



**Hvad vil det
sige
at spise
bæredygtigt?**

**Merete Myrup
Ernæringschef Mejeri
Landbrug & Fødevarer**

Agenda

- Med udgangspunkt i Verdensmålene for bæredygtig udvikling
- Hvad er en 'bæredygtig kost'?
- Substitutions-produkter
- Uden husdyr?
- WWF rapport 'Eating for 2 degrees'
- EAT-Lancet rapport
- Individuelle aktiviteter og bæredygtighed
- Opsummering

Med udgangspunkt i Verdensmålene ...

FN'S 17 VERDENSMÅL FOR BÆREDYGTIG UDVIKLING





Husdyr er en vej ud af fattigdom:

- Øget 'robusthed'
- Bedre udbytte/produktivitet
- Varer at sælge
- 'Forsikring'
- 'Transportabel' værdi



Husdyrhold:

Flere steder må kvinder ikke eje jord, men må gerne drive en gård
➡ 'women empowerment'



Husdyr: Fødevarer sikkerhed og næringsrig mad hele året rundt

Forebygge fejlnæring og væksthæmning af børn < 5



Mange jobs i landbruget, både direkte og i afledte erhverv, også i landområder



Mælk/kød/æg: vigtige næringsstoffer, specifikt fokus på gravide og små børn

Mejeriprodukter kan være med til at forebygge visse livsstilssygdomme



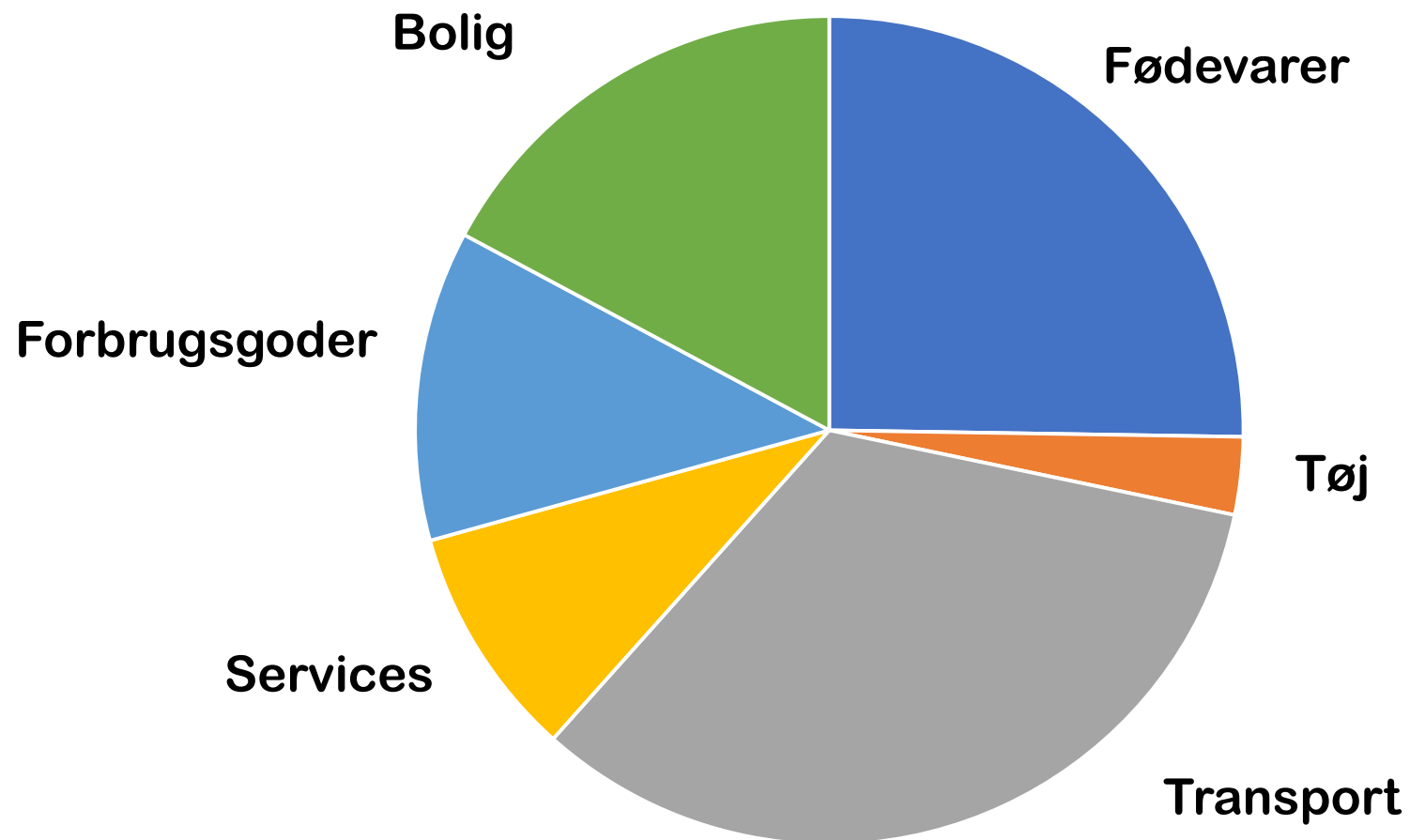
Minimering af drivhusgasudledning, sådan at det ikke truer fødevarerproduktionen



Bæredygtighed



Udledning fra danske husholdninger (tCO₂eq/cap)



References:

Ivanova et al. 2017. Mapping the carbon footprint of EU regions. *Environmental Research Letters*, 12.

Ivanova et al. 2015. Environmental Impact Assessment of Household Consumption. *Journal of Industrial Ecology*, 20.

SUSTAINABLE DIETS AND BIODIVERSITY

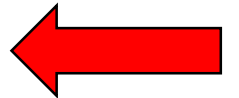
DIRECTIONS AND SOLUTIONS
FOR POLICY, RESEARCH AND ACTION



Hvordan defineres 'bæredygtig kost'

A working group was convened as part of the Symposium and a definition was debated, built upon previous efforts of governments (e.g., the Sustainability Commission of the UK), UN agencies (FAO/Bioversity Technical Workshop and Biodiversity and Sustainable Diets), and others. The definition was presented in a plenary session of the Symposium and accepted by the participants, as follows: *Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.*

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Bæredygtig kost

‘ernæringsmæssig tilstrækkelig,
sikker og sund’

Sundhed

‘beskyttende og respektfuld
overfor økosystemer
og biodiversitet’

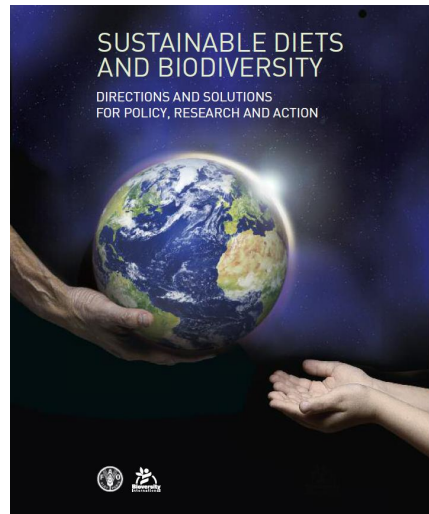
Klima

Økonomi

‘tilgængelig, økonomisk fair
og til at betale’

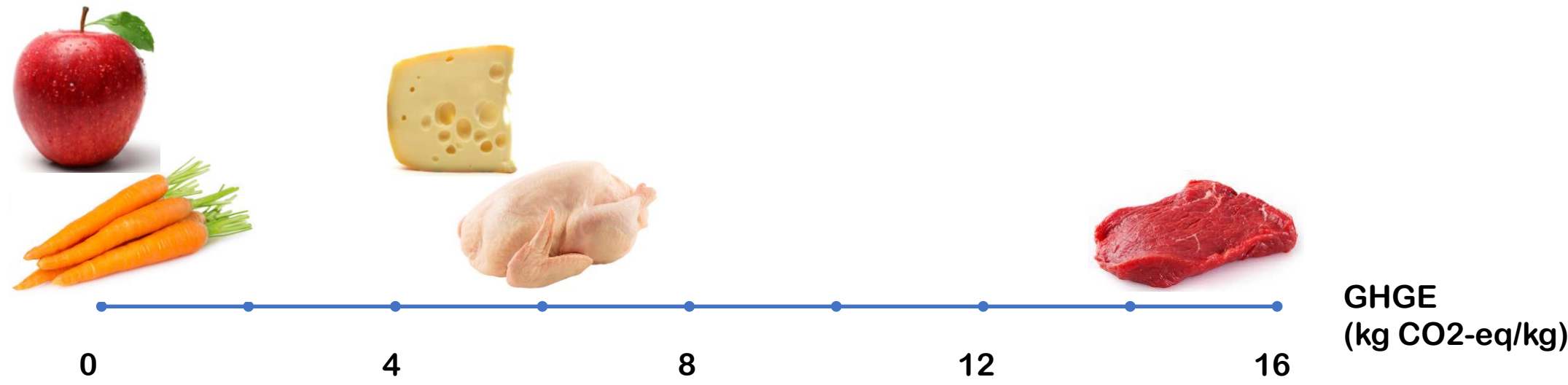
Kultur

‘kulturelt acceptabel’
‘optimerer naturens og
menneskers ressourcer’



Ofte hørt kommentar:

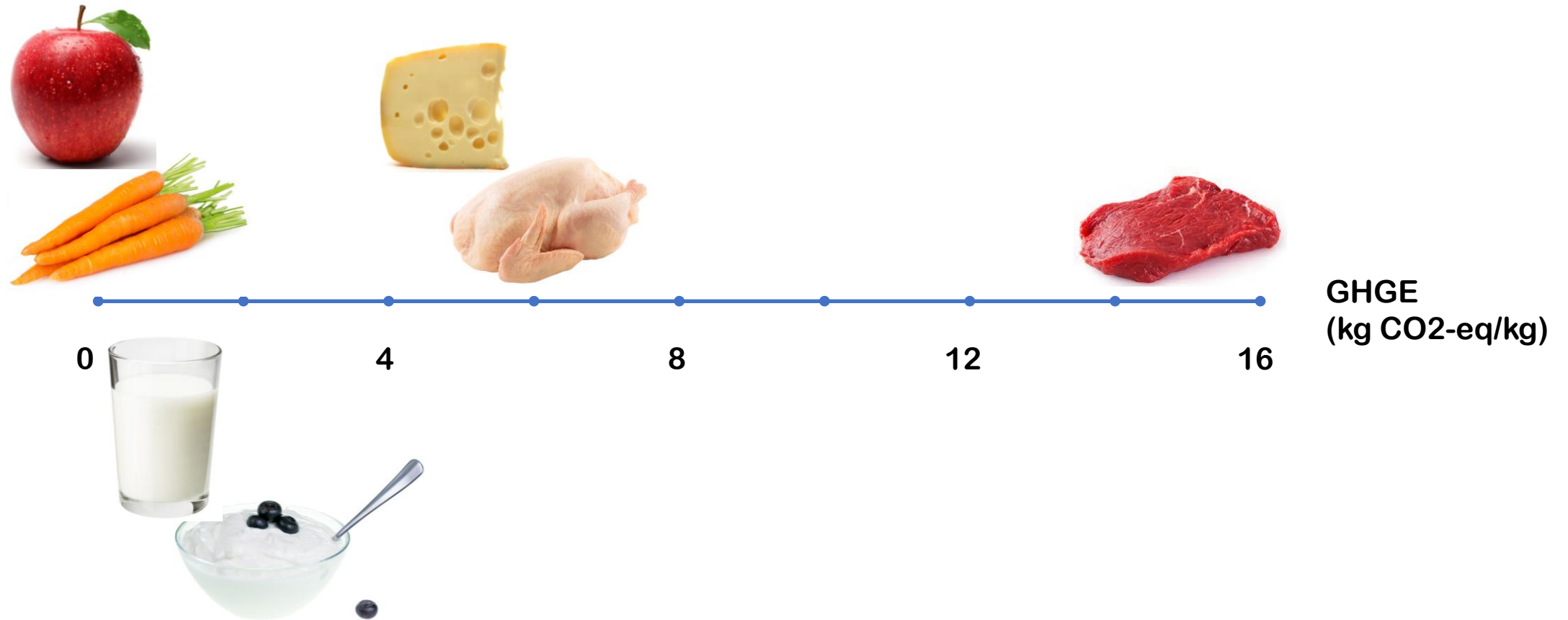
‘Skær ned på de animalske fødevarer og vælg de plantebaserede fødevarer i stedet’



Men det er måske lidt for unuanceret?

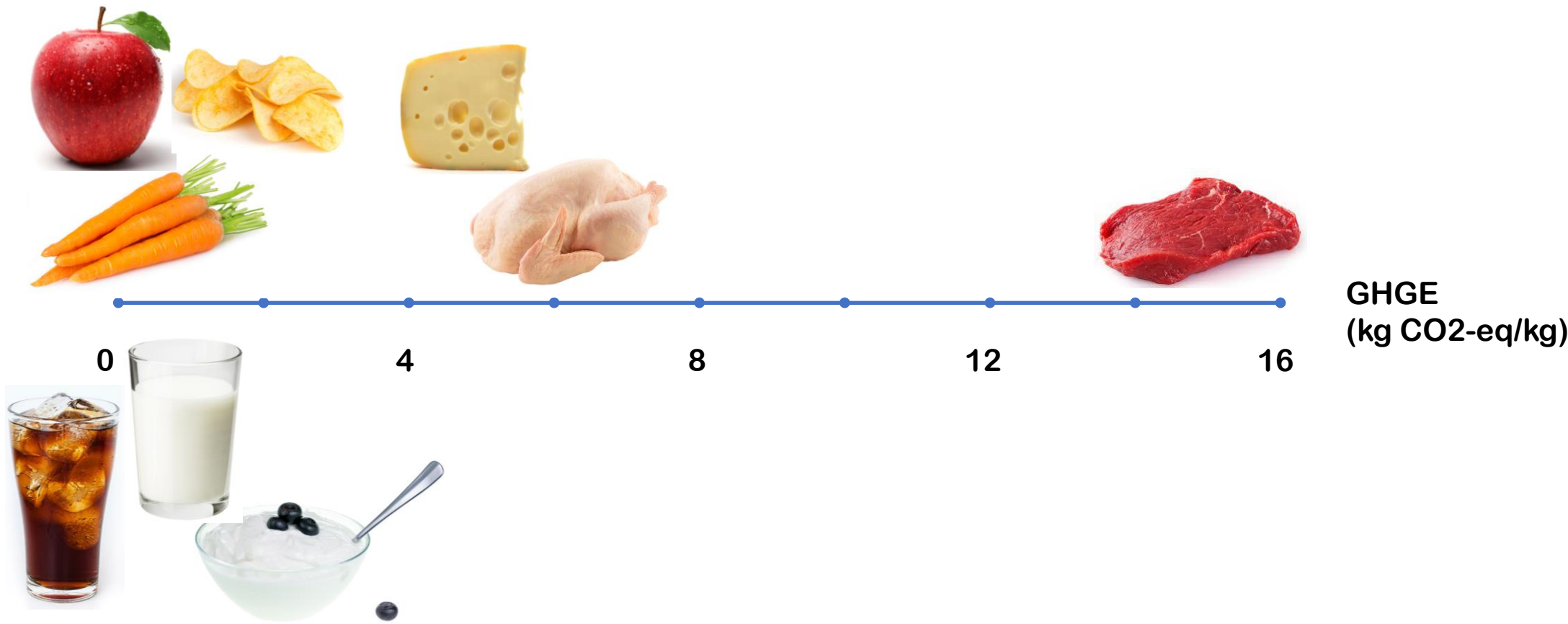
Ofte hørt kommentar:

‘Skær ned på de animalske fødevarer og vælg de plantebaserede fødevarer i stedet’



Men det er måske lidt for unuanceret?

**Ofte hørt kommentar:
'Skær ned på de animalske fødevarer og vælg de plantebaserede fødevarer i stedet'**



Men det er måske lidt for unuanceret?

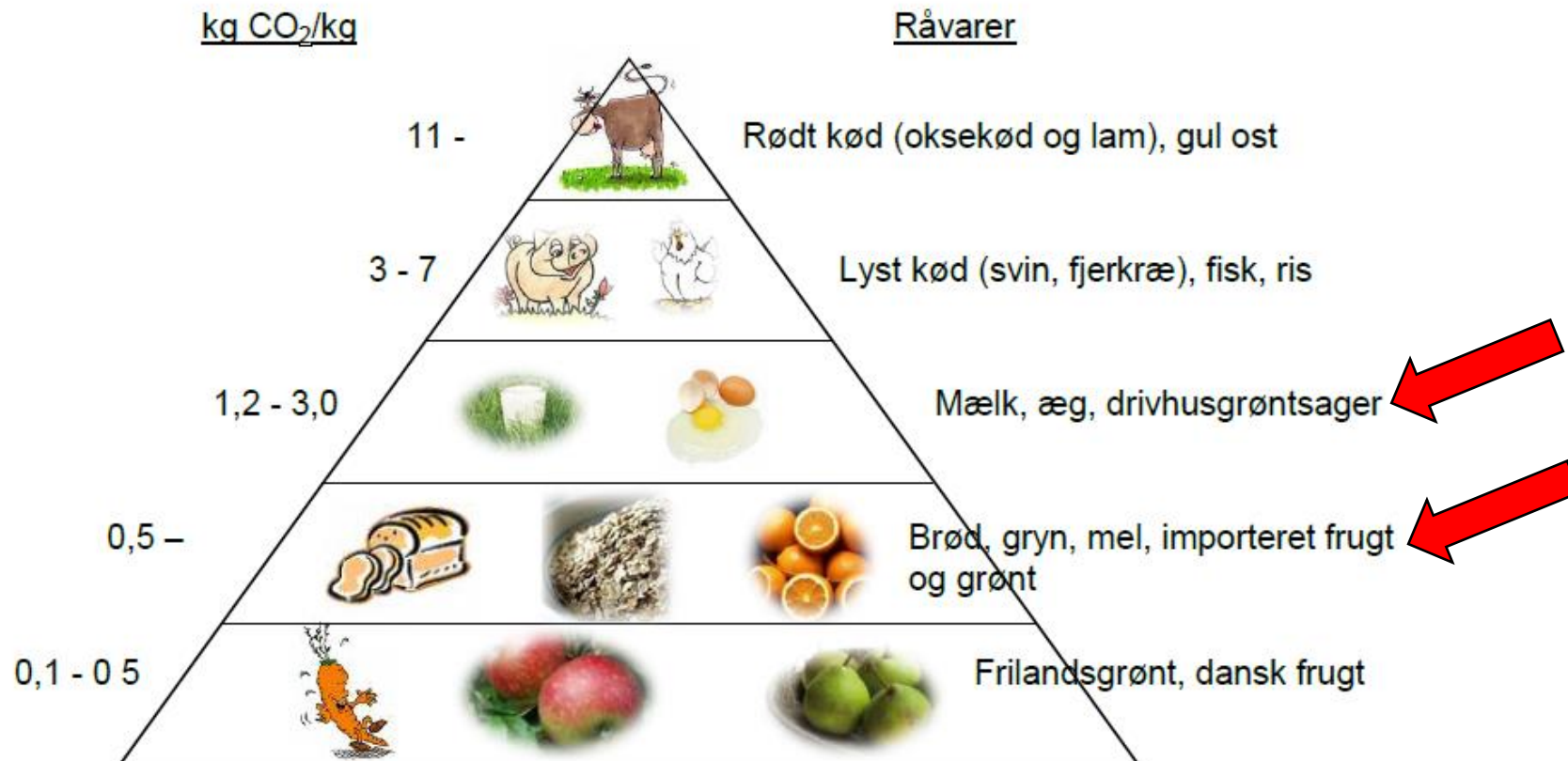
Alle disse er plantebaserede



De er ikke alle lige bæredygtige



Klima-aftryk af fødevarer



Reference: 'Vores forbrug af fødevarer har stor betydning for klimaet'

Lisbeth Mogensen, Marie Trudeman Knudsen, John E Hermansen, 2009, Aarhus Universitet

Alternativer til animalske produkter



Alternativer til de animalske produkter

Public Health Nutrition: 20(11), 2050–2062

doi:10.1017/S1368980017000763

Are more environmentally sustainable diets with less meat and dairy nutritionally adequate?

S Marije Seves, Janneke Verkaik-Kloosterman, Sander Biesbroek and Elisabeth HM Temme*

National Institute for Public Health and the Environment (RIVM), Postbus 1, 3720 BA Bilthoven, The Netherlands

Submitted 5 April 2016; Final revision received 20 January 2017; Accepted 4 April 2017; First published online 23 May 2017

Abstract

Objective: Our current food consumption patterns, and in particular our meat and dairy intakes, cause high environmental pressure. The present modelling study investigates the impact of diets with less or no meat and dairy foods on nutrient intakes and assesses nutritional adequacy by comparing these diets with dietary reference intakes.

Design: Environmental impact and nutrient intakes were assessed for the observed consumption pattern (reference) and two replacement scenarios. For the replacement scenarios, 30% or 100% of meat and dairy consumption (in grams) was replaced with plant-based alternatives and nutrient intakes, greenhouse gas emissions and land use were calculated.

Setting: The Netherlands.

Subjects: Dutch adults (n 2102) aged 19–69 years.

Results: Replacing 30% of meat and dairy with plant-based alternatives did not substantially alter percentages below the Estimated Average Requirement (EAR) for all studied nutrients. In the 100% replacement scenario, SFA intake decreased on average by ~35% and Na intake by ~8%. Median Ca intakes were below the Adequate Intake. Estimated habitual fibre, Fe and vitamin D intakes were higher; however, non-haem Fe had lower bioavailability. For Zn, thiamin and vitamin B₁₂, 10, 31.8% and 60% of adults had intakes below the EAR.

Scenarie 1:

30% animalske produkter udskiftet.
14% reduktion i CO₂ aftryk.

Scenarie 2:

100% animalske produkter udskiftet.
40% reduktion i CO₂ aftryk.

Ref: Seves et al. 2017.

Public Health Nutrition: 20(11), 2050-2062

Alternativer til de animalske produkter

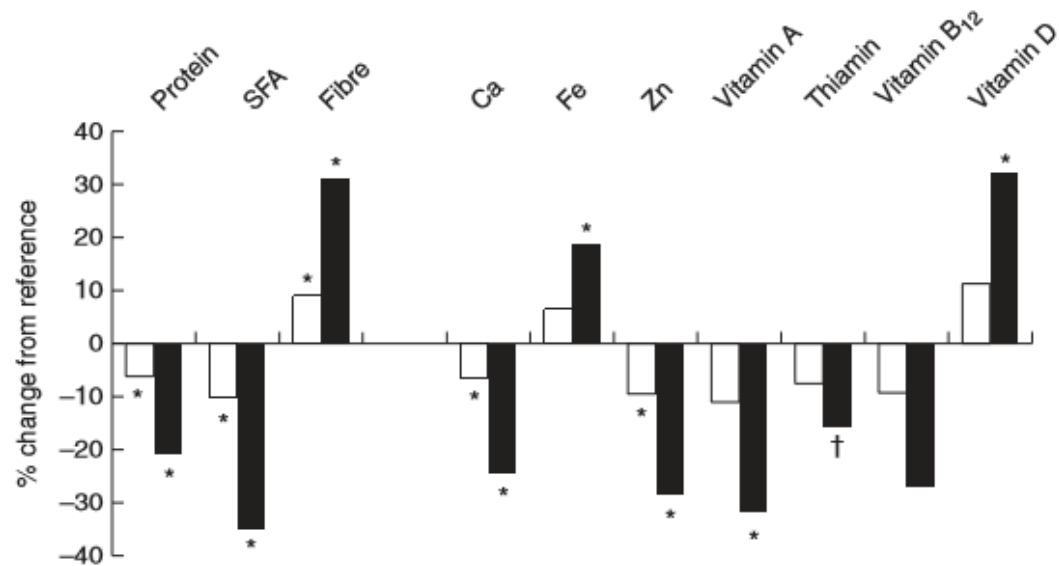


Fig. 1 Percentage change in nutrient intakes for the 'less meat and dairy' (□) and 'no meat and dairy' (■) scenarios compared with the reference scenario in Dutch women aged 19–69 years (*n* 1047). The percentage change in nutrient intakes for men is comparable. *Significantly different from the reference scenario based on the 95% CI around the habitual intake; †significant only for the age group 51–69 years

Hvide søjler: 30% substitution
Sorte søjler: 100% substitution

Noter:

- Protein stadig ok, men brug for ekstra protein pga lavere kvalitet
- Jern i planter er non-hæm, med lavere bio' tilgængelighed
- Vit D fra berigede drikke



EATING FOR 2 DEGREES
NEW AND UPDATED
LIVEWELL PLATES

Revised edition



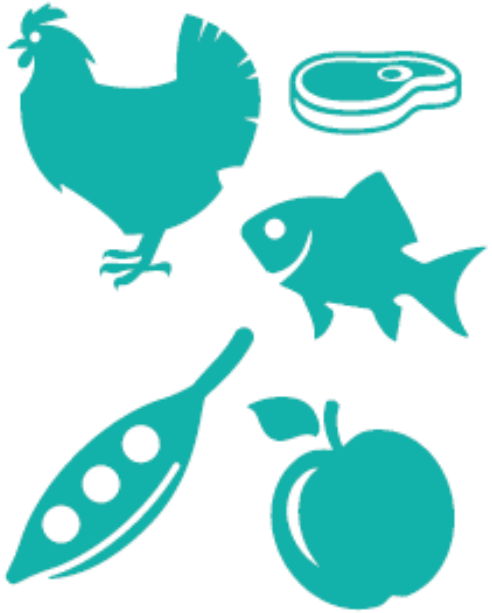
Bæredygtig kost

WWF har arbejdet med dette emne siden 2010, hvor rapporten 'Livewell, a balance of health and sustainable food choices' blev publiceret.

I 2017 lavede de opdaterede udregninger baseret på 'Paris Aftalen', om 2 (1,5) grader.

Rapport fra august 2017

Livewell rapport



THE GOAL OF THE
PROCESS IS TO FIND A
DIET WITH THE FEWEST
POSSIBLE CHANGES
WHILE MEETING THE
RESTRICTIONS IMPOSED.

- Klima
- Næringsstofanbefalinger
- Nuværende kost (kultur)
- Pris (økonomi)

Livewell rapport

LIVWELL PRINCIPLES



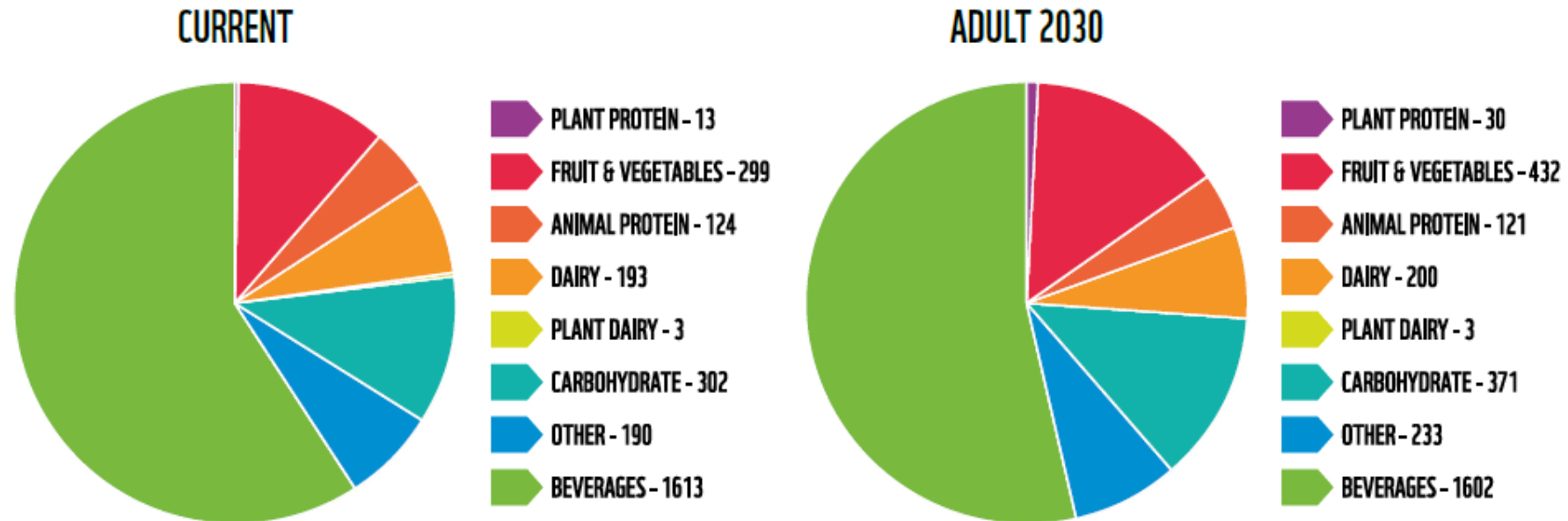
Fra rapporten:

Livewell is not about telling people they can't enjoy their food. Our objective instead is to show how easy it is to adopt a diet that's good for people and the planet – and that in many cases this doesn't require any radical change. Throughout, we've kept our solutions as close as possible to current diets and nationally-accepted nutritional advice. In each case, we've calculated the cost of the new Plates to ensure they remain accessible to everyone, including those on low incomes. Finally, we wanted to gain a better understanding of the impacts on health and the environment of historical changes in the UK diet since 1961; so we addressed this in our analysis of the data as well.

Ref: 'Eating for 2 degrees. New and updated Livewell plates'. August 2017

Livewell rappprt

Figure 3: Pie-charts of the composition of the current adult diet (NDNS) and the adult Livewell Plate for 2030. Amounts are in grams/day. Please see Table 5 for the detailed composition of the Livewell Plates.



Please note: *Animal protein* includes meat, fish and egg; *Plant protein* includes legumes and meat replacers; *Plant dairy* includes soy drink and soy yoghurt; *Carbohydrate* includes grains and grain-based products, starchy roots and tubers, and sugar and confectionery.

THE LANCET

January, 2019

www.thelancet.com

Food in the Anthropocene: the EAT-Lancet
Commission on healthy diets from
sustainable food systems



"Food in the Anthropocene represents one of the
greatest health and environmental challenges of
the 21st century."

A Commission by *The Lancet*

EAT-Lancet rapport

Deres mål:

1 Goal - 2 Targets - 5 Strategies

To Achieve
Planetary Health
Diets for Nearly
10 Billion People
by 2050



#FoodandFit

EAT-Lancet rapport

Den kostsammensætning der anbefales i rapporten:



Note:
Grøntsager: i alt 300 g (største gruppe), men det er vigtigt at vælge varieret som anført, ellers holder beregningerne ikke

	Macronutrient intake (possible range), g/day	Caloric intake, kcal/day
Whole grains*		
Rice, wheat, corn, and other†	232 (total gains 0-60% of energy)	811
Tubers or starchy vegetables		
Potatoes and cassava	50 (0-100)	39
Vegetables		
All vegetables	300 (200-600)	..
Dark green vegetables	100	23
Red and orange vegetables	100	30
Other vegetables	100	25
Fruits		
All fruit	200 (100-300)	126
Dairy foods		
Whole milk or derivative equivalents (eg, cheese)	250 (0-500)	153
Protein sources‡		
Beef and lamb	7 (0-14)	15
Pork	7 (0-14)	15
Chicken and other poultry	29 (0-58)	62
Eggs	13 (0-25)	19
Fish§	28 (0-100)	40
Legumes		
Dry beans, lentils, and peas*	50 (0-100)	172
Soy foods	25 (0-50)	112
Peanuts	25 (0-75)	142
Tree nuts	25	149
Added fats		
Palm oil	6-8 (0-6-8)	60
Unsaturated oils¶	40 (20-80)	354
Dairy fats (included in milk)	0	0
Lard or tallow	5 (0-5)	36
Added sugars		
All sweeteners	31 (0-31)	120

For an individual, an optimal energy intake to maintain a healthy weight will depend on body size and level of physical activity. Processing of foods such as partial hydrogenation of oils, refining of grains, and addition of salt and preservatives can substantially affect health but is not addressed in this table.

*Wheat, rice, dry beans, and lentils are dry, raw. †Mix and amount of grains can vary to maintain isocaloric intake. ‡Beef and lamb are interchangeable with pork and vice versa. Chicken and other poultry is interchangeable with eggs, fish, or plant protein sources. Legumes, peanuts, tree nuts, seeds, and soy are interchangeable. §Seafood consist of fish and shellfish (eg, mussels and shrimps) and originate from both capture and from farming. Although seafood is a highly diverse group that contains both animals and plants, the focus of this report is solely on animals. ¶Unsaturated oils are 20% each of olive, soybean, rapeseed, sunflower, and peanut oil. ||Some lard or tallow are optional in instances when pigs or cattle are consumed.

Table 1: Healthy reference diet, with possible ranges, for an intake of 2500 kcal/day

Figur fra Videnskab.dk

THE LANCET

January, 2019

www.thelancet.com

Food in the Anthropocene: the EAT-Lancet
Commission on healthy diets from
sustainable food systems



"Food in the Anthropocene represents one of the
greatest health and environmental challenges of
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A Commission by *The Lancet*

EAT-Lancet rapport

Rapporten er interessant,
men har en række fejl/mangler:

- Kost til alle, men undtagelser
- Jern (kosttilskud!)
- Calcium (udregninger baseret på 500mg/dag)
- Referencer (udvalgte)
- Teknologi (udvikling!)
- Mængder ...

EAT-Lancet rapport

1 Goal – 2 Targets – 5 Strategies

Transformation to healthy diets by 2050 will require substantial dietary shifts.

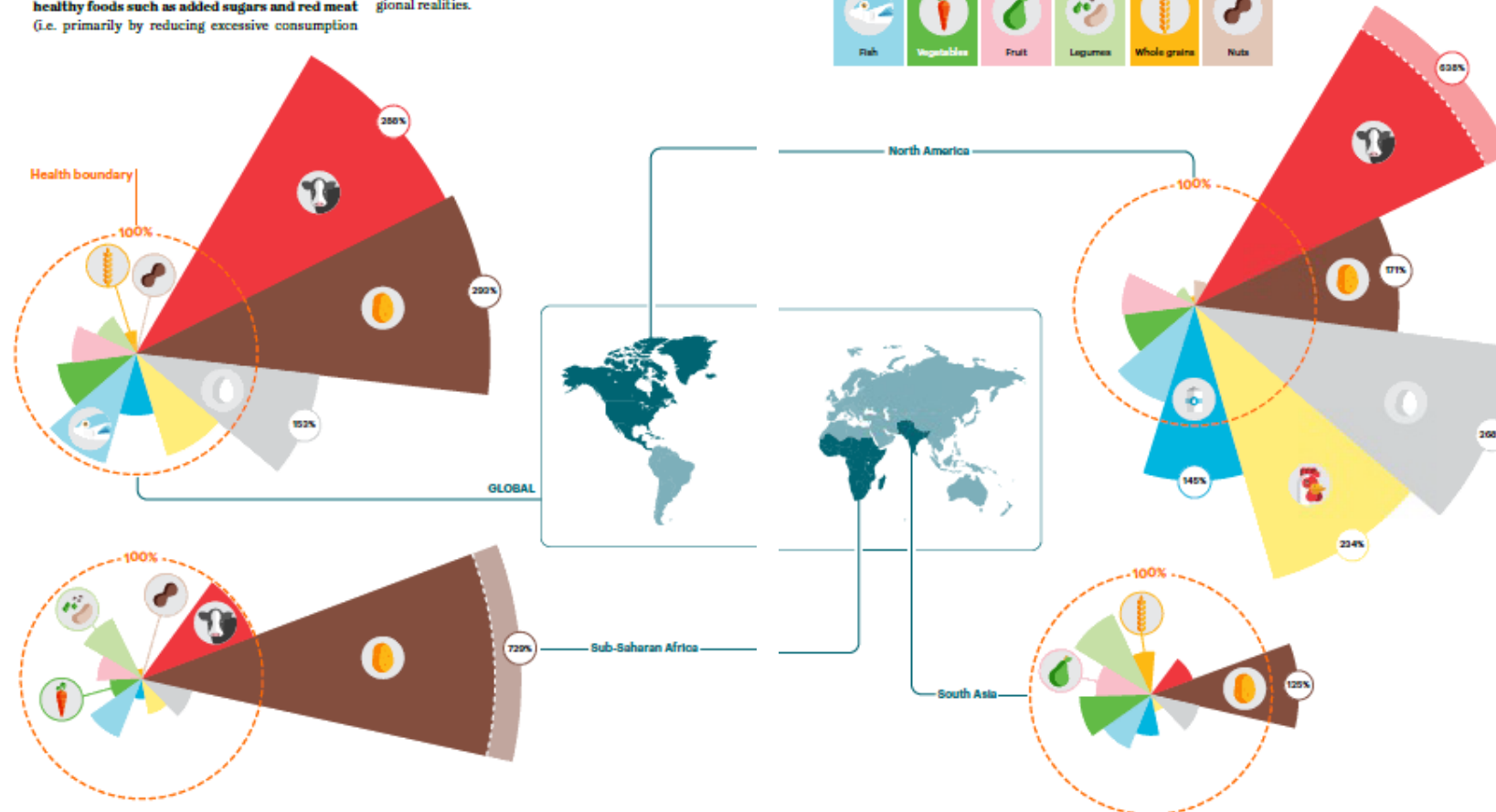
This includes a more than doubling in the consumption of healthy foods such as fruits, vegetables, legumes and nuts, and a greater than 50% reduction in global consumption of less healthy foods such as added sugars and red meat (i.e. primarily by reducing excessive consumption

in wealthier countries). However, some populations worldwide depend on agropastoral livelihoods and animal protein from livestock. In addition, many populations continue to face significant burdens of undernutrition and obtaining adequate quantities of micronutrients from plant source foods alone can be difficult. Given these considerations, the role of animal source foods in people's diets must be carefully considered in each context and within local and regional realities.

Summary Report



Figure 4
The "diet gap" between current dietary patterns and intakes of food in the planetary health diet.



Figur fra EAT-Lancet Summary Report



Hvor meget betyder det, hvad der ligger på vores tallerken?

Environmental Research Letters



LETTER

OPEN ACCESS

The climate mitigation gap: education and government recommendations miss the most effective individual actions

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12 July 2017Seth Wynes^{1,2,3} and Kimberly A Nicholas¹¹ Lund University, Center for Sustainability Studies, PO Box 170, Lund SE-221 00, Sweden² University of British Columbia, The Department of Geography, Vancouver Campus, 1984 West Mall, Vancouver, BC, V6T 1Z2, Canada³ Author to whom any correspondence should be addressed.E-mail: seth.wynes@gmail.com

Keywords: climate change mitigation, environmental behaviour, education, climate policy transformation pathways

Supplementary material for this article is available online

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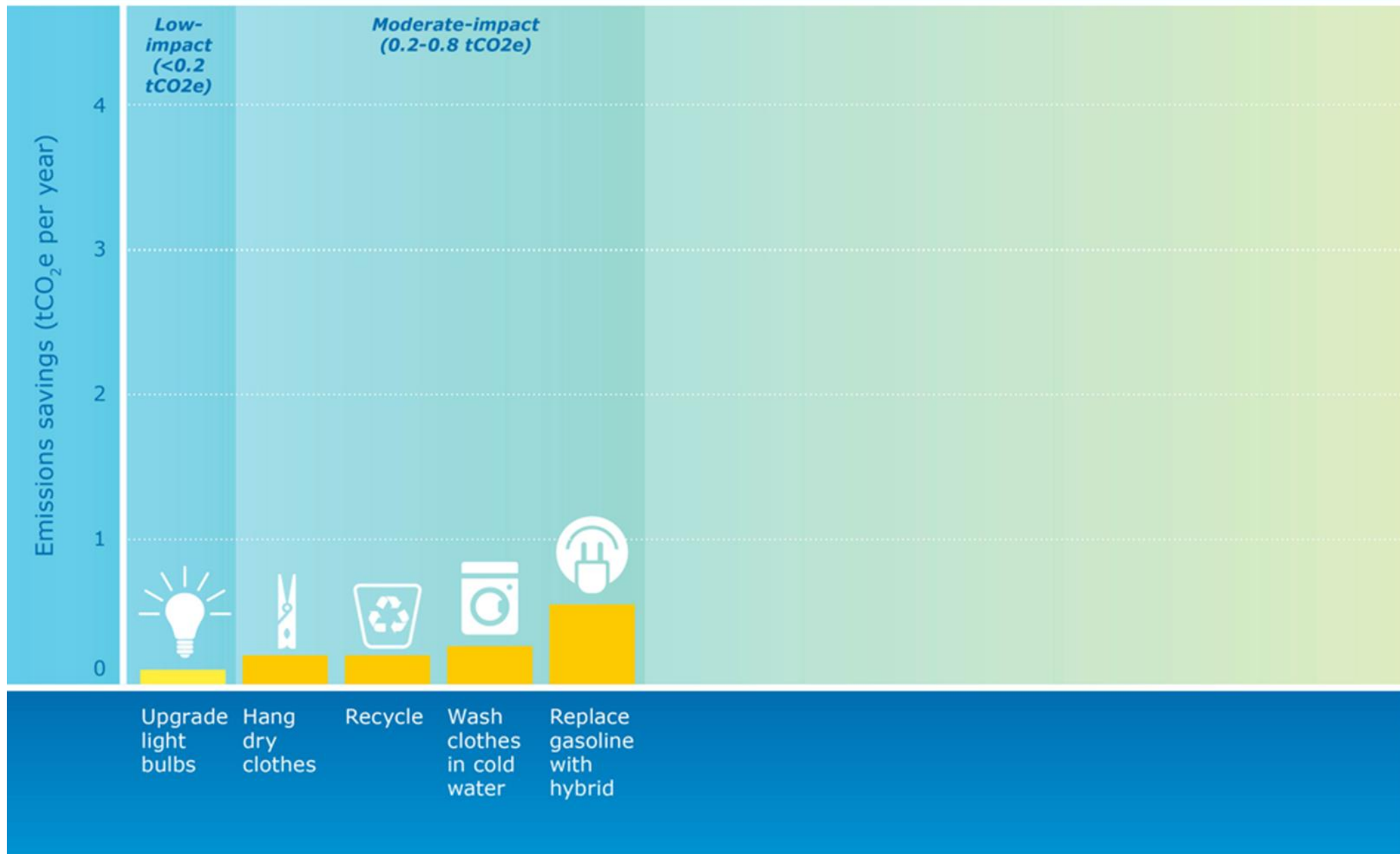


Abstract

Current anthropogenic climate change is the result of greenhouse gas accumulation in the atmosphere, which records the aggregation of billions of individual decisions. Here we consider a broad range of individual lifestyle choices and calculate their potential to reduce greenhouse gas emissions in developed countries, based on 148 scenarios from 39 sources. We recommend four widely applicable high-impact (i.e. low emissions) actions with the potential to contribute to systemic change and substantially reduce annual personal emissions: having one fewer child (an average for developed countries of 58.6 tonnes CO₂-equivalent (tCO₂e) emission reductions per year), living car-free (2.4 tCO₂e saved per year), avoiding airplane travel (1.6 tCO₂e saved per roundtrip transatlantic flight) and eating a plant-based diet (0.8 tCO₂e saved per year). These actions have much greater potential to reduce emissions than commonly promoted strategies like comprehensive recycling (four times less effective than a plant-based diet) or changing household lightbulbs (eight times less). Though adolescents poised to establish lifelong patterns are an important target group for promoting high-impact actions, we find that ten high school science textbooks from Canada largely fail to mention these actions (they account for 4% of their recommended actions), instead focusing on incremental changes with much smaller potential emissions reductions. Government resources on climate change from the EU, USA, Canada, and Australia also focus recommendations on lower-impact actions. We conclude that there are opportunities to improve existing educational and communication structures to promote the most effective emission-reduction strategies and close this mitigation gap.

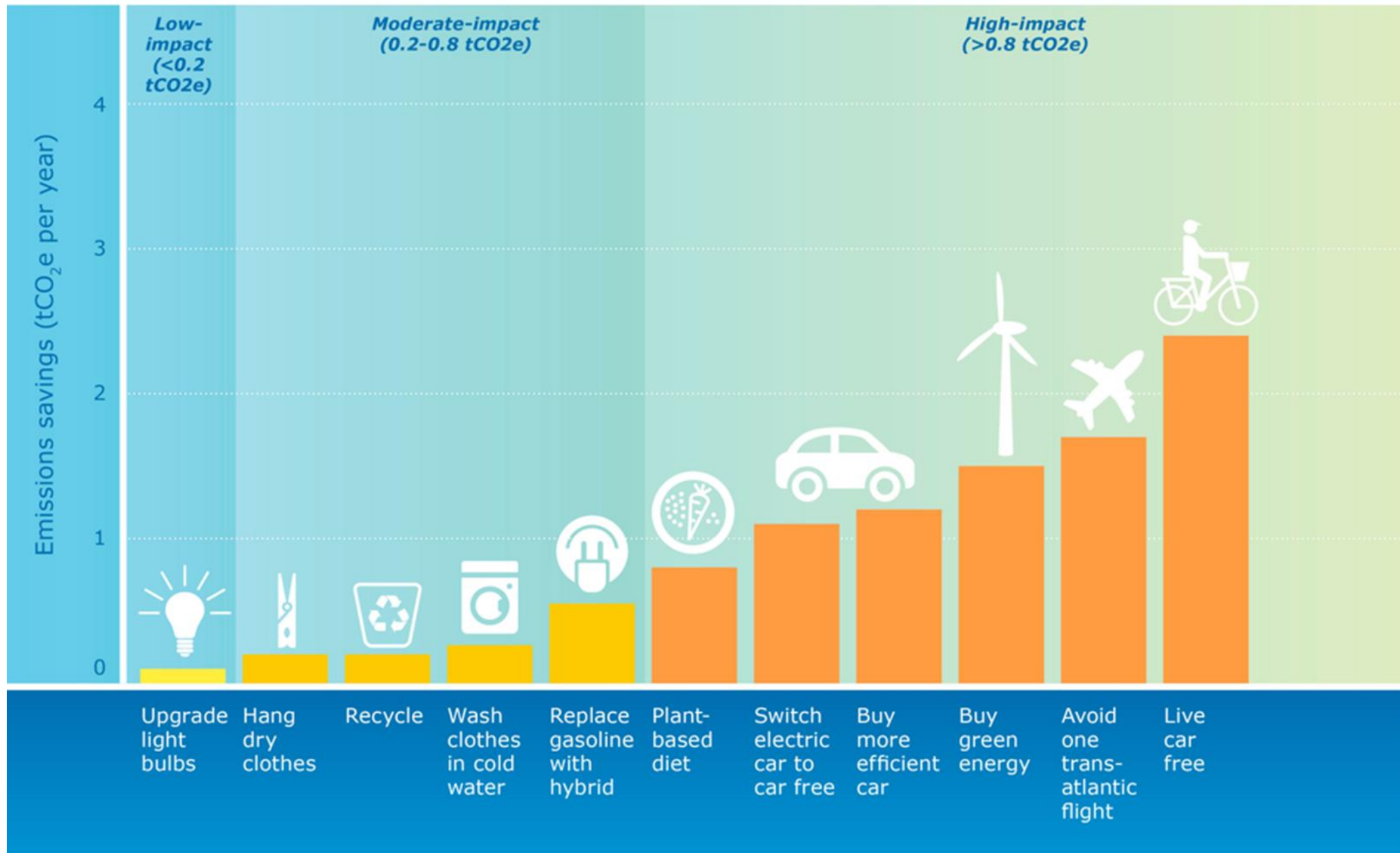
Ref: Wynes & Nicholas, 2017.
Environ. Res. Lett 12, 074024

A COMPARISON OF THE EMISSIONS REDUCTIONS FROM VARIOUS INDIVIDUAL ACTIONS



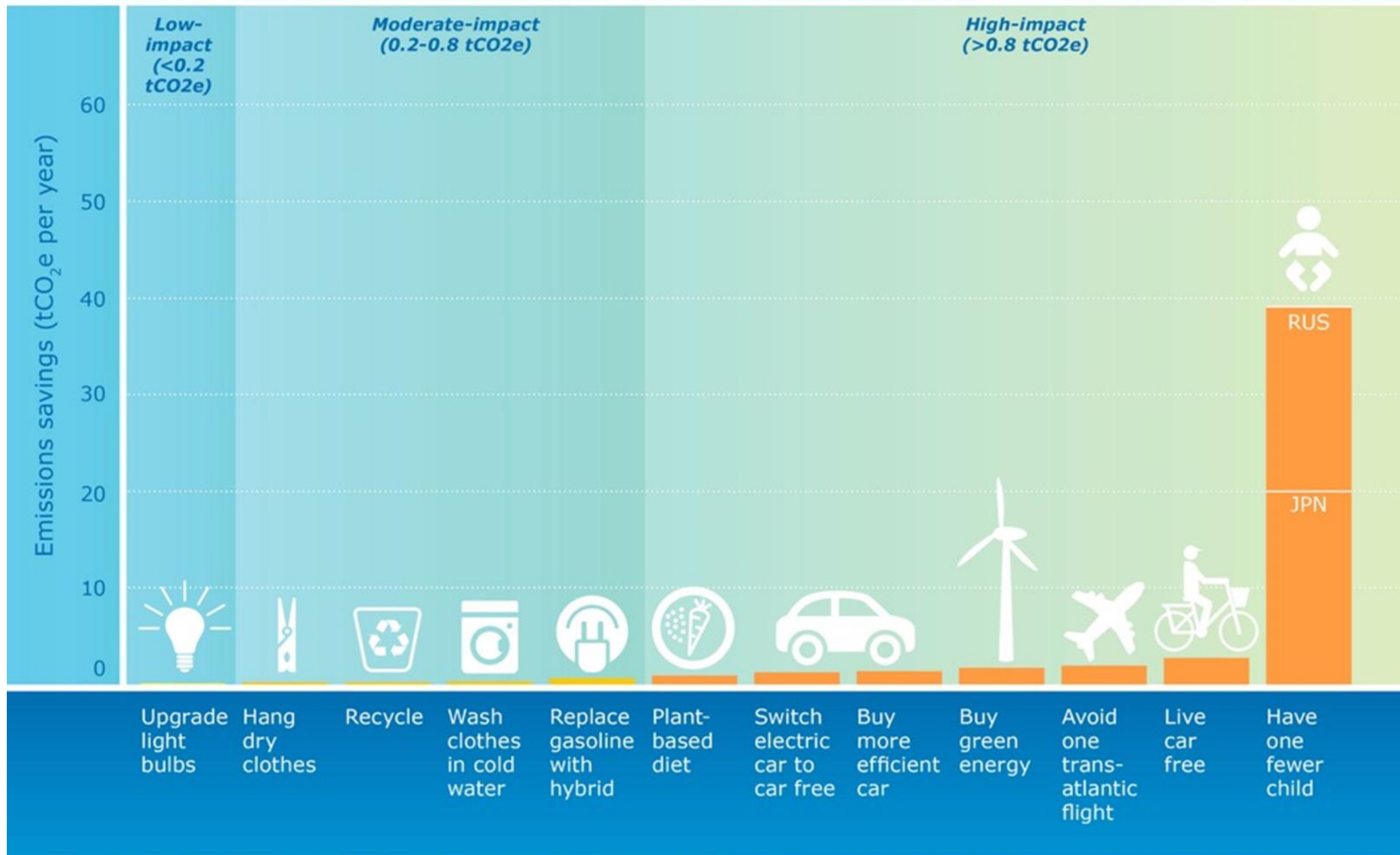
Source: <http://iopscience.iop.org/article/10.1088/1748-9326/aa7541>

A COMPARISON OF THE EMISSIONS REDUCTIONS FROM VARIOUS INDIVIDUAL ACTIONS

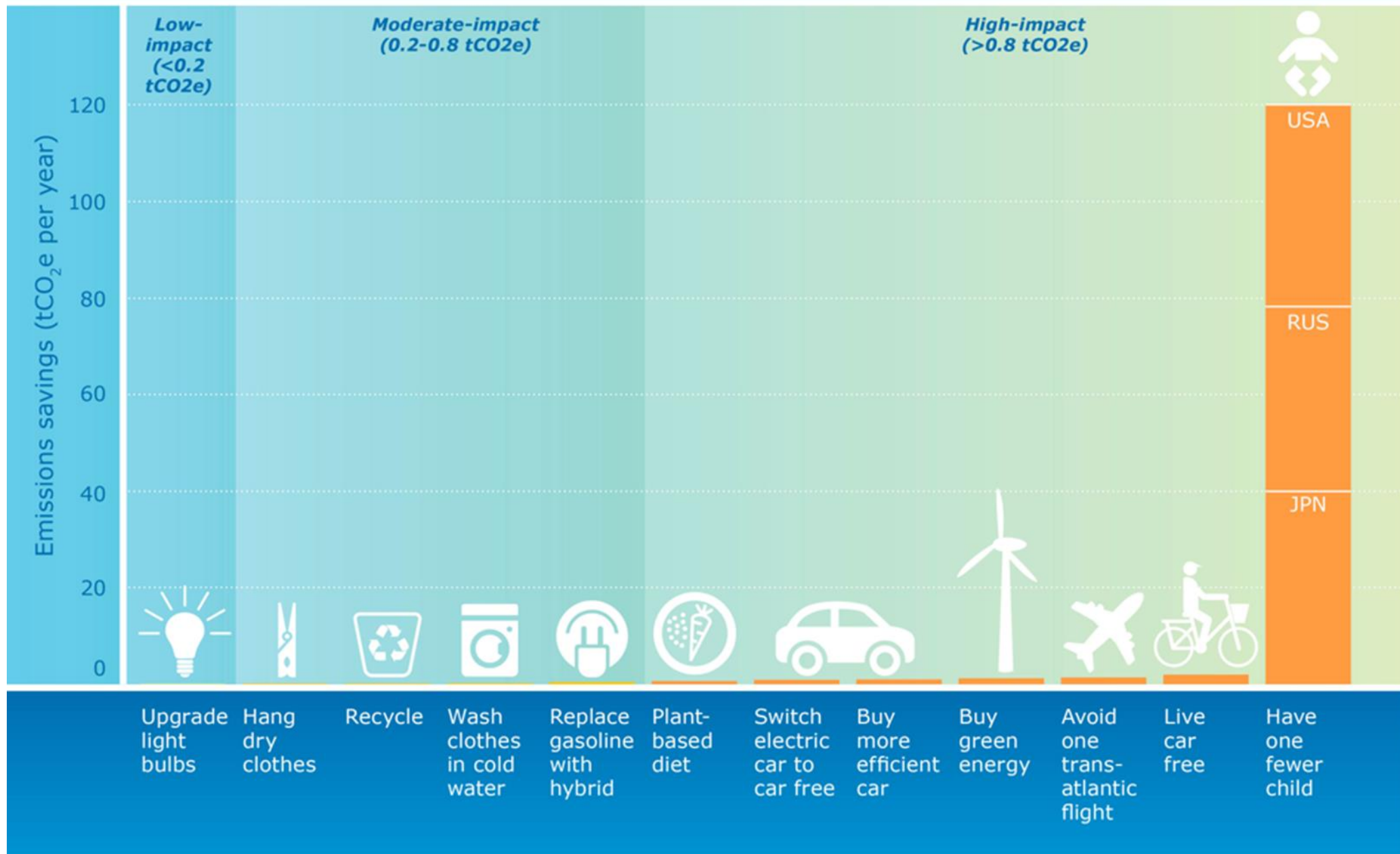


Source: <http://iopscience.iop.org/article/10.1088/1748-9326/aa7541>

A COMPARISON OF THE EMISSIONS REDUCTIONS FROM VARIOUS INDIVIDUAL ACTIONS



A COMPARISON OF THE EMISSIONS REDUCTIONS FROM VARIOUS INDIVIDUAL ACTIONS





Opsummering

Bæredygtig kost defineres ud fra 4 elementer:
Klima, sundhed,
økonomi og kultur

Ren plantebaseret kost er ikke nødvendigvis løsningen

Der er flere af vores
Individuelle aktiviteter,
Vi også skal have fokus på