

Working from home and vehicle electrification as levers for transport decarbonisation: Evidence from Switzerland*

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Abstract

Transport accounts for a third of Swiss final energy use and is the sector furthest from the 2050 net zero target. Two demand side developments shape its outlook: the diffusion of working from home (WFH) and the electrification of the vehicle fleet. Using a stated choice experiment with 1,098 respondents, we estimate how Swiss adults adjust mobility tool ownership and travel demand in response to these changes. We find that transport energy reductions accelerate as WFH intensity rises from a no-WFH baseline: -12% , -20% and -20% from three, four, and five WFH days, respectively. The direct rebound elasticity from switching an internal combustion vehicle to an electric vehicle is modest at 0.04, which means 96% of the engineering efficiency gain translates into realised energy savings. Combining EV adoption with full WFH cuts annual car energy by up to 80% per adopter. For the aggregate we apply the Swiss schedule from the Global Survey of Working Arrangements, which results in a share weighted reduction in commute related transport energy attributable to WFH of only 3%, an order of magnitude smaller than the 34% we obtain under a 50% EV fleet share and the current Swiss vehicle size composition.

Keywords: Energy use; mobility tools; working from home; smartphone tracking.

JEL Codes: H41, Q40, Q52, Q54, R40

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