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"Fair and Sustainable Taxation"**
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Ecological footprint tax for the development of local agri-food business



Miklós Somai

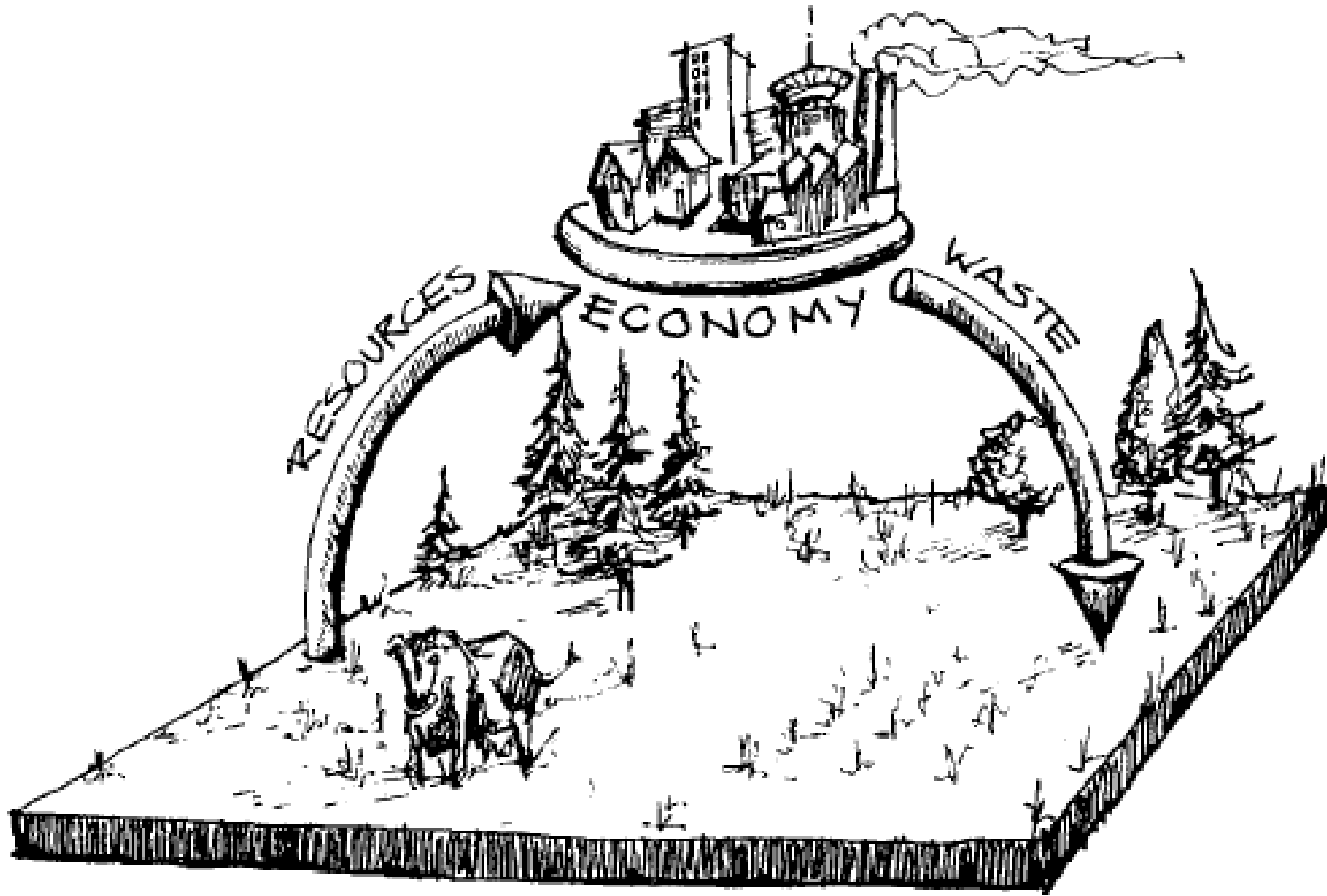
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Hungarian Academy of Sciences
CENTRE FOR ECONOMIC AND REGIONAL STUDIES

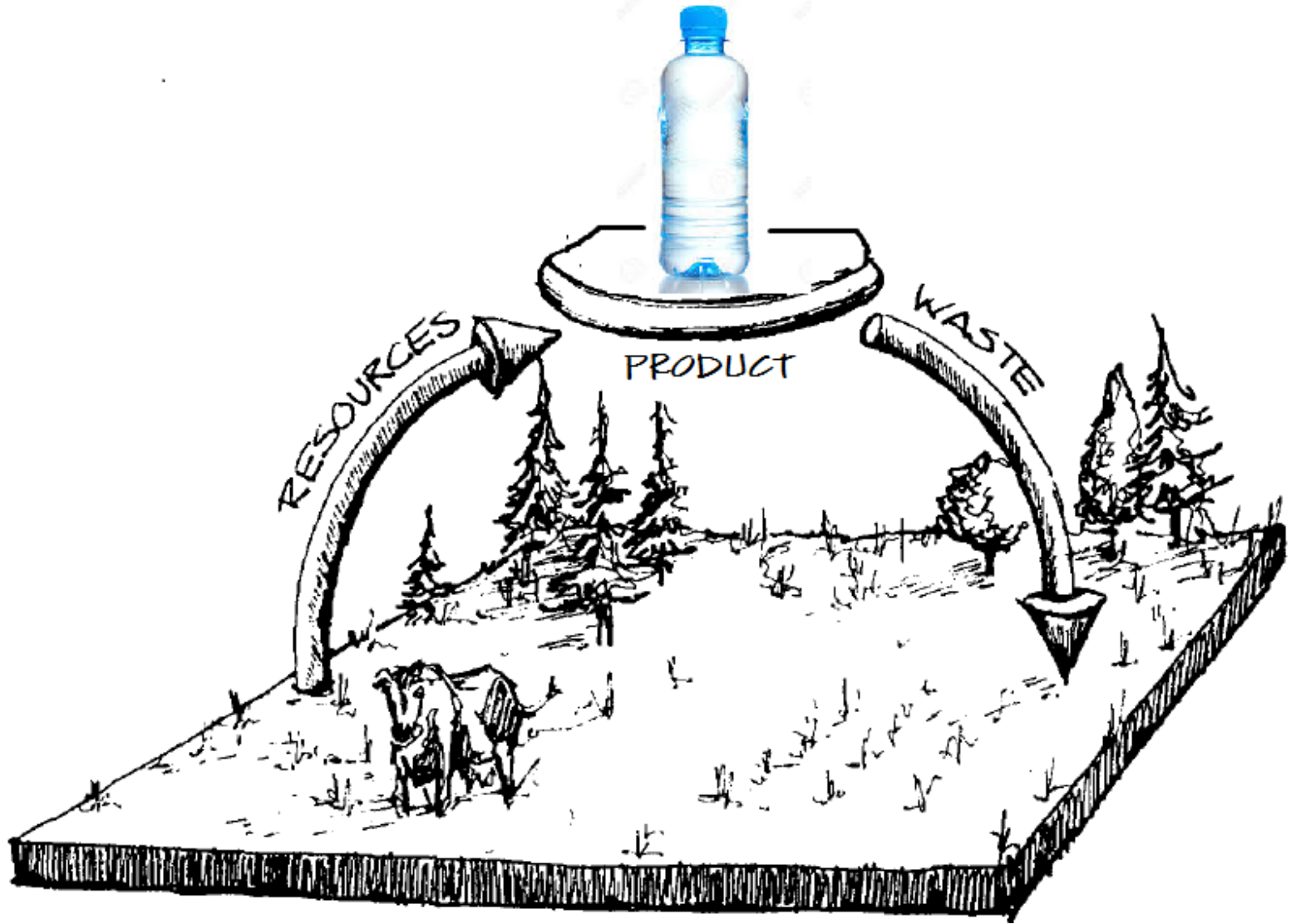


The original concept of ecological footprint



Source: REES, W., & WACKERNAGEL, M. 1996. Urban ecological footprints: why cities cannot be sustainable—and why they are a key to sustainability. *Environmental impact assessment review*, 16(4): 223-248, p.228

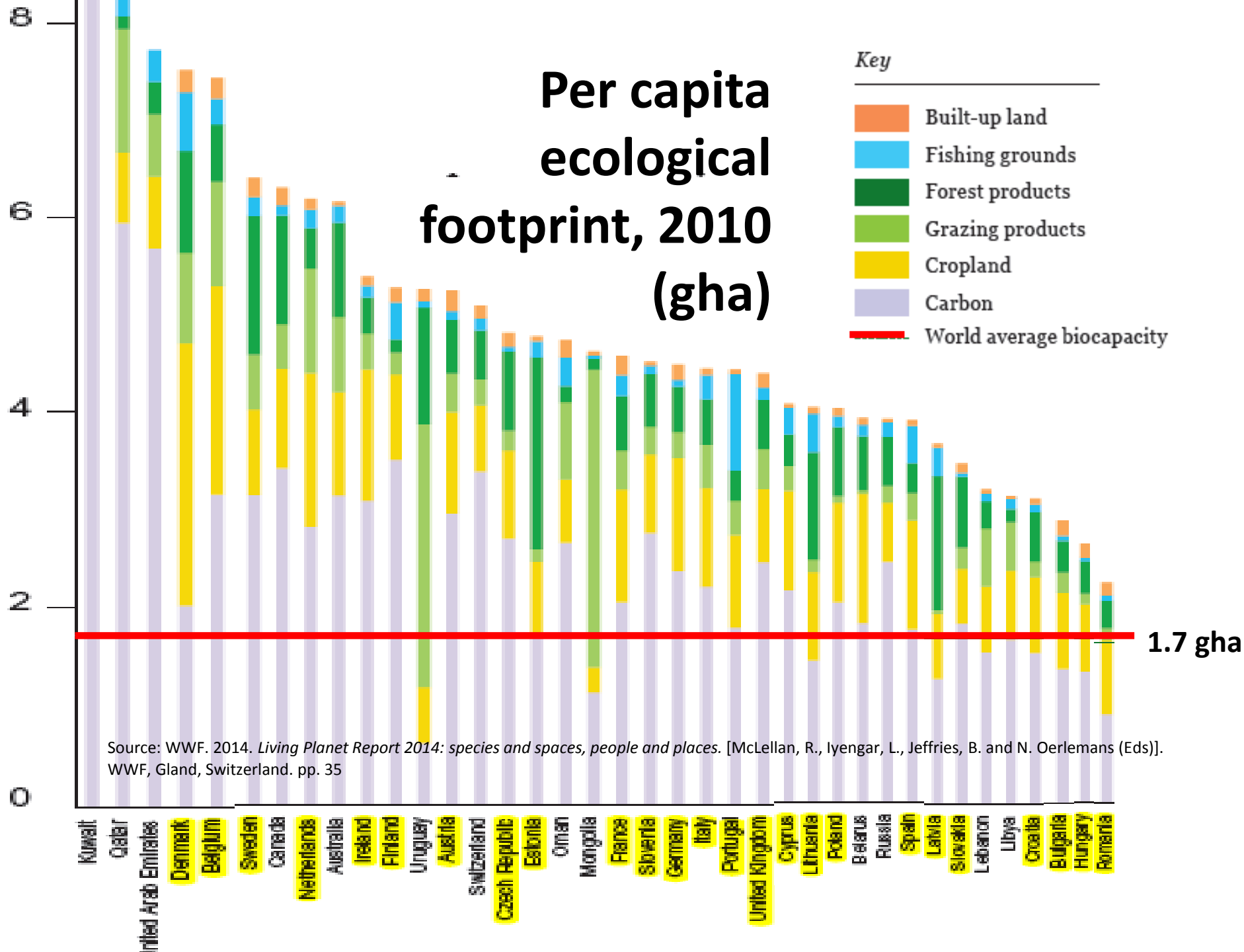
The narrowed concept of ecological footprint



Per capita ecological footprint, 2010 (gha)

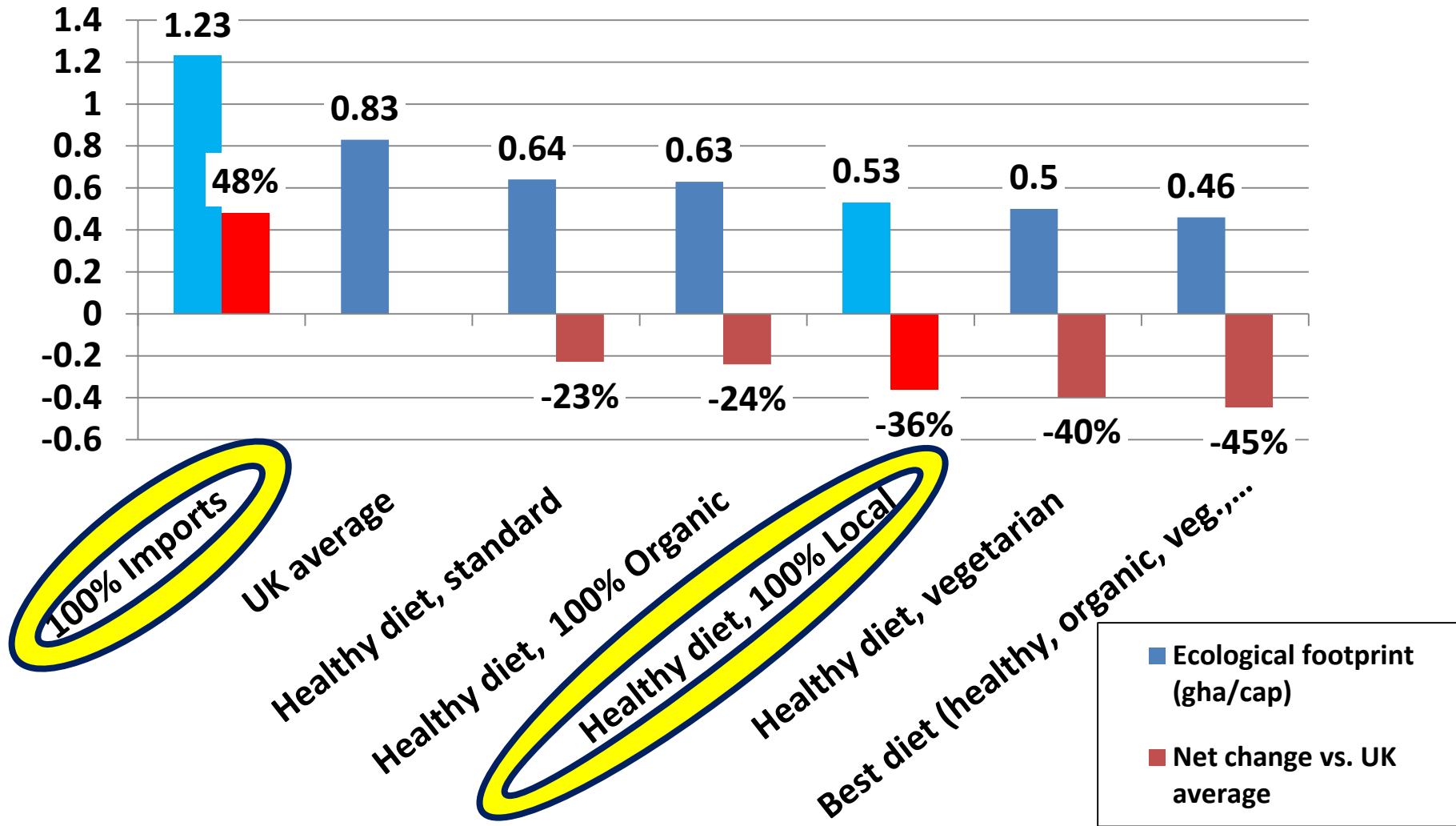
Key

- Built-up land
- Fishing grounds
- Forest products
- Grazing products
- Cropland
- Carbon
- World average biocapacity

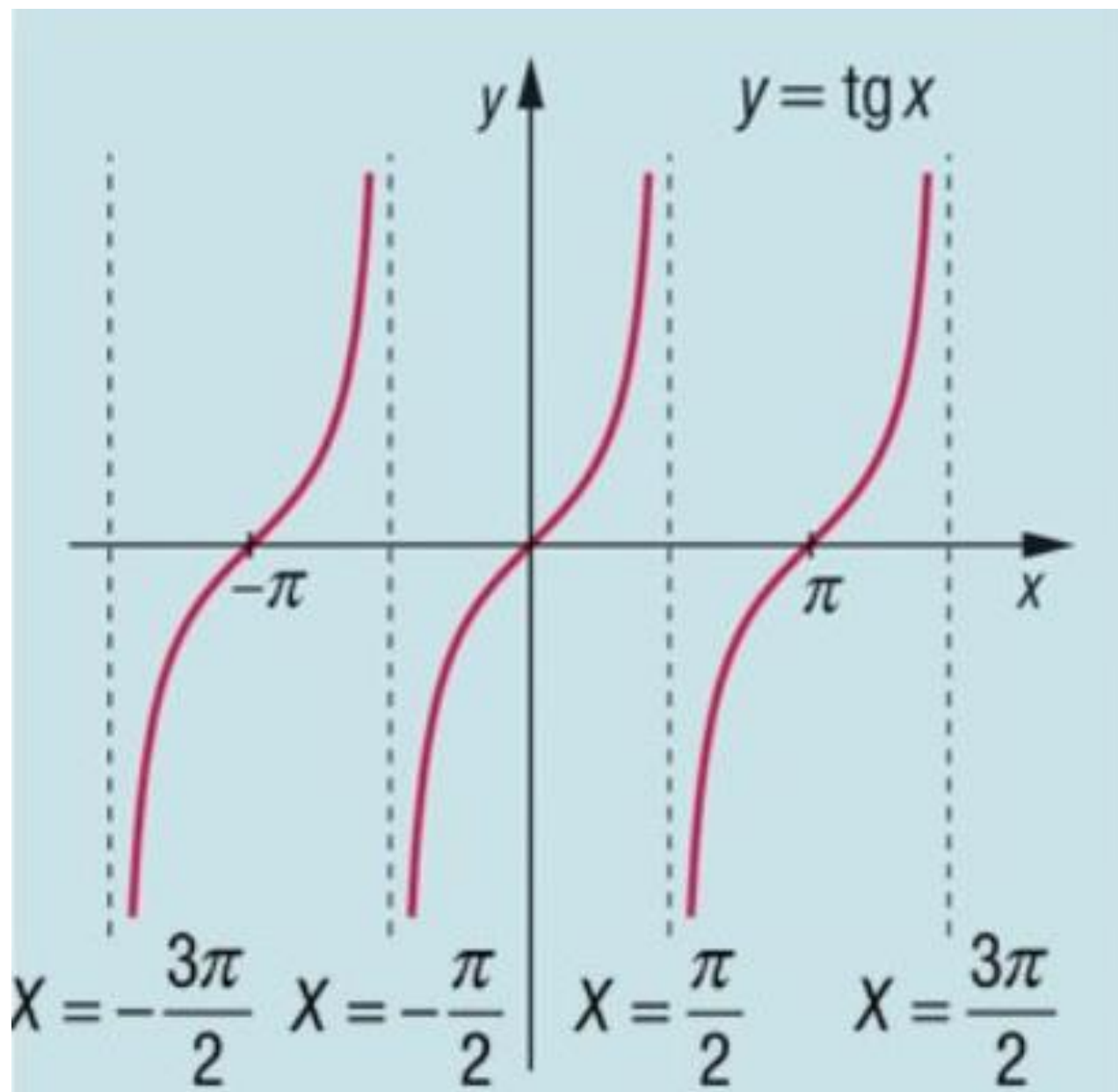


Source: WWF. 2014. *Living Planet Report 2014: species and spaces, people and places*. [McLellan, R., Iyengar, L., Jeffries, B. and N. Oerlemans (Eds)]. WWF, Gland, Switzerland. pp. 35

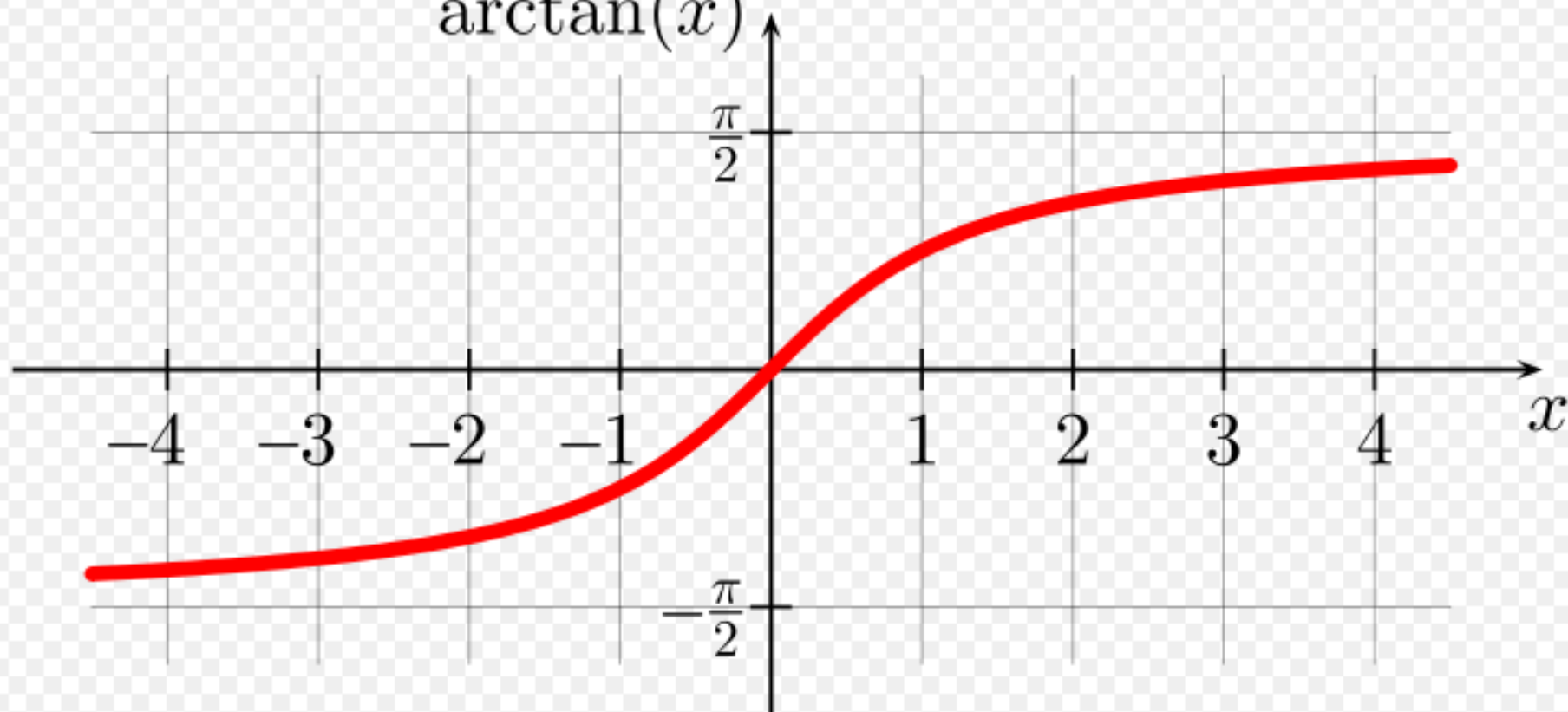
How a diet can reduce the food footprint in the UK?



Source: Own compilation based on FREY, S. & BARRETT, J. 2007. *Our health, our environment: The Ecological Footprint of what we eat*. Paper prepared for the International Ecological Footprint Conference, Cardiff, 8-10 May 2007: Stepping up the Pace: New Developments in Ecological Footprint Methodology, Applications. [Online]. Available at: https://www.researchgate.net/profile/John_Barrett7/publication/253389771_Our_health_our_environment_The_Ecological_Footprint_of_what_we_eat/links/00b7d53c564c333134000000.pdf [Accessed 2017, February 04].

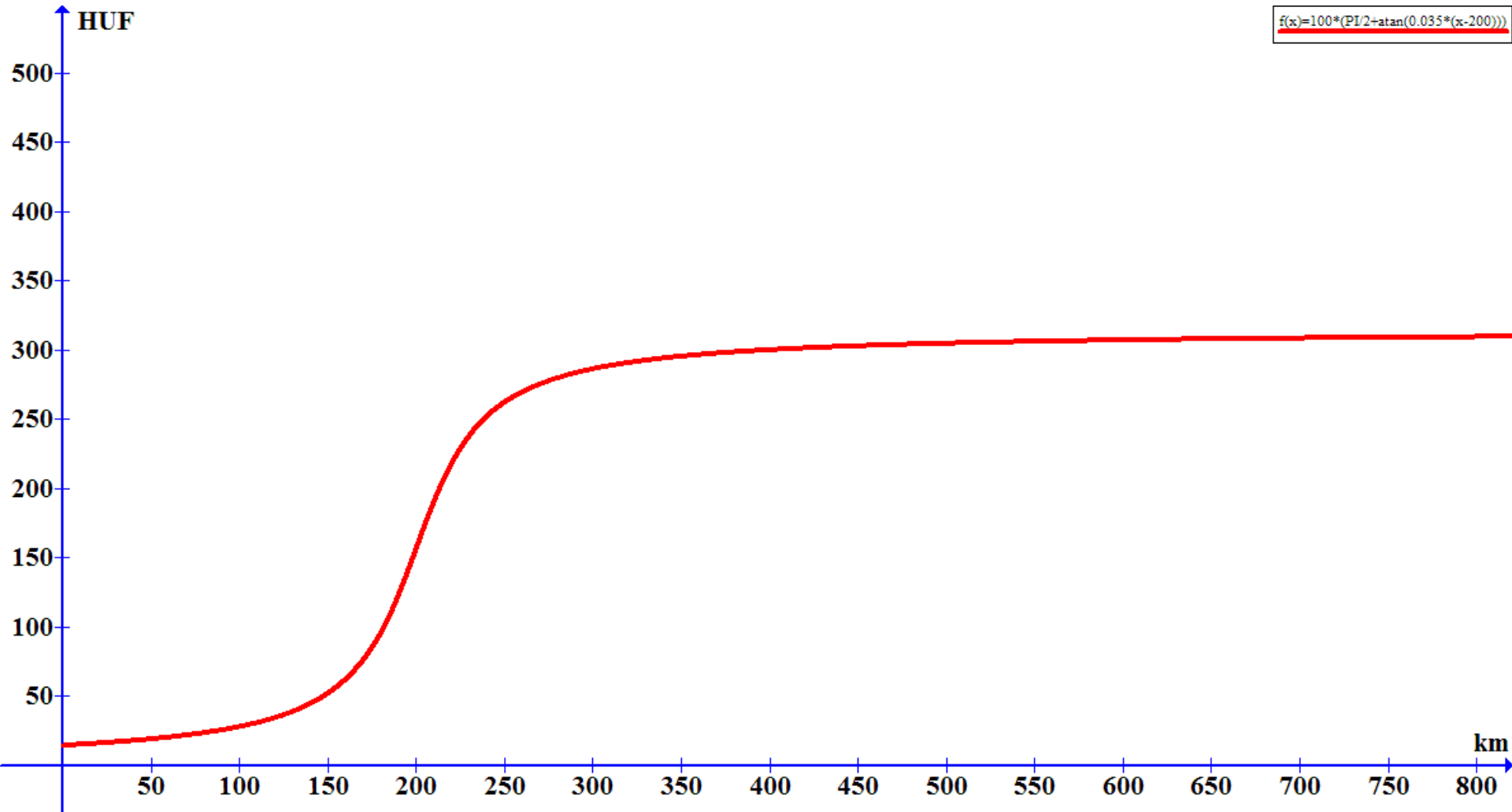


$\arctan(x)$

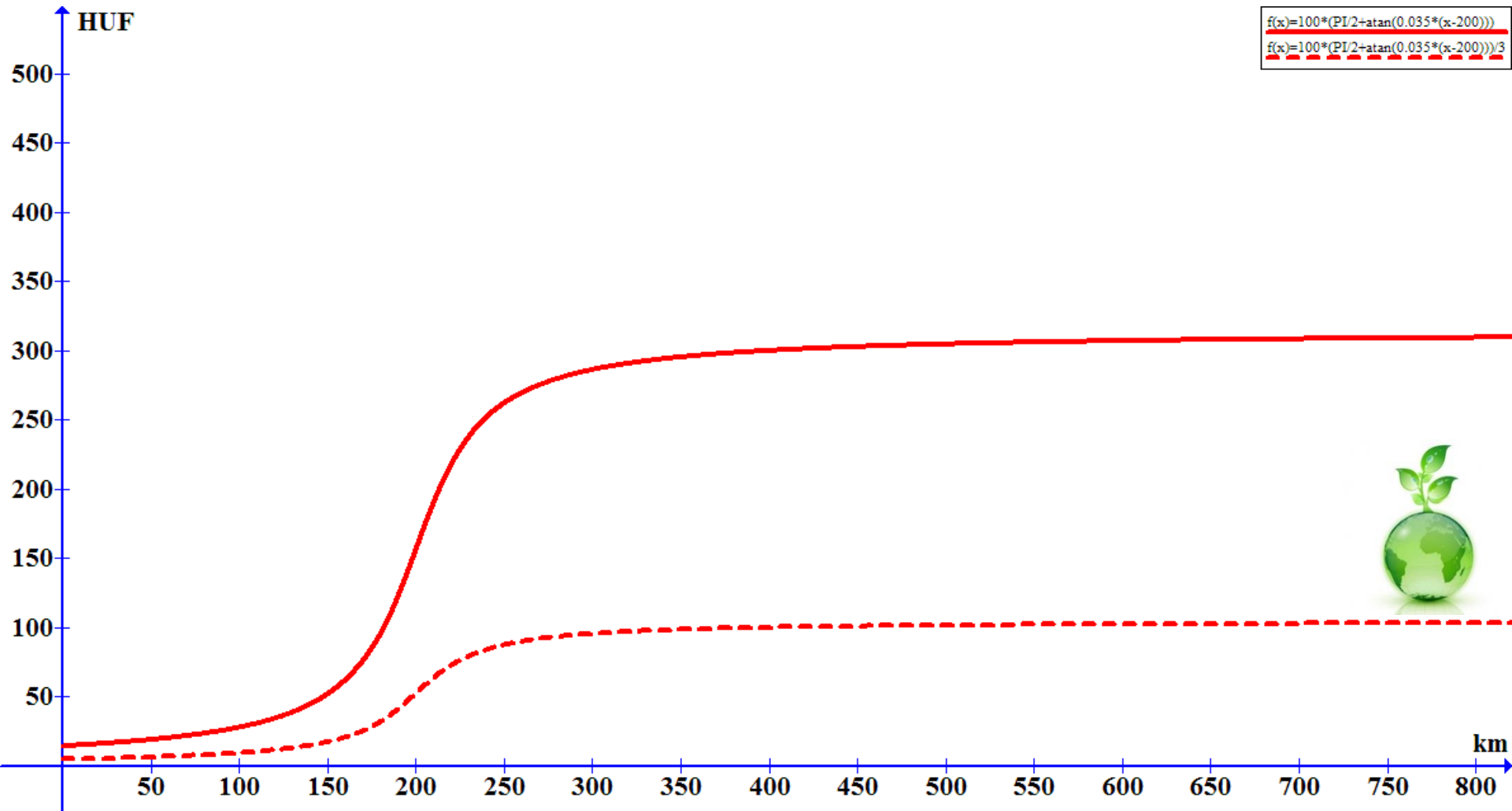


Ecological footprint tax (EFT)

on certain agri-food products with **one preferential group of producers** based on the **geographical distance** between the area of production and consumption

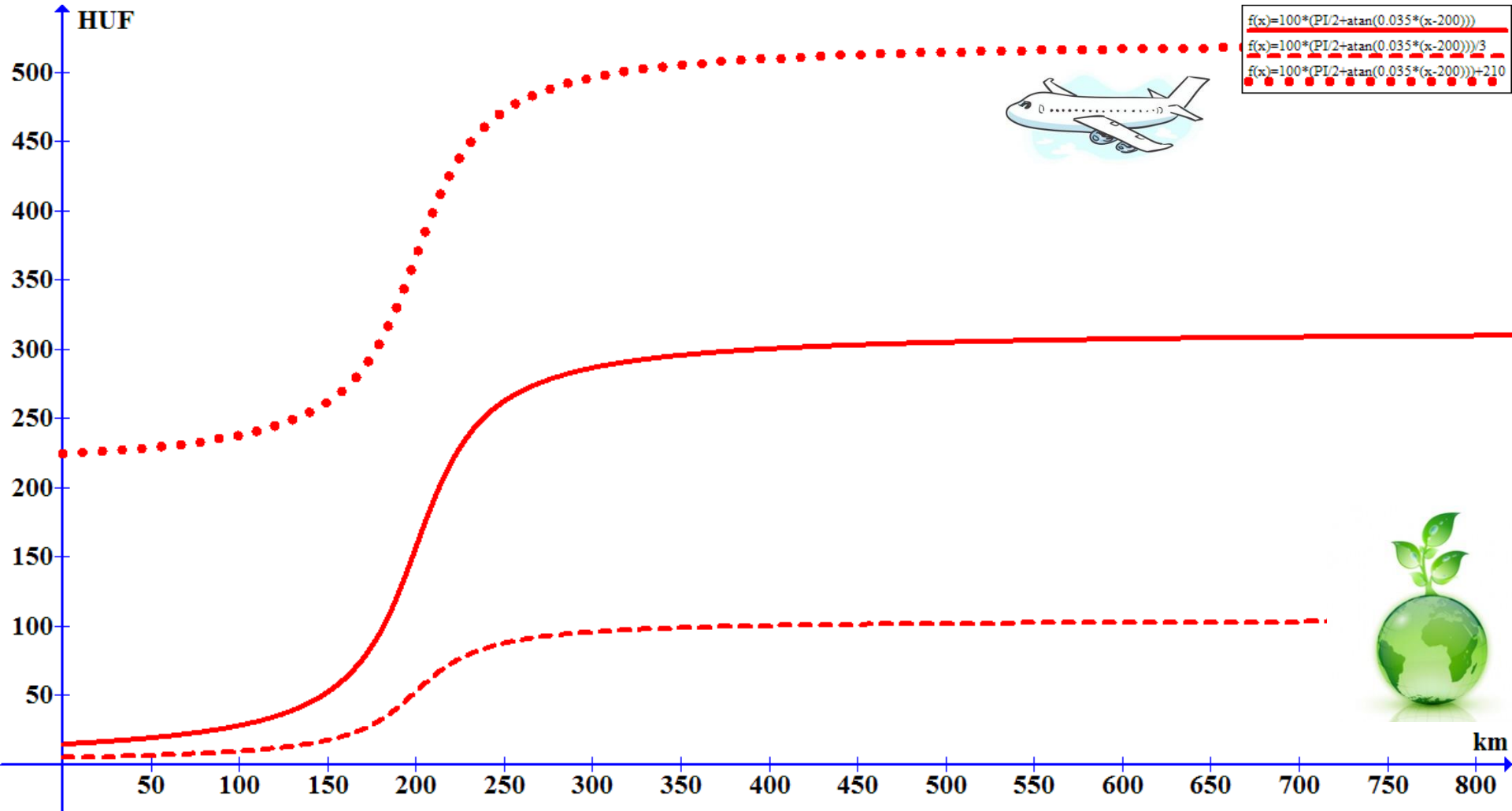


EFT with one preferential group of producers (dashed line applies to organic products)



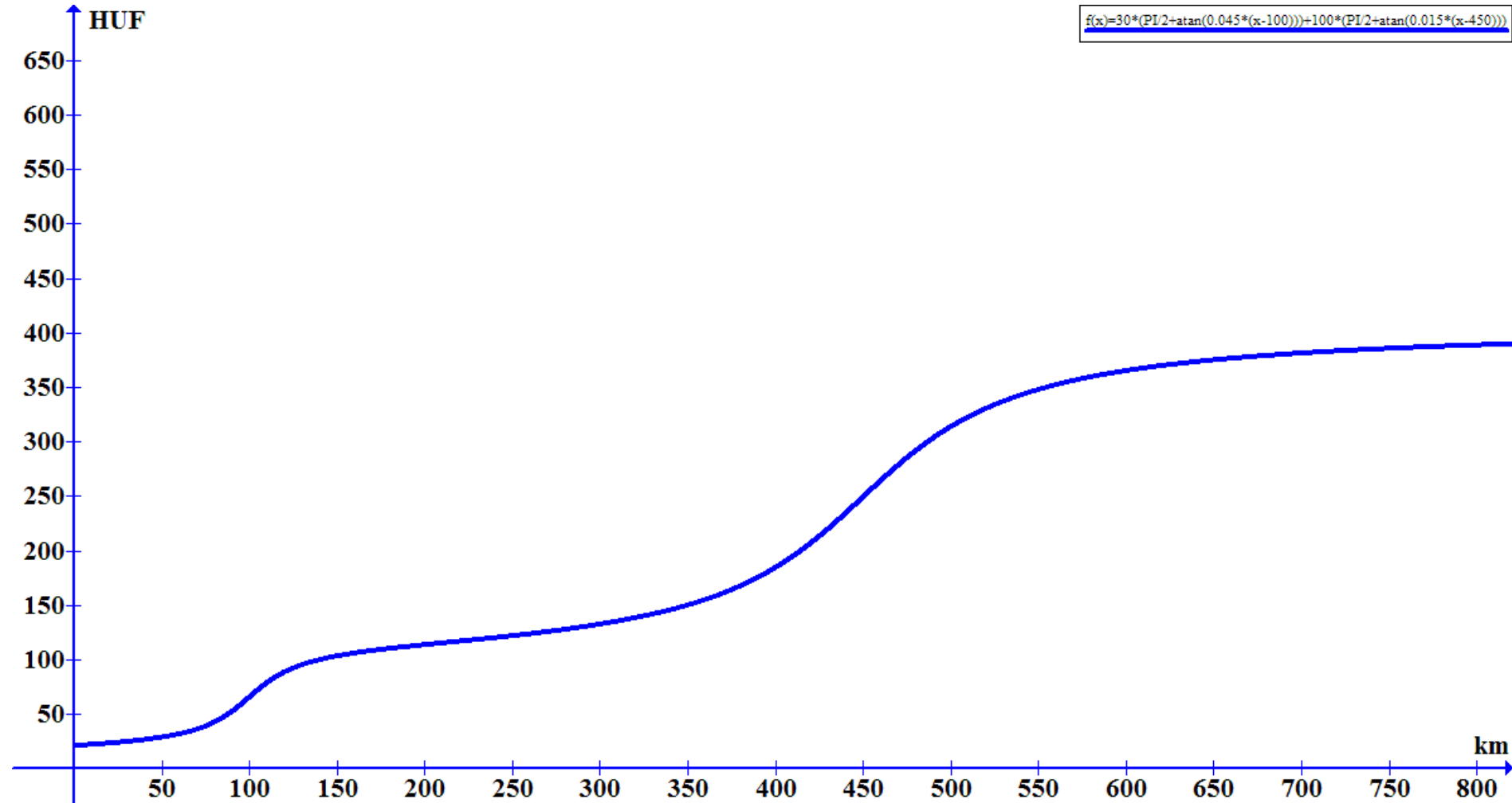
EFT with one preferential group of producers

(dashed line applies to organic, dotted line to air-transported products)



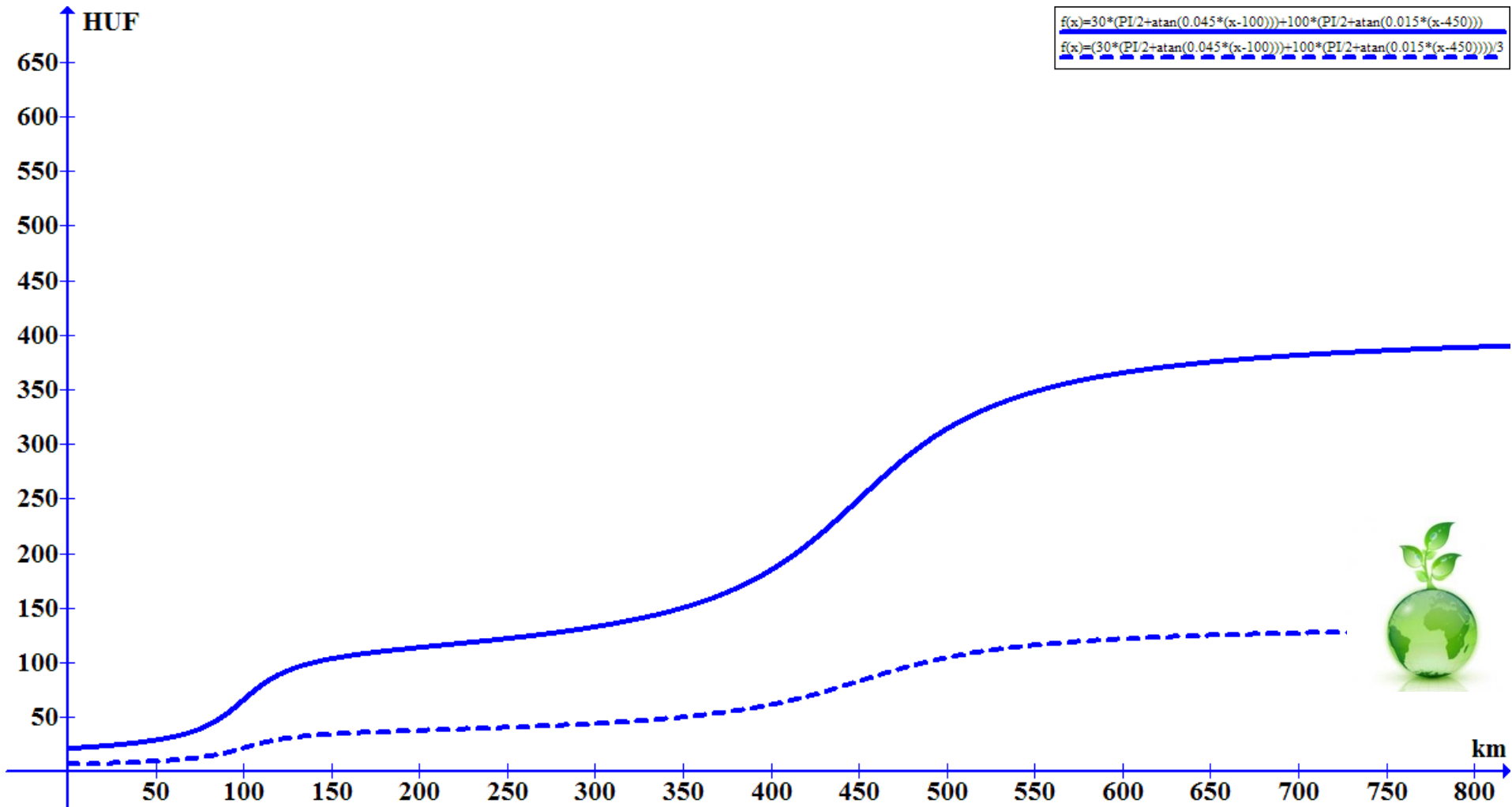
Ecological footprint tax (EFT)

on certain agri-food products with **two preferential groups of producers** based on the **geographical distance** between the area of production and consumption



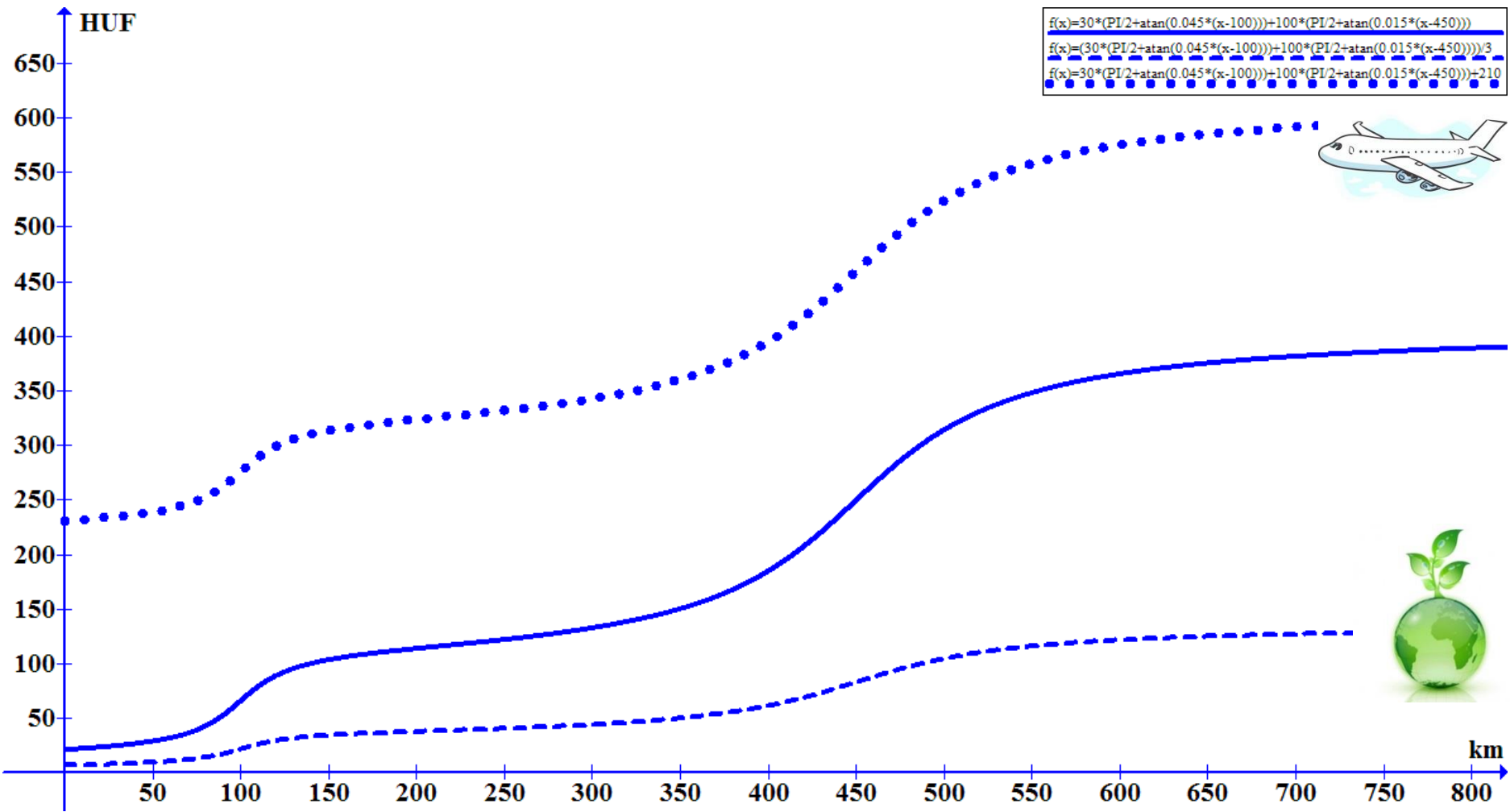
EFT with two preferential groups of producers

(dashed line applies to organic products)

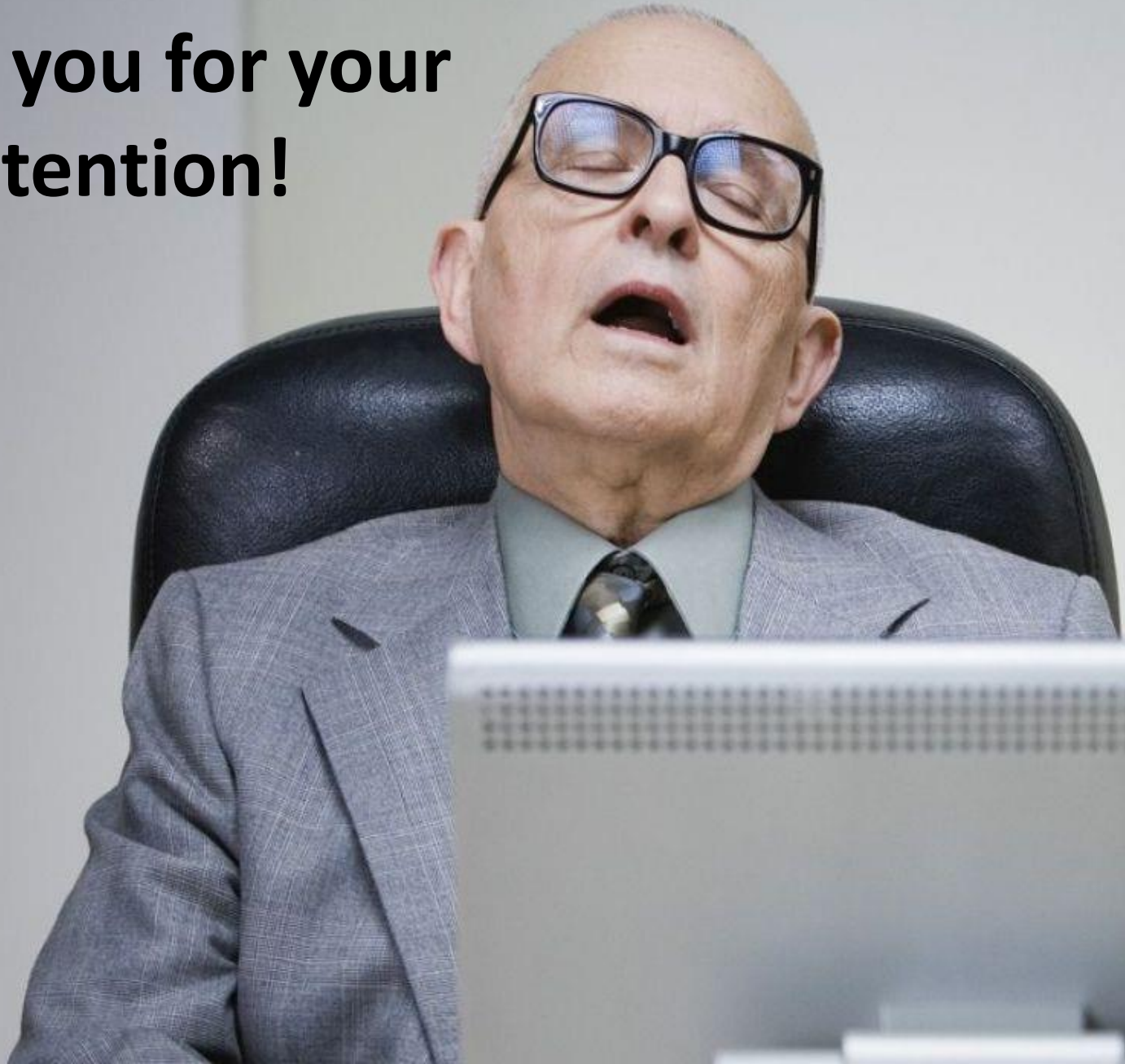


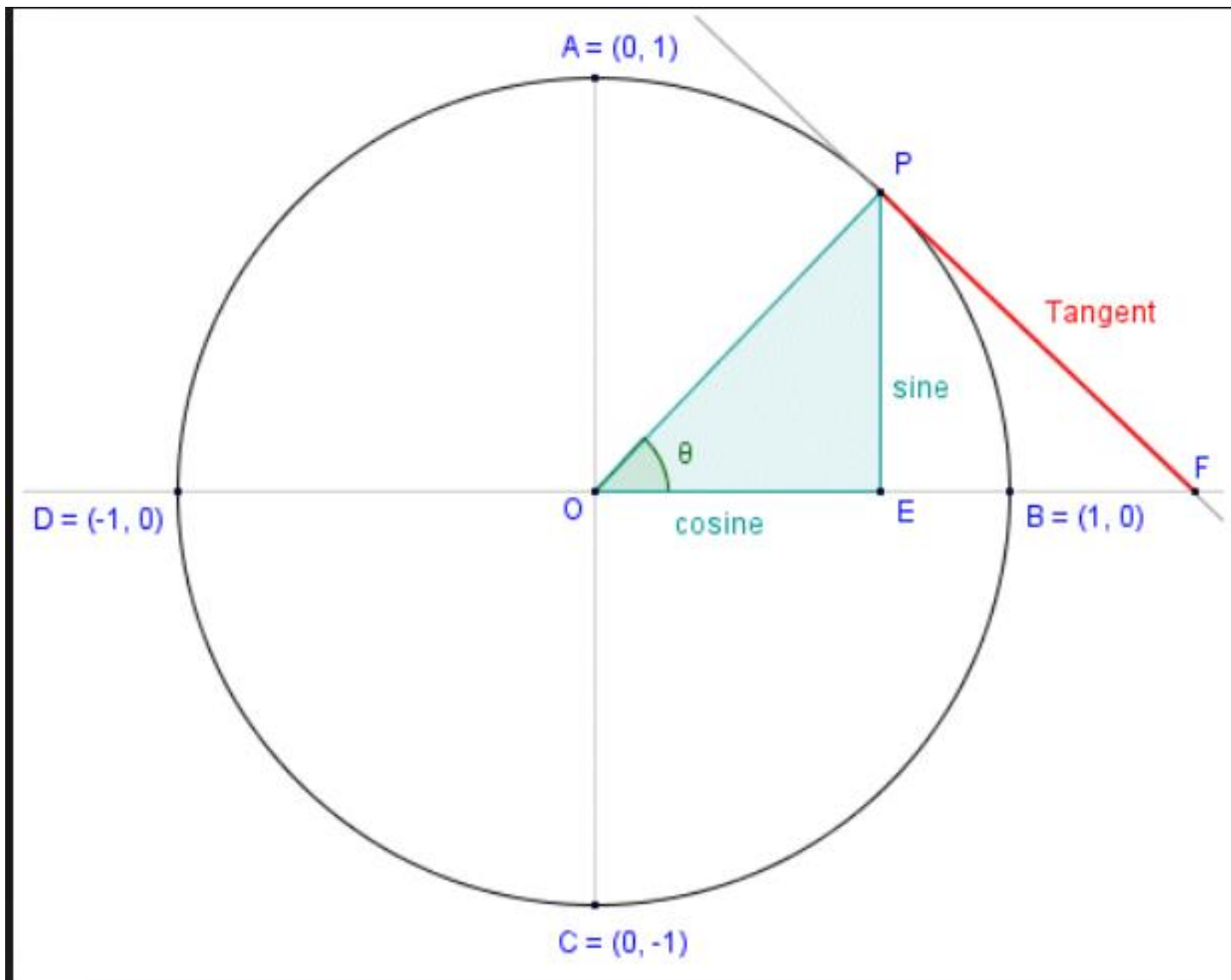
EFT with two preferential groups of producers

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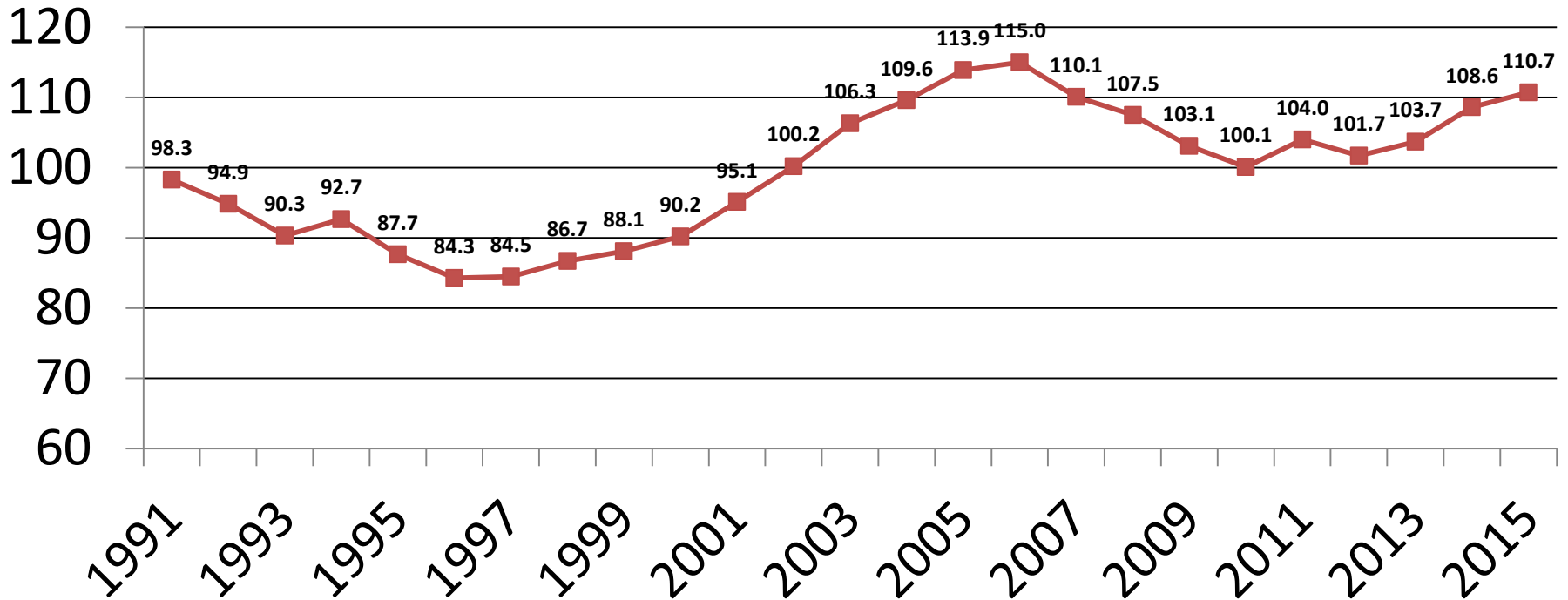


**Thank you for your
attention!**





Real income, per capita in Hungary (1990 = 100)



Source: KSH. 2017. *Real income – real wage index (1991–)*. [Online]. Available at: https://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_qpt007.html [Accessed 2017, February 04].

The damage inflicted by man to nature tends to correlate with household income (Kerkhof et al., 2009), and this is also true for food consumption. This is explained partly by the abundance, partly by the quality and composition of (i.e. high proportion of premium and/or imported products in) the food consumption patterns of the upper income deciles (Csutora et al., 2011).

KERKHOF, A. C., NONHEBEL, S., & MOLL, H. C. 2009. Relating the environmental impact of consumption to household expenditures: an input–output analysis. *Ecological Economics*, 68(4), 1160-1170.

CSUTORA, M., TABI, A., and VETŐNÉ MÓZNER, Z. 2011. A magyar háztartások ökológiai lábnyomának vizsgálata (*Investigation of the Hungarian households' ecological footprint*). [Online]. Available at: http://unipub.lib.uni-corvinus.hu/471/1/CSM_TA_VMZS_ff2011.pdf [Accessed 2017, February 04].

The most important options for a reduction of environmental impacts are the refusal of air-transported products, a preference for organic products and a reduction in meat consumption.

JUNGBLUTH, N., TIETJE, O., & SCHOLZ, R. W. (2000). Food purchases: impacts from the consumers' point of view investigated with a modular LCA. *The International Journal of Life Cycle Assessment*, 5(3), 134-142

Most crops are susceptible to nutrient loss when harvested early and transported from longer distances. But apples, oranges, grapefruit and carrots are exceptions to this as they can keep their nutrients even if they are imported from distant countries. (McGill University, 2017) MCGILL UNIVERSITY.

2017. *The benefits of eating local foods*. [Online]. Available at:

<https://www.mcgill.ca/foodservices/sustainability/green/local> [Accessed 2017, February 05].