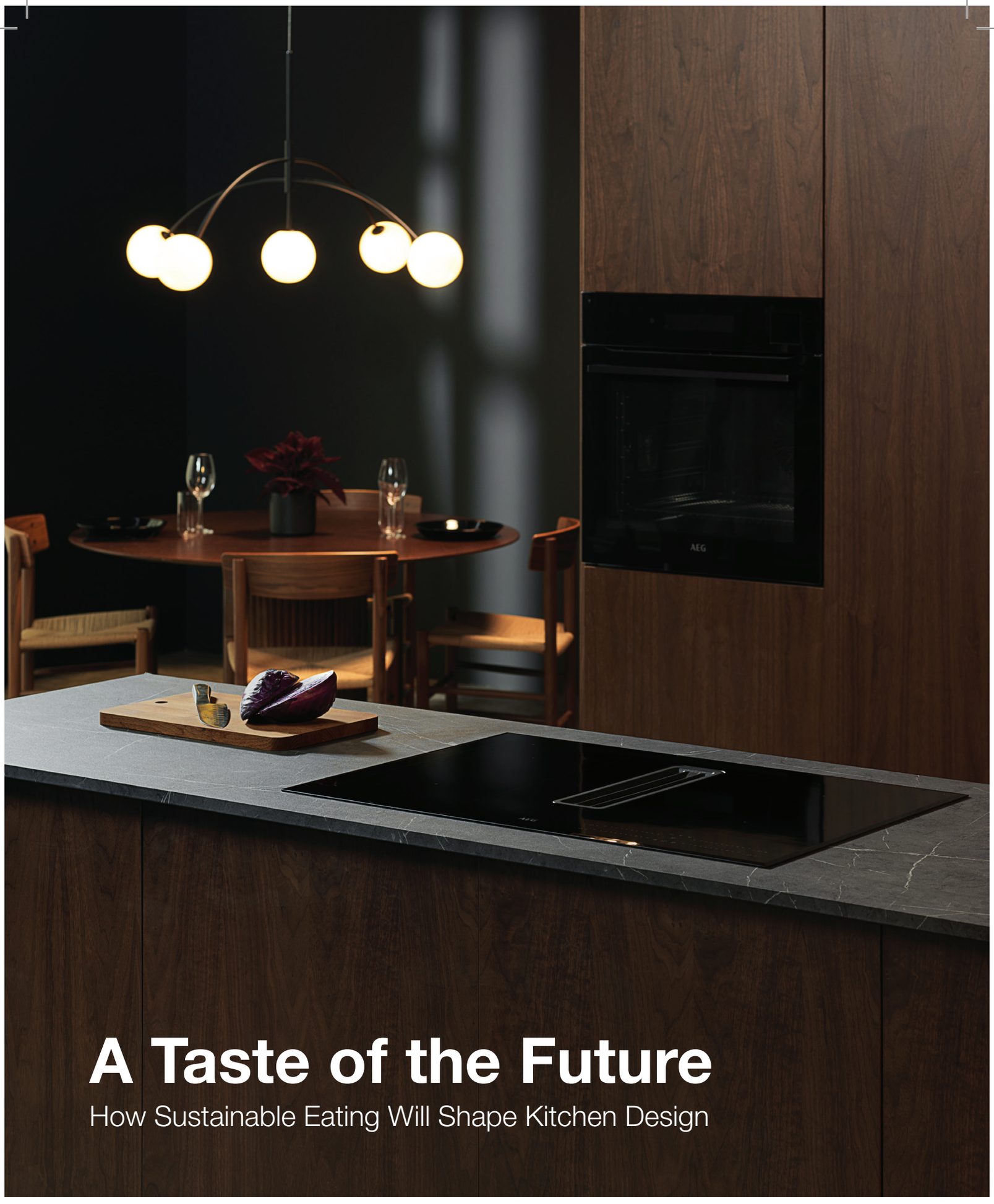

A Taste of the Future

How Sustainable Eating Will Shape Kitchen Design

Electrolux Group

The health of the world's population is under growing strain due to various preventable forms of malnutrition that are being fueled by our current food system.

INTRODUCTION

Food is not just essential for our health; the way we produce and consume it also has a massive impact on the climate and ecosystems. To preserve our planet, we must change our eating, cooking, and shopping habits now and into the future.

The EAT-Lancet Commission, the first of a series of initiatives on nutrition led by The Lancet in 2019, set out to answer the question: can we feed a future population of 10 billion people a healthy diet within planetary boundaries? Yes, but it will not be feasible unless global eating patterns change, food production improves, and food waste is decreased.

The EAT-Lancet report is the first comprehensive scientific analysis of what makes up a healthy diet in a sustainable food system and what steps can facilitate and expedite the food system transformation.

What is sometimes overlooked is the role of kitchen design in healthy diets and sustainable food systems. The kitchen plays a crucial role by reducing waste, supporting local produce, using energy-efficient practices, promoting mindful consumption, and fostering sustainable food choices.

In this paper, we examine the findings of the EAT-Lancet report and discuss how we can reinvent the kitchen to enjoy food in a way that is sustainable for our health and the planet. With EAT-Lancet 2.0 due in 2024, it is important to revisit the findings of the 2019 report to better understand the context and pathways to healthy, sustainable and equitable food futures.

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GLOBAL FOOD SYSTEMS ARE IN CRISIS

The health of the world's population is under growing strain due to various preventable forms of malnutrition that are being fueled by our current food system. Diets that are high in red and processed meat are a major risk factor for diseases like diabetes, heart disease, and cancer. This is especially true in Western countries, where food is abundant and overindulgence is the norm. On the other hand, food scarcity and starvation are ongoing issues in many impoverished or conflict-stricken areas. The common thread across all these regions is malnutrition.

Undernutrition, overweight, and obesity are among the many forms of malnutrition that affect nearly one-third of the world's population.[1] Globally, nearly 900 million adults are living with obesity, while nearly 400 million are underweight.[2] Adding to this burden are nearly 40 million children under five years old who are overweight and nearly 150 million who are stunted.[3]

At the same time, today's food systems are among the leading causes of greenhouse gas emissions, deforestation, desertification, water pollution, and species loss. Food systems are responsible for roughly one-third of global greenhouse gas emissions every year.[4] In addition, agriculture is said to be tied to 75% of global forestation, while farming is responsible for 70% of global freshwater consumption and also threatens 86% of the world's species.[5]

In a cyclical manner, food systems directly experience the effects of climate change while also contributing to it. For farmers and the agriculture sector, rising temperatures, protracted droughts, and desertification all pose significant challenges. For example, increased carbon dioxide may affect the growth and yield of crops, while less rainfall will affect irrigated crops.[6]

Even with new technology and farming techniques, the modern food system has failed to address hunger and poverty. The World Health Organization estimates that 8% of the global population will be facing hunger in 2030.[7] Even more will consume low-quality diets, which pose a high risk of morbidity and mortality.

Every human being on the planet depends on food systems, so finding a way to break this cycle is essential. In order to create global scientific targets for healthy diets and sustainable food production, the EAT-Lancet Commission brought together 37 eminent scientists from 16 different countries, representing a range of disciplines such as human health, agriculture, political science, and environmental sustainability.

KEY FINDINGS OF THE EAT-LANCET REPORT

The summary and full EAT-Lancet Report are available at https://eatforum.org

The EAT-Lancet Commission evaluated the available scientific data to create universal scientific targets for sustainable food production and a healthy diet. These scientific goals were then integrated into a common framework that enables the identification of diets that are both ecologically sustainable and high in nutrients.

The Commission describes a planetary health diet centred on an increase in consumption of health-promoting foods. Notably, it emphasises a diet heavy in fruits, vegetables, nuts, whole grains, and legumes as a proportion of total calories. Although they make up a significant portion of the diet, meat and dairy should be consumed in much smaller amounts. This diet is expected to provide major health benefits while increasing the likelihood of attaining Sustainable Development Goals.

The Commission also proposes boundaries for a safe operating space for global food production to decrease the risk of irreversible and potentially catastrophic shifts in the Earth system. Some of the actions required to stay within the safe operating space include a global shift to the planetary health diet, reduced food loss and waste and improved production practices.

	Macronutrient intake grams per day (possible range)	Caloric intake kcal per day
Whole grains		
Rice, wheat, corn and other	232	811
Tubers or starchy vegetables		
Potatoes and cassava	50 (0–100)	39
Vegetables		
All vegetables	300 (200–600)	78
Fruits		
All fruits	200 (100–300)	126
Dairy foods		
Whole milk or equivalents	250 (0–500)	153
Protein sources		
Beef, lamb and pork	14 (0–28)	30
Chicken and other poultry	29 (0–58)	62
Eggs	13 (0–25)	19
Fish	28 (0–100)	40
Legumes	75 (0–100)	284
Nuts	50 (0–75)	291
Added fats		
Unsaturated oils	40 (20–80)	354
Saturated oils	11.8 (0-11.8)	96
Added sugars		
All sugars	31 (0–31)	120

Source: https://eatforum.org

PRINCIPLES OF THE EAT-LANCET DIET

The planetary health diet recommended by the EAT-Lancet Commission aims to address the interconnected challenges of human health and environmental sustainability. In summary, the principles of the EAT-Lancet diet include:[8]

- **Plant-based.** Rich in vitamins, minerals, dietary fiber, and phytochemicals, plant-based diets are advantageous for maintaining general health and preventing disease.
- **Reduced red meat and sugar.** The Commission recommends limiting red meat intake as well as added sugar consumption. The environmental impact of meat production is well known, as is the health risk associated with high meat and sugar intake.
- **Moderate animal-source foods.** Animal-source foods, such as dairy, seafood, and poultry, should be consumed in moderation. Nutrients like calcium, vitamin D, omega-3 fatty acids, and proteins can be found in these foods.
- **Nutritional adequacy.** To ensure nutritional adequacy, the suggested intake of macronutrients (proteins, carbohydrates and fats) and micronutrients (vitamins and minerals) is taken into account.
- **Environmental sustainability.** The diet promotes sustainable food production and farming practices, focusing on minimising greenhouse gas emissions, biodiversity loss, land degradation and other environmental impacts.

The EAT-Lancet Commission also recognises that the planetary health diet must be adapted to fit various cultural traditions, local food systems and individual health needs. It emphasises that although the suggested dietary guidelines are meant to be global benchmarks, individual and regional variations should be taken into consideration when implementing them.

EVIDENCE SUPPORTING THE EAT-LANCET DIET

Even before the publication of the planetary health diet, numerous studies established that a plant-based diet was associated with a significantly reduced risk of negative health outcomes.[9] For example:

- A lower BMI has been associated with plant-based diets in numerous studies, and experimental data has demonstrated that making the shift to a plant-based diet can aid in weight loss.[10]
- After adjusting for age, gender, smoking status, and other variables, it was discovered that vegetarians had a 24% lower risk of dying from ischemic heart disease than meat eaters.[11]
- A 1994 study in the Journal of Nutritional Medicine found that Type-II diabetes patients who adopted a plant-based diet and began exercising experienced significant reductions in triglycerides, total cholesterol, fasting blood glucose, and insulin resistance.[12]

In addition to the existing body of evidence, research into the impacts of adherence to the landmark 2019 EAT-Lancet report demonstrated its health benefits. A study led by Harvard T.H. Chan School of Public Health used health data from more than 200,000 women and men to quantify adherence to the planetary health diet. Some of the key findings included:[13]

- Those in the top 10% who adhered to the planetary health diet the closest had a 30% lower risk of dying young than those in the bottom 10%.
- Greater adherence to the diet was associated with lower rates of every major cause of death, including heart disease, lung disease, and cancer.
- The planetary health diet adherents had a significantly smaller environmental impact than non-adherents, with 29% less greenhouse gas emissions, 21% less fertiliser requirements, and 51% less farmland used.

The results demonstrate the close connection between planetary and human health. Eating a healthy, balanced diet promotes environmental sustainability, which is vital for everyone's health and welfare.

Sustainable eating habits will drive changes in kitchen design, such as smart storage for fresh produce, integrated composting bins for food waste management, and increased use of energy-efficient appliances.

HOW DESIGN CAN TURN US INTO BETTER EATERS

Since the release of the EAT-Lancet report, its guidelines have significantly impacted designers and manufacturers, shaping discussions on sustainable design and food systems. Professionals in these fields have been working to integrate the report's principles into their projects and practices.

Sustainable eating habits will drive changes in kitchen design, such as enhanced storage for fresh produce, integrated composting bins for food waste management, and increased use of energy-efficient appliances. Kitchens will also feature flexible layouts to accommodate diverse cooking methods and plant-based diets. Additionally, the use of sustainable, eco-friendly materials and smart technology for monitoring food, energy and water usage will become more prevalent, promoting a healthier and more efficient kitchen environment.

In this area, **Electrolux Group**, the leading global appliance company, is paving the way.

In 2023, Electrolux revealed GRO, a future concept that aims to reinvent the kitchen, enabling people to enjoy food in a way that is healthy and sustainable for their health and the planet. This innovative design is powered by a collection of modular solutions combined with advanced sensors based on data and behavioural science, as well as the planetary health diet from the EAT-Lancet report.

Key GRO functions include:

- The **Plant Gallery** ensures optimal conditions to best preserve fruits and vegetables, showcasing them in a frame with transparent glass (with texture) and keeping them at eye level.
- The **Pulse and Grain Library** showcases grains and pulses, building on their nutrition and visual diversity, inspiring users to mix, replace and explore new grains to go beyond the regular staples.
- The **Jewelry Box** encourages users to treat animal-sourced proteins with respect, providing a dedicated drawer for meat, fish and eggs.

Inspired by experts, chefs, early adopters and thousands of consumers, GRO empowers people to act on key recommendations in the landmark EAT-Lancet report. The Jewelry Box, for example, is a thoughtful storage solution that encourages people to eat less but better meat and explore new and diverse sources of protein.

There is also a global trend in the plant-forward world of reinventing new dishes by mixing techniques and flavors to enhance the taste experience. Specific techniques previously used to prepare meat dishes are now part of the plant-forward world. GRO's "nordic smoker" enables people to smoke their ingredients at home, inspiring them to combine different flavors.

The concept's digital platform will help to visualize the user's eating habits and planetary impact, providing personal goal setting, guidance, and progress measurement over time. For example, tips on recipes, local produce and sustainable ingredients based on personalised taste, nutritional needs and what is in the fridge are also services that GRO can provide.

The insights from GRO form the basis for Electrolux product development, with the aim that future products will be even better at supporting more sustainable living.

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