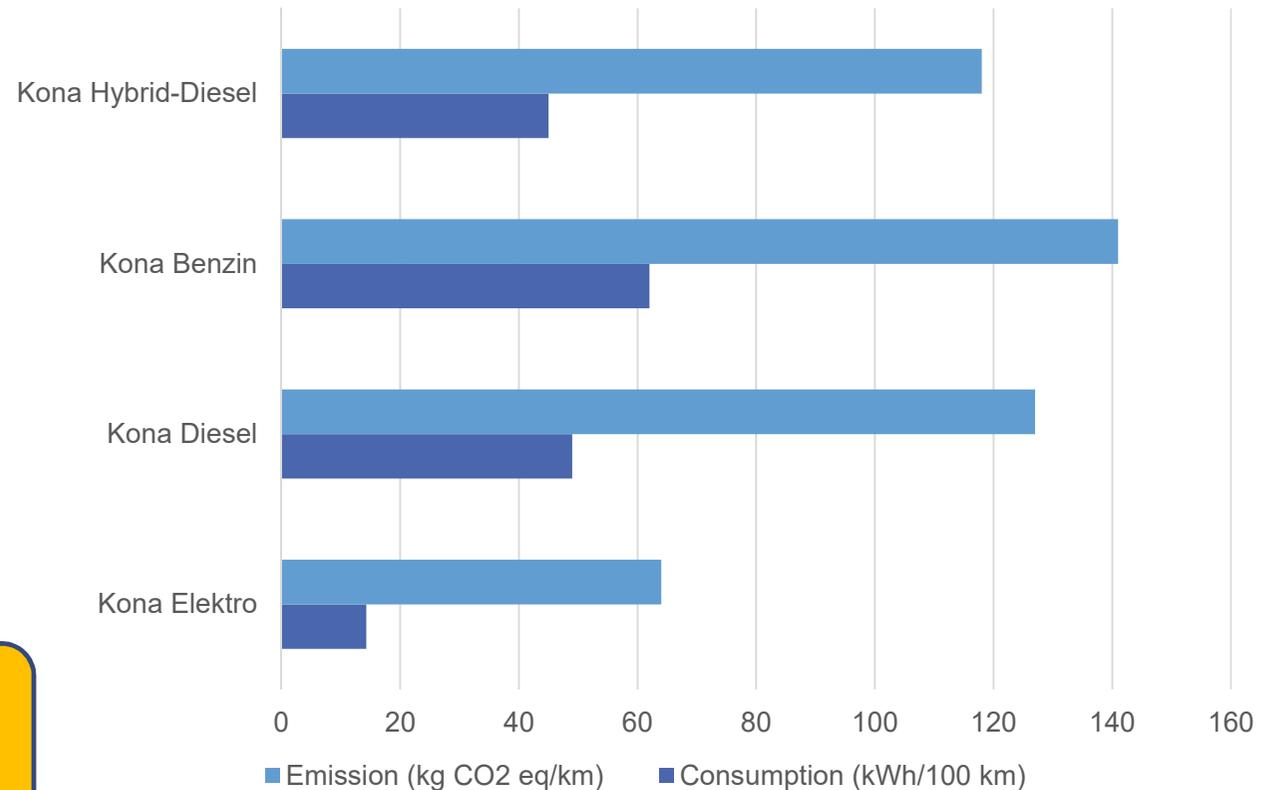
Example Hyundai Kona

- Electric / 150 kW,
- Petrol / 146 kW,
- Diesel / 100 kW
- Diesel Hybrid /100 kW

Emission factors

- Electricity: 0.45 kg/kWh
- Diesel: 2.65 kg / l
- Petrol 2.37 kg / l

Discuss the advantages and disadvantages of electric mobility in your company.



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Thank you for listening



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