UP2030 CBA Guide

CBA tools included in the Guide

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1. Overview of CBA tools in the Guide

The CBA tools included in this Guide have been selected based on their relevance, adaptability, and practicality for assessing urban sustainability and climate-related interventions in the UP2030 project context. All the included tools had to be publicly available and free to use, to ensure that they can be used by anyone and not to create a financial burden on the user. The methodology behind the selection prioritises tools that balance analytical accuracy (e.g. using correct formulas and models, accurately inputting and handling data) with user accessibility (e.g. free to use, has an included user manual), ensuring they can be used by local stakeholders with varying levels of technical expertise. The included tools have an Excel or web-based format where users can provide their own inputs. Research papers and other theoretical pieces that focus on the methodology of preparing a CBA calculation, without providing a practical interactive tool, were not included. Key criteria included the ability to capture both quantitative and qualitative impacts, compatibility with available data in urban settings, and being suitable for cities in Europe, therefore excluding tools that focus on cities in developing countries. The tools were also chosen for their ability to assess co-benefits, such as social and environmental outcomes, alongside economic costs and benefits. In terms of the climate focus, both climate change mitigation and adaptation-focused tools were included, with some of them focusing solely on one or the other, while others include both aspects of the urban climate action. In addition, the selection of tools provides a good balance between city and project-level tools.

Following the selection of the tools based on the criteria described above, 20 open-access tools were incorporated, which users can use to prepare their own CBA calculation. When users fill out the "Questionnaire", they can see their First-Best and Second-Best tool to use, with their related descriptions, that contain a general overview of the tool and other relevant information such as their climate focus, level, degree of detail, sectoral coverage, benefits, a summary of data requirements and their estimated resource requirements in the number of working days (internal use) and estimated cost in Euros (external use). All the included CBA tools are open-access and free to use. The costs included in the estimated resource section refer to the estimated cost of outsourcing the analysis to a third-party (e.g. external consultant), in case such an exercise would not be carried out internally by the user.

Table 1 summarizes the CBA tools included in the Guide. The tools cover sectors such as transport, buildings, waste, urban parks, agriculture, industry, and energy. Out of the 20 tools, 3 have a climate change adaptation focus, 13 focus on climate change mitigation, and the remaining 4 consider both objectives. 9 of the included tools can calculate costs and benefits at a project level, whilst 10 of them carry out these calculations at the city level. Only 1 tool has the option to make a CBA calculation at both the city and project levels.

Table 1: Overview of tools included in the CBA Guide-Categories

Level	Tool name	Climate focus	Sectoral focus						
			Transport	Buildings	Waste	Urban pa	Agricultu	Industry	Energy
Project level	CRC: Climate Resilient City Tool	Adaptation		X		X			
	EDGE: Excellence in Design for Greater Efficiencies	Mitigation		X					
	C40 Equitable Impacts toolbox: Bus Rapid Transit Systems	Mitigation	X						
	C40 Equitable Impacts toolbox: Congestion Pricing	Mitigation	X						
	C40 Equitable Impacts toolbox: Cool Roofs	Mitigation		X					
	C40 Equitable Impacts toolbox: Waste Collection & Segregation	Mitigation			X				
	C40 Heat Resilient Cities Tool	Adaptation		X		X			
	MICAT: Multiple Impact Calculation Tool	Mitigation	X	X			X	X	
	NATURE Tool	Adaptation		X		X	X		
Both	SAVi: Sustainable Asset Valuation	Both	X	X	X		X	X	X
City level	AQUA: Air Quality through Urban Actions	Mitigation	X	X			X	X	
	Carbon and Co-benefits Decision Support Tool	Both	X	X					X
	Climate Opportunity Interactive Dashboard	Mitigation	X	X					X
	CURB: Climate Action for Urban Sustainability	Both	X	X	X				X
	C40 Healthy Neighbourhoods Explorer	Both	X	X		X			
	HEAT: Health economic assessment tool	Mitigation	X						
	HERB: C40 Healthy and Efficient Retrofitted Buildings Tool	Mitigation		X					
	C40 Pathways Air Quality (AQ)	Mitigation		X	X			X	X
	TRACE: Co-Benefits Evaluation Tool for the Urban Transport Sector	Mitigation	X						
	Net Zero City Planner	Mitigation	X	X	X				X

2. CBA tools

1. Trace

Link	TRACE - Co-benefits in decarbonising transport | NewClimate Institute
Description	TRACE is an Excel-based tool that quantifies key non-climate impacts of urban transport decarbonization, such as reduced congestion, accidents, and fuel use. Results are given in physical and monetary terms, requiring external transport scenarios as inputs. TRACE requires external urban transport scenarios as inputs but does not generate them.
Focus	Mitigation
Degree of detail	Medium
Level	City level
Sector coverage	- Transport
Benefits	- Congestion - Road - Fuel saving - Air pollution
Summary of data requirements (with links to global or European datasets, where available)	- Transport activity data - Vehicle data: ○ Vehicle occupancy load factor *(for global dataset see external data sources shared)* ○ Passenger car occupancy (*Europe*) ○ Vehicle fuel efficiency *(see external data sources shared)* ○ Vehicle kilometers - Road kilometers and travel speed - Number of fatalities in transport (per transport mode, years of life lost)
Estimated resource requirements	4 days / EUR 5000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	N/A
Related case studies	N/A
User manual	TRACE_UserGuide

2. C40 Heat Resilient Cities

Link	Heat Resilient Cities: Measuring benefits of urban heat adaptation (c40knowledgehub.org)
Description	The Heat Resilient Cities tool quantifies the health benefits of urban heat adaptation actions, helping city planners and decision-makers assess and prioritize interventions. It provides evidence for investing in heat mitigation and identifies the most effective strategies. Developed through extensive research, the tool is based on action-to-impact analysis and expert reviews.
Focus	Adaptation
Degree of detail	Medium
Level	Project level
Sector coverage	- Urban parks - Urban water - Cool artificial surfaces - Cool vegetation surfaces - Heat action plans, for information purpose only
Benefits	- Number of lives saved - Number of heat days reduced - Health costs saved - Value of lives saved
Summary of data requirements (with links to global or European datasets, where available)	- Population data (density, age distribution, growth rate) - Health care data: hospitalization data for heat-related diseased and costs - Value of statistical life *(see external data sources shared)*
Estimated resource requirements	3 days / EUR 3000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix
Related case studies	- The health and economic benefits of São Paulo's Ipiranga Stream Revitalisation - The health and economic benefits of Medellín's green corridors
User manual	Instructions for using the tool are given in the first two tabs (Intro and Workflow) of the Excel file

3. C40 Healthy & Efficient Retrofitted Buildings (HERB)

Link	Healthy and Efficient Retrofitted Buildings Tool (HERB) (c40knowledgehub.org)
Description	The HERB tool is an Excel-based model that helps cities quantify the environmental, socio-economic, and health benefits of building retrofits. It supports decision-makers in making a strong case for large-scale renovations by providing evidence on impacts such as energy savings, job creation, improved air quality, and health benefits. Designed for global use, HERB bridges the gap between research and practice, helping cities plan effective retrofit strategies.
Focus	Mitigation
Degree of detail	Medium
Level	City level
Sector coverage	- Buildings
Benefits	- GHG emissions - Air pollution - Job creation - Cost savings - Energy poverty - Cold (health) - Mould asthma - Noise - Heat - Daylight
Summary of data requirements (with links to global or European datasets, where available)	- Project-specific data (building obstruction, population affected, floor area of retrofitted buildings, window area) - Health data (depression prevalence, glazing)
Estimated resource requirements	3 days / EUR 3000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- GGGI (2018), Green Growth Assessment & Extended Cost Benefit Analysis - C40 Cities (2021), Benefits of Urban Climate Action - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix - KfW Development Bank (2016), Materials on Development Financing
Related case studies	- Green building development in Tshwane
User manual	C40 Cities (2023) Healthy and Efficient Retrofitted Buildings (HERB) Tool v1.0 - Technical Support Document.pdf - Google Drive

4. C40 Air Quality through Urban Actions (AQUA)

Link	Air Quality through Urban Actions (AQUA) tool (c40knowledgehub.org)
Description	The Air Quality through Urban Actions (AQUA) tool is a scoping level tool that provides quick and accessible analysis of city-wide air quality, along with its health and economic impacts. It also estimates the benefits of reducing air pollution, offering a user-friendly experience without requiring complex calculations or expertise.
Focus	Mitigation
Degree of detail	Medium
Level	City level
Sector coverage	- Agriculture - Buildings - Industry - Transport
Benefits	- Number of lives saved - Number of life years gained - Air pollution - Health costs saved - Avoided working days lost
Summary of data requirements (with links to global or European datasets, where available)	- Emission data (PM2.5, NOx, SOx, NH3, VOC) - Population data (total, age distribution) - Health-related data: ○ Death rate per disease (air pollution attributable death rate) ○ Adult mortality rate ○ Life expectancy - Value of statistical life *(see external data sources shared)*
Estimated resource requirements	3 days / EUR 3000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- GGGI (2018), Green Growth Assessment & Extended Cost Benefit Analysis - C40 Cities (2021), Benefits of Urban Climate Action - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix - OECD (2018), Cost Benefit Analyses and the Environment: Further Developments and Policy use - General Guidance for Cost-Benefit Analysis - Transportation Research Board., Transportation Benefit-Cost Analysis - IGES (2011), The Transport Co-benefits Guidelines
Related case studies	- Air Quality Management Plan (PROAIRE) - Quantifying measures in the transport sector in Quito - Air pollution health impact assessment in Lima
User manual	Air Quality through Urban Actions (AQUA) tool

5. Climate Opportunity

Link	Workbook: Climate Opportunity Interactive Dashboard (tableau.com)
Description	The Climate Opportunity 2030 Dashboard allows users to compare scenarios for different regions and benefits. It analyses the impacts of climate action, such as energy efficiency retrofits and improved public transport, at both regional and city levels. The tool presents outcomes for a business-as-usual scenario and an enhanced action scenario aligned with the Paris Agreement's goals.
Focus	Mitigation
Degree of detail	Low
Level	City level
Sector coverage	- Energy - Transport - Buildings
Benefits	- Number of lives saved - Employment
Summary of data requirements (with links to global or European datasets, where available)	- City population
Estimated resource requirements	1 day / EUR 1000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	N/A
Related case studies	N/A
User manual	Instructions for using the tool are given in the first tab

6. Multiple Impacts Calculation Tool (MICAT)

Link	MICAT - Multiple Impacts Calculation Tool (micatool.eu)
Description	The MICAT project aims to develop a robust methodology for assessing the Multiple Impacts of Energy Efficiency (MI-EE). MICATool, a free and user-friendly online tool, enables comprehensive MI-EE analysis at European, national, and local levels. It supports policymakers and practitioners in enhancing climate strategies, promoting a fair, cost-effective transition to sustainable energy.
Focus	Mitigation
Degree of detail	Low
Level	Project level
Sector coverage	- Agriculture - Industry - Transport - Buildings
Benefits	- Number of lives saved - Avoided working days lost - Alleviation of energy poverty - Asthma - Indoor health - GDP - Import dependency - Employment - Asset value of buildings - Fuel savings - Air pollution - GHG emissions
Summary of data requirements (with links to global or European datasets, where available)	*No additional data is needed*
Estimated resource requirements	2 days / EUR 2000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	N/A
Related case studies	N/A
User manual	The front end vizard — MICAT documentation

7. Excellence in Design for Greater Efficiencies (EDGE)

Link	https://edgebuildings.com/
Description	EDGE is a free software, green building standard, and international certification system focused on energy, water, and embodied energy in materials. It helps identify cost-effective green building options, with location-specific climate data for thousands of cities. EDGE streamlines certification with a simplified process and aligns with global green finance standards. The system offers a verified green label, enhancing the prestige of projects while promoting sustainability.
Focus	Mitigation
Degree of detail	High
Level	Project level
Sector coverage	- Buildings
Benefits	- GHG emissions - Energy savings - Construction costs - Payback time

Summary of data requirements (with links to global or European datasets, where available)	- Building-related data (floors, height, area, rooms)
	- Climate data (rainfall, temperature, wind, humidity)
	- Building sales value
	  ○ Building sales value: residential property prices
	  ○ Building sales value: commercial property prices
	  ○ Building sales value: property prices (alternative source)
	- Infrastructure related data (water-using facilities, fuel usage, water and energy efficiency)

Estimated resource requirements	15 days / EUR 15000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	N/A
Related case studies	- Citadines Arnulfpark Munich - Clark International Airport – New Terminal Building - Conjunto Residencial Condominio TRESS
User manual	EDGE User Guides

8. Climate Action for Urban Sustainability (CURB)

Link	CURB: Climate Action for Urban Sustainability | Data Catalog (worldbank.org)
Description	CURB is a climate action planning tool that helps cities prioritize low-carbon investments based on cost, feasibility, and their impact on energy use and greenhouse gas emissions. It enables integrated planning across six sectors: private and municipal buildings, public lighting, electricity generation, solid waste, transportation, and water. It is used by cities to evaluate the cost, energy, and climate impact of various solutions, refine climate action plans, set targets, and secure project financing.
Focus	Mitigation and adaptation
Degree of detail	High
Level	City level
Sector coverage	- Transport - Buildings - Waste management - Energy
Benefits	- GHG emissions - Investment costs - Payback time - Energy savings

Summary of data requirements (with links to global or European datasets, where available)	- City data (area, climate, population, commuters)
	- GHG inventory (optional)
	- Infrastructure-related data:
	  ○ Access to electricity
	  ○ Electricity consumption
	  ○ Water
	  ○ Wastewater *(see external data sources shared)*
	  ○ Solid waste
	- Energy, water, waste and wastewater data
	- Transport-related data:
	  ○ Trip distance *(see external data sources shared)*
	  ○ Transport modes *(see external data sources shared)*
	- Building inventory (optional)

Estimated resource requirements	20 days / EUR 20000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix - IGES (2011), The Transport Co-benefits Guidelines
Related case studies	- Prioritizing climate actions in Buenos Aires - Climate Action for a Resilient New Orleans - Analyzing low-carbon actions in Quito

User manual	CURB - User Guide

9. C40 Equitable Impacts toolbox - Bus Rapid Transit Systems

Link	Toolkit for equitable impacts (c40knowledgehub.org)
Description	The Equitable Impacts Toolbox provides Excel-based tools to assess the social and economic benefits of climate actions, beyond their effect on greenhouse gas emissions. It covers actions like bus rapid transit, congestion pricing, waste collection, cool roofs, building retrofits, and more, helping cities plan for the fair distribution of these benefits, such as job creation, health improvements, and cost savings. This specific tool focuses on bus rapid transit.
Focus	Mitigation
Degree of detail	Low
Level	Project level
Sector coverage	- Transport
Benefits	- Employment - Time savings from BRT - Gender-related benefits
Summary of data requirements (with links to global or European datasets, where available)	- Transport-related data: ○ Bus speed ○ Trip distance *(see external data sources shared)* - Income data (wage level) - Gender-related data (income, job occupation)
Estimated resource requirements	1 day / EUR 1000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - C40 Cities (2022), C40 City Monitoring, Evaluation, and Reporting Guidance - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - Ramboll and C40 cities (2022), Urban Climate Impact Framework - C40 Cities (2020), C40 MER Indicator Matrix
Related case studies	N/A
User manual	Equitable Impact Guidance Module: Bus Rapid Transit

10. C40 Equitable Impacts toolbox - Congestion Pricing

Link	Toolkit for equitable impacts (c40knowledgehub.org)
Description	The Equitable Impacts Toolbox provides Excel-based tools to assess the social and economic benefits of climate actions, beyond their effect on greenhouse gas emissions. It covers actions like bus rapid transit, congestion pricing, waste collection, cool roofs, building retrofits, and more, helping cities plan for the fair distribution of these benefits, such as job creation, health improvements, and cost savings. This specific tool focuses on congestion pricing.
Focus	Mitigation
Degree of detail	Low
Level	Project level
Sector coverage	- Transport
Benefits	- Time savings from reduced congestion
Summary of data requirements (with links to global or European datasets, where available)	- Transport-related data: ○ Vehicle speed ○ Passenger car occupancy ○ Trip distance *(see external data sources shared)* - Income data (wage level) - Gender-related data (income, job occupation)
Estimated resource requirements	1 day / EUR 1000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - C40 Cities (2022), C40 City Monitoring, Evaluation, and Reporting Guidance - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix
Related case studies	N/A
User manual	Equitable Impact Guidance Module: Congestion Pricing

11. C40 Equitable Impacts toolbox - Waste Collection & Segregation

Link	Toolkit for equitable impacts (c40knowledgehub.org)
Description	The Equitable Impacts Toolbox provides Excel-based tools to assess the social and economic benefits of climate actions, beyond their effect on greenhouse gas emissions. It covers actions like bus rapid transit, congestion pricing, waste collection, cool roofs, building retrofits, and more, helping cities plan for the fair distribution of these benefits, such as job creation, health improvements, and cost savings. This specific tool focuses on waste collection and segregation.
Focus	Mitigation
Degree of detail	Low
Level	Project level
Sector coverage	- Waste management
Benefits	- Employment
Summary of data requirements (with links to global or European datasets, where available)	- Waste-related data: ○ Waste generation ○ Waste management (collection, recycling, landfill etc.)
Estimated resource requirements	1 day / EUR 1000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - C40 Cities (2022), C40 City Monitoring, Evaluation, and Reporting Guidance - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix
Related case studies	N/A
User manual	Equitable Impact Guidance Module: Waste Collection and Segregation

12. C40 Equitable Impacts toolbox - Cool Roofs

Link	Toolkit for equitable impacts (c40knowledgehub.org)
Description	The Equitable Impacts Toolbox provides Excel-based tools to assess the social and economic benefits of climate actions, beyond their effect on greenhouse gas emissions. It covers actions like bus rapid transit, congestion pricing, waste collection, cool roofs, building retrofits, and more, helping cities plan for the fair distribution of these benefits, such as job creation, health improvements, and cost savings. This specific tool focuses on cool roofs.
Focus	Mitigation
Degree of detail	Low
Level	Project level
Sector coverage	- Buildings
Benefits	- Energy savings
Summary of data requirements (with links to global or European datasets, where available)	- Climate data - Energy-related data: efficiency, cost (optional)
Estimated resource requirements	1 day / EUR 1000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - C40 Cities (2022), C40 City Monitoring, Evaluation, and Reporting Guidance - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix
Related case studies	N/A
User manual	Equitable Impact Guidance Module: Cool Roofing

13. C40 Pathways Air Quality (AQ)

Link	Pathways Air Quality (Pathways-AQ) (c40knowledgehub.org)
Description	The Pathways Air Quality (Pathways-AQ) tool helps cities integrate air quality management with climate action planning. It models emissions of pollutants like PM2.5 and their health impacts, using city-level data to assess the effects of climate policies on both air quality and public health. Developed by C40 experts, it is available to cities and consultants worldwide for analysing the co-benefits of addressing air pollution and climate change together.
Focus	Mitigation
Degree of detail	High
Level	City level
Sector coverage	- Transport - Buildings - Waste management - Energy - Industry
Benefits	- GHG emissions - Air pollution - Heart diseases (ischemic, stroke) - Further diseases (respiratory infections; diabetes type 2; tracheal, bronchus and lung cancer; obstructive pulmonary disease)

Summary of data requirements (with links to global or European datasets, where available)	- Population data
	  ○ Population data (size)
	  ○ Population data (sex, city, city type)
	  ○ Population data (age distribution)
	  ○ Population data (income distribution)
	- Climate data (precipitation, climate zone)
	- Residential data (number, type)
	- Health-related data:
	  ○ Health data (prevalence of heart diseases, respiratory infections, diabetes, pulmonary diseases)
	  ○ Asthma prevalence
	- Transport-related data (vehicle categories and emissions, shares of transport modes)
	- Energy data (energy mix, efficiency, consumption)
	- Waste-related data (composition, rates of recycling, composting, landfill gas capture, wastewater treatment, treatment methods)
	- Industry-related data (emissions from industrial processes)

Estimated resource requirements	20 days / EUR 20000

Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix
Related case studies	- Air Quality in Addis Ababa and its Effects on Health - Air Quality in Accra and its Effects on Health - Air Quality in Johannesburg - Air Quality in Lima - Air Quality in Buenos Aires - Air Quality in Guadalajara
User manual	C40 Pathways Air Quality

14. Climate Resilient Cities Toolbox (CRC)

Link	https://crctool.org/en/new-project
Description	The Climate Resilient City Toolbox helps cities assess and plan adaptation measures to protect areas from flooding, drought, and extreme heat. It allows users to explore and compare effective adaptation measures, taking into account their costs, performance, and spatial requirements. The toolbox includes 40 proven adaptation options tailored to the local climate, facilitating risk dialogue and informed decision-making during planning.
Focus	Adaptation
Degree of detail	Medium
Level	Project level
Sector coverage	- Buildings - Urban parks
Benefits	- Water storage capacity - Groundwater recharge - Evapotranspiration - Heat reduction - Water quality (reduction of pathogen, nutrient, pollutants)
Summary of data requirements (with links to global or European datasets, where available)	- Soil properties (storage capacity, evapotranspiration, groundwater recharge) - Cooling capacity
Estimated resource requirements	2 days / EUR 2000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- GGGI (2018), Green Growth Assessment & Extended Cost Benefit Analysis - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2022), C40 City Monitoring, Evaluation, and Reporting Guidance - C40 Cities (2020), C40 MER Indicator Matrix - OECD (2018), Cost Benefit Analyses and the Environment: Further Developments and Policy use - Transportation Research Board., Transportation Benefit-Cost Analysis - KfW Development Bank (2016), Materials on Development Financing
Related case studies	- Evaluating a Planning Support System's Use and - Effects in Urban Adaptation: An Exploratory Case - Study from Berlin, Germany
User manual	Climate Resilient Cities Toolbox

15. Health Economic Assessment Tool (HEAT)

Link	HEAT v5.2.0 (heatwalkingcycling.org)
Description	HEAT is a tool designed to assess the economic health impacts of walking and cycling, even for users without expertise in impact evaluation. It calculates the value of reduced mortality from physical activity, accounting for factors like air pollution and traffic accidents. HEAT is useful for transport planners and local professionals to evaluate current levels, compare scenarios, and assess the benefits of new projects.
Focus	Mitigation
Degree of detail	Medium
Level	City level
Sector coverage	- Transport
Benefits	- GHG emissions - Air pollution - Crash risk - Number of lives saved - Value of statistical life *(see external data sources shared)* - Social cost of carbon
Summary of data requirements (with links to global or European datasets, where available)	- Population data (size) - Population data (sex, city, city type) - Transport-related data: ○ Travel time per capita ○ Transport modes *(see external data sources shared)* ○ Vehicle fuel efficiency *(see external data sources shared)* - Health data: mortality rate per transport mode, road fatalities - Value of statistical life *(see external data sources shared)*
Estimated resource requirements	2 days / EUR 2000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- Ramboll and C40 cities (2022), Urban Climate Impact Framework - CIVITAS (2020), CIVITAS 2020 Process and Evaluation FrameworK - C40 Cities (2021), Benefits of Urban Climate Action - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - C40 Cities (2020), C40 MER Indicator Matrix - Transportation Research Board., Transportation Benefit-Cost Analysis - IGES (2011), The Transport Co-benefits Guidelines - KfW Development Bank (2016), Materials on Development Financing

Related case studies	- The Austrian Masterplan for Cycling - The value of cycling in one of the world's bicycle capitals - Using HEAT to assess the health benefits of a new cycling path - Transport for Greater Manchester makes a business case for its ambitious cycling plan - Exploring the health and spatial equity implications of the New York City bike share system
User manual	HEAT User Guide

16. Sustainable Asset Valuation (SAVi)

Link	How SAVi Works Archive - Sustainable Asset Valuation (SAVi) (iisd.org)
Description	SAVi is a tool that integrates systems thinking, financial valuation, and simulation to assess the social, economic, and environmental impacts of infrastructure projects. It helps project stakeholders evaluate the financial viability of investments while considering risks and externalities like climate change and environmental factors. SAVi customizes simulations for each project, providing insights into long-term performance and guiding decision-making for sustainable infrastructure investments.
Focus	Mitigation and adaptation
Degree of detail	High
Level	City level and project level
Sector coverage	- Transport - Buildings - Waste management - Agriculture - Industry - Energy
Benefits	- Air pollution - Real estate value change - Land use - Natural disaster costs avoided
Summary of data requirements (with links to global or European datasets, where available)	Detailed sector-specific data
Estimated resource requirements	30 days / EUR 30000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- GGGI (2018), Green Growth Assessment & Extended Cost Benefit Analysis - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - Ramboll and C40 cities (2022), Urban Climate Impact Framework - OECD (2018), Cost Benefit Analyses and the Environment: Further Developments and Policy use - General Guidance for Cost-Benefit Analysis - Transportation Research Board., Transportation Benefit-Cost Analysis - KfW Development Bank (2016), Materials on Development Financing

Related case studies	- Nature-based coastal protection in the Netherlands - C3S Use Case: Agroforestry and Climate Adaptation in Belgium - SAVi for the Restoration of Two Wetland Areas in Sardinia - C3S Use Case: Stormwater Infrastructure Upgrades for Paterson Park Precinct, A Potential Eco-district in Johannesburg, South Africa
User manual	SAVi Training

17. Net Zero City Planner

Link	NetZeroCities
Description	The Net Zero Planner is a web-based tool to support cities in their decarbonization planning by building scenarios for sectors such as transport, buildings, waste, and energy. Benefits assessed include employment effects, air quality, noise, among others.
Focus	Mitigation
Degree of detail	High
Level	City level
Sector coverage	- Transport - Buildings - Energy - Waste management
Benefits	- Employment - Air pollution - Noise - Road safety - Physical health - GHG emissions
Summary of data requirements (with links to global or European datasets, where available)	- Transport-related data: ○ Vehicle categories and emissions ○ Transport modes *(see external data sources shared)* - Population data (size, growth rate, city area) - Infrastructure-related data (water-using facilities, fuel usage, water and energy efficiency) - Waste management (collection, recycling, landfill etc.)
Estimated resource requirements	15 days / EUR 15000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - Ramboll and C40 cities (2022), Urban Climate Impact Framework - OECD (2018), Cost Benefit Analyses and the Environment: Further Developments and Policy use - IGES (2011), The Transport Co-benefits Guidelines - CIVITAS (2020), CIVITAS 2020 Process and Evaluation FrameworK
Related case studies	N/A
User manual	NZP Quick Start Guide

18. Carbon and Co-benefits Decision Support Tool

Link	Carbon and Co-benefits Decision Support Tool
Description	The tool supports senior decision-makers to take a holistic approach to decision-making, by providing them a summary of how projects and policies impact a range of strategically important areas including climate and environment, equality and inclusion, health, economy, housing and mobility.
Focus	Mitigation and adaptation
Degree of detail	Low
Level	City level
Sector coverage	- Buildings - Energy - Transport
Benefits	- Physical health - Mental health - Air pollution - Equality and inclusion - Mobility
Summary of data requirements (with links to global or European datasets, where available)	*No additional data is needed*
Estimated resource requirements	1 day / EUR 1000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	N/A
Related case studies	N/A
User manual	Carbon and Co-benefits Decision Support Tool User Guide

19. C40 Healthy Neighbourhoods Explorer

Link	Healthy Neighbourhoods Explorer
Description	The tool allows urban planners to quickly identify which neighbourhoods might benefit most from an intervention based on their indicator scores, and which interventions might be most effective. It can also be used to assess the impacts of different neighbourhood interventions by estimating the health and emissions benefits that could arise from 26 different types of urban design transformations.
Focus	Mitigation and adaptation
Degree of detail	Low
Level	City level
Sector coverage	- Transport - Urban parks - Buildings
Benefits	- Air pollution - Health benefits - Economic benefits
Summary of data requirements (with links to global or European datasets, where available)	*No additional data is needed*
Estimated resource requirements	1 day / EUR 1000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- C40 Cities (2021), Benefits of Urban Climate Action - LSE Cities & C40 Cities (2016), Co-benefits of urban climate action: A framework for cities - Ramboll and C40 cities (2022), Urban Climate Impact Framework - C40 Cities (2020), C40 MER Indicator Matrix - OECD (2018), Cost Benefit Analyses and the Environment: Further Developments and Policy use - General Guidance for Cost-Benefit Analysis - Transportation Research Board., Transportation Benefit-Cost Analysis - IGES (2011), The Transport Co-benefits Guidelines - CIVITAS (2020), CIVITAS 2020 Process and Evaluation Framework
Related case studies	N/A
User manual	C40 Healthy Neighbourhoods Explorer terms and references

20. NATURE Tool

Link	NATURE Tool
Description	The NATURE Tool is an Excel-based assessment tool designed to help built environment professionals, planners, and stakeholders evaluate the impacts of land-use and management changes on natural capital. It assesses up to 17 ecosystem services plus health benefits, producing a "people score" that indicates a project's net gain for nature and wellbeing, tailored to policy priorities. The tool supports sustainable decision-making at various project stages, requires minimal data, and is adaptable for local or corporate objectives, making it an accessible, objective way to measure and manage natural capital in development projects.
Focus	Adaptation
Degree of detail	Medium
Level	Project level
Sector coverage	- Buildings - Agriculture - Urban parks
Benefits	- Air pollution - Health benefits - Water quality
Summary of data requirements (with links to global or European datasets, where available)	*No additional data is needed*
Estimated resource requirements	1 day / EUR 1000
Relevant guides (either directly related to the tool or guides with similar objectives, sectors and/or indicators)	- NATURE Tool Interim Summary Report: UK Planning Review Desk Study and Planning Workshop Summary 26th – 29th January 2021
Related case studies	- Royal Seaport, Stockholm - Malmi District, Helsinki -
User manual	NATURE Tool - How it works