



# Clean Construction Declaration

**Planned Actions to Deliver Commitments**

**C4O**  
CITIES





DECLARATION COLLECTIVE  
TARGETS

Reduce embodied emissions by at least 50% for all new buildings and major retrofits by 2030, striving for at least 30% by 2025

INTENDED ACTION/APPROACH TO SUPPORT THESE TARGETS

- To reduce embodied emission in new buildings and retrofits implemented the Municipality of Budapest, the City will
- carry out research on building construction material flows (LCA), building standards and available methodologies and practices by 2022;
  - undergo energy audits for municipal buildings and facilities, including municipal institutions and utilities by 2025, and later use the results of the LCA assessments for newly built municipal buildings to calculate the potential emission savings and identify and prioritize measures;
  - utilize its procurement power and held market dialogue sessions with suppliers;
  - apply for clean construction pilot projects and implement
- small-scale projects by 2023;
- prepare a guide and roadmap for reducing embodied emission by 2024;
- propose legislative change to support clean construction both on the city level (e.g. harmonising building and procurement regulations across different administrative levels) and on the national level, since the current legislative background is exceedingly complex and inflexible;
  - develop a monitoring scheme for clean construction developments;
  - extend clean construction methodology to the city level by 2030;
  - integrate clean construction objectives to city strategies.

Reduce embodied emissions by at least 50% of all infrastructure projects by 2030, striving for at least 30% by 2025

- To reduce embodied emissions of infrastructure projects implemented by the Municipality of Budapest, the City will
- carry out research on construction material flows (LCA), infrastructure construction standards and available methodologies and practices by 2022;
  - identify potential EU funded infrastructural projects
- (2021-2027) where clean constructions are feasible;
- utilize its procurement power and held market dialogue sessions with suppliers;
  - apply for clean construction pilot projects and implement small scale projects by 2023, including life cycle thinking and zero-emission constructions;

- prepare a guide and roadmap for reducing embodied emissions by 2024;
  - develop a monitoring scheme for clean construction developments;
  - extend clean construction methodology to the city level by 2030;
  - integrate clean construction objectives to city strategies.
- propose legislative change to support clean construction both on city level (e.g. harmonising infrastructure building and procurement regulations across different administrative levels) and on national level since the current legislative background is exceedingly complex and inflexible;

Require zero emission construction machinery in municipal projects from 2025 and zero emission construction sites city-wide by 2030, where available.

- hold market consultations to assess suppliers' approach to zero-emission construction machinery and available technologies;
- develop a roadmap to foster the transition from fossil fuel-based machinery to zero-emission by 2025;
- implement indoor pilot projects by 2022 and outdoor pilots by 2025.

DECLARATION COMMITMENT

Prioritise the better use, repurposing, and retrofit of existing building stock and infrastructure across the city to ensure their optimal use before new construction projects are considered.

INTENDED ACTION/APPROACH TO MEET COMMITMENT

- Budapest has already developed its guideline on energetic refurbishment of historical buildings which will serve as a basis for needs assessment.
- Budapest intends to strengthen its social housing services by adding new functions to the existing, but underutilized building stock.



**Lead by example with municipal procurement by requiring life cycle assessments (LCAs) and the diversion of construction and demolition waste from disposal for all municipal projects. Use municipal purchasing power to procure or demand zero emission construction machinery in municipal projects. Reward resource efficient and circular design, use of low carbon materials and low to zero waste construction sites for all new projects and major retrofit.**

- Budapest has already started to assess potential pilot projects and will provide a list of potential intervention fields.
- Budapest will implement small-scale pilot projects in 2021-2022 to prepare for large-scale implementation.
- Budapest aims to engage the market players from the beginning; therefore, the city will hold market consultation and undertake research during 2021-2022.

**Demand transparency and accountability, starting with requiring LCAs in planning permissions and embedding them into planning policies, processes and building codes within a year of endorsing this declaration. Require the public disclosure of this data to facilitate greater transparency and foster accountability to develop robust baselines, standards, certifications and policies.**

- Budapest will publish the process and results on a dedicated website and facilitate cooperation with national stakeholders and propose legislation to co-develop baselines and standards with key stakeholders for clean construction.

**Work with businesses, industry, public institutions, citizens, workers, social partners and other organizations to establish a joint roadmap adhering to circular economy principles within two years of endorsing this declaration and incorporate it into our Climate Action Plan. The roadmap will provide an implementation pathway to the Clean Construction declaration commitments and to reaching its targets inclusively and equitably.**

- Budapest will engage key stakeholders, with special attention to district municipalities and citizens.
- Budapest will implement gamification and start a scholarship to identify novel technologies and models for clean construction.
- Budapest will spread its findings and best practices within its network, such as EUROCITIES, ICLEI, Climate-KIC, Energy Cities and Big Buyers Initiative of the European Commission.
- The City will integrate clean construction targets into its Sustainable, Green and Innovation Procurement Strategy by 2021.

**Approve at least one net zero emission (operational and embodied) flagship project by 2025.**

- Budapest will prepare small-scale pilot projects to identify drivers and barriers by 2022.

**Assess the impact our choice of materials and construction design will have on our cities' overall resilience to climate impacts (i.e. increasing urban heat island, impermeable surface increasing the risk of flooding, etc.).**

- Budapest has already published several guidelines on energetic renewal, brownfield regeneration and handbooks on greener infrastructures (green roofs and facades, permeable road coverings, urban trees and utilities, water-sensitive planning in cities and urban inner-yard rehabilitation).

**Work with and advocate for regional, national and supranational government to take action on sources outside the boundaries of our control.**

- Budapest will facilitate cooperation with national stakeholders and propose legislation to co-develop baselines and standards with key stakeholders for clean construction.

**Publicly report every year on the progress our cities are making towards these goals.**

- Budapest will publish its annual report on a dedicated website.







# Los Angeles

## DECLARATION COLLECTIVE TARGETS

**Reduce embodied emissions by at least 50% for all new buildings and major retrofits by 2030, striving for at least 30% by 2025**

- Select a set of City buildings and calculate the embodied carbon of their design, construction, and operation to pilot as a baseline, by Q4 2021.
- Collaborate with industry groups to deliver training on the EC3 tool so the industry gains familiarity with low-carbon products and design choices throughout 2021.
- Launch working groups in 2021 for architecture, engineering, contractors, developers, and tenants to develop a roadmap to 2030.

**Reduce embodied emissions by at least 50% of all infrastructure projects by 2030, striving for at least 30% by 2025**

- Select a set of City infrastructure projects and calculate the embodied carbon of their design, construction, and operation to pilot as a baseline by Q4 2021.
- Send market signals for low carbon and/or carbon sequestering concrete throughout 2021.
- Pilot use of above products throughout 2021.
- Work with Contract Administration, Procurement, and relevant departments to standardize terms for all City infrastructure project contracts by 2022.

**Require zero emission construction machinery in municipal projects from 2025 and zero emission construction sites city-wide by 2030, where available.**

- By Q1 2021, investigate potential to add procurement preference to City contracts for contractors who use zero emission equipment. Implement for Public Works contracts by 2022.
- By Q4 2021, develop with South Coast Air Quality Management District a trade-in program for gas equipment to electric equipment.
- Convene focus groups in 2021 for general contractors to discuss how to advance electric equipment use in the region in accordance with the 2025 and 2030 goals.

## INTENDED ACTION/APPROACH TO SUPPORT THESE TARGETS

## DECLARATION COMMITMENT

**Prioritise the better use, repurposing, and retrofit of existing building stock and infrastructure across the city to ensure their optimal use before new construction projects are considered.**

**Lead by example with municipal procurement by requiring life cycle assessments (LCAs) and the diversion of construction and demolition waste from disposal for all municipal projects. Use municipal purchasing power to procure or demand zero emission construction machinery in municipal projects. Reward resource efficient and circular design, use of low carbon materials and low to zero waste construction sites for all new projects and major retrofit.**

**Demand transparency and accountability, starting with requiring LCAs in planning permissions and embedding them into planning policies, processes and building codes within a year of endorsing this declaration. Require the public disclosure of this data to facilitate greater transparency and foster accountability to develop robust baselines, standards, certifications and policies.**

## INTENDED ACTION/APPROACH TO MEET COMMITMENT

- LA adopted the Adaptive Reuse Ordinance (ARO) in 1999 which offers regulatory exemptions and project streamlining for developers reusing an old site for a new purpose. 72% of ARO projects are developed within 1/2 mile from Metro rail stations and so have reduced VMT. ARO buoyed development during the last recession and is expected to do so again during this recession.
- In 2021, revisit the ARO to see what enhancements might be helpful.
- Encourage adaptive reuse of existing buildings through developing incentives and fast track permitting for qualified projects by Q4 2021.
- Since 2010, the City of LA has a policy requiring all mixed C&D waste to be taken to City-certified C&D waste processing facilities. Non-compliance penalties of \$5,000 per load are levied.
- Work with BOE to implement Buy Clean CA requirements for steel, flat glass, and mineral wool board insulation procurement throughout 2021.
- Launch Zero by Design, a utility program to incentivize design teams to reduce operational and embodied carbon, by Q2 2021.
- By Q4 2021, investigate how to offer preference points for contractors who utilize zero emission construction equipment on City projects.
- Work with BOE to pilot LCA review for City buildings by utilizing the LEED v4.1 pilot credit by Q4 2022.
- Encourage LCA review and disclosure for projects through developing incentives and fast track permitting for qualified projects by Q4 2024.



**Work with businesses, industry, public institutions, citizens, workers, social partners and other organizations to establish a joint roadmap adhering to circular economy principles within two years of endorsing this declaration and incorporate it into our Climate Action Plan. The roadmap will provide an implementation pathway to the Clean Construction declaration commitments and to reaching its targets inclusively and equitably.**

- During Q4 2020, prepare a stakeholder map and set up a working group meeting schedule for 2021. Working group invitees will include, but may not be limited to: architects, engineers, contractors, developers, tenants, and City Departments.
- The working group will craft implementation targets with a foundation of equity and economic inclusion. The roadmap will be developed by 2022 and will be an addendum to LA's Green New Deal (our CAP).

**Approve at least one net zero emission (operational and embodied) flagship project by 2025.**

- LA has several City projects that are net zero energy, as well as one certified as LEED Net Zero Energy (our utility headquarters).
- Review buildings within our portfolio in 2021-2022 that are ready for retrofit and identify one or more that can be fully decarbonized, powered by on-site renewable energy, and use low carbon materials.

**Assess the impact our choice of materials and construction design will have on our cities' overall resilience to climate impacts (i.e. increasing urban heat island, impermeable surface increasing the risk of flooding, etc.).**

- Heat island effect is of paramount concern in LA and several initiatives and code updates are in progress to establish cool streets and cool neighborhoods, make all new roofs cool roofs, and increase cool hardscapes on private property. The SRI number range is the prescriptive standard by which we verify project compliance, it has been calculated by ASTM E 1980 and verified by Lawrence Berkeley National Lab to be appropriate for LA's climate conditions.

**Work with and advocate for regional, national and supranational government to take action on sources outside the boundaries of our control.**

- Mayor Garcetti's leadership with networks of Mayors, Congressional leaders, and all levels of government – as well as planning for COP26 – can draw attention to embodied carbon action on a large scale.

**Publicly report every year on the progress our cities are making towards these goals.**

- Report ongoing progress to C40 on an annual basis.







# Mexico City

## LOS OBJETIVOS COLECTIVOS DE LA DECLARACIÓN

**Reducir las emisiones incorporadas en al menos un 50% para todos los edificios nuevos y las principales retrofits para el 2030 y tratar de reducir en un 30% para el 2025**

## ACCIÓN/ENFOQUE PREVISTO PARA APOYAR ESTOS OBJETIVOS

- Revisión de los lineamientos actuales de los residuos de la construcción, donde se establece el uso de concreto reciclado en la construcción de nuevos edificios con la consulta pública planeada en el Q4 2020.
- Actualización de los lineamientos de compras del gobierno, enfocados en la adquisición sustentable (celdas solares, uso de material reciclado, instalaciones de bajo consumo de agua) a realizarse para el Q2 2021.
- La ciudad utiliza el proceso de Manifestación del Impacto Ambiental mediante en el cual se reportan los residuos generados (RCD) y donde han sido depositados los mismos mediante el plan de manejo. Se va a verificar lo descrito en el plan de manejo de la obra y una vez aprobado se pretende que una unidad de verificación vaya al edificio para verificar que efectivamente se está llevando a cabo conforme a la normatividad.
- Con el fin de reducir los residuos de construcción y demolición, la CDMX planea el reciclaje de 6000 toneladas de residuos por día. Para tal efecto, la CDMX ha emitido un llamado en febrero del 2020 para la instalación de diferentes plantas de residuos de construcción y demolición (RCD), siendo del dominio de la CDMX y financiadas por el sector privado.

**Reducir las emisiones incorporadas en al menos un 50% de todos los proyectos de infraestructura para el 2030 y tratar de reducir en un 30% para el 2025**

- Revisión de los lineamientos actuales de los residuos de la construcción, donde se establece el uso de concreto reciclado en la construcción de nuevos edificios con la consulta pública planeada en el Q4 2020.
- Actualización de los lineamientos de compras del gobierno, enfocados en la adquisición sustentable (celdas solares, uso de material reciclado, instalaciones de bajo consumo de agua).
- La ciudad utiliza el proceso de Manifestación del Impacto Ambiental mediante en el cual se reportan los residuos generados (RCD) y donde han sido depositados los mismos. Con el fin de reducir los residuos de construcción y demolición, la CDMX planea el reciclaje de 6000 toneladas de residuos por día. Para tal efecto, la CDMX ha emitido un llamado en Febrero del 2020 para la instalación de diferentes plantas de residuos de construcción y demolición (RCD), siendo del dominio de la CDMX y financiadas por el sector privado.

**Requirir maquinaria de construcción con cero emisiones en los proyectos municipales a partir de 2025 y obras de construcción con cero emisiones en toda la ciudad para 2030, siempre que sea posible**

- Actualización de los lineamientos de compras del gobierno enfocados a la adquisición sustentable tanto de bienes como de servicios contemplando que esté sea finalizado para el Q3 2021
- Revisión de Anexos técnicos de los servicios de obra pública contratados para el gobierno.
- Actualizar y agregar lineamientos para el Programa de Certificación de Edificaciones Sustentables para el Q4 2021, este programa incluye el uso de materiales de construcción reciclados para uso no estructural y el uso de pinturas con bajo contenido de COV's.

## EL COMPROMISO DE LA DECLARACIÓN

**Priorizar el mejor uso, reasignación y modernización del stock de edificios y la infraestructura existente en toda la ciudad para garantizar su uso óptimo antes de que se consideren los nuevos proyectos de construcción.**

- Derivado de las medidas de higiene y salud en la pandemia COVID-19, la mayoría de los empleados esta realizando su trabajo a distancia (teletrabajo).
- Debido a este acuerdo, la CDMX esta considerando permitir a este sector trabajar a distancia disminuyendo el uso de los edificios gubernamentales manteniendo estas áreas abiertas al público y creando nuevas áreas de coworking o trabajo colaborativo.
- El programa de certificación de edificios sustentables está desarrollando criterios en conjunto con el Instituto Nacional de Antropología para edificios históricos.

**Liderar con el ejemplo con la contratación municipal mediante la necesidad de evaluaciones del ciclo de vida (ECV) y el desvío de residuos de construcción y demolición de la eliminación para todos los proyectos municipales. Utilizar el poder adquisitivo municipal para adquirir o exigir maquinaria de construcción de cero emisiones en proyectos municipales. Recompensar el diseño eficiente y circular de recursos, el uso de materiales bajos en carbono y sitios de construcción de residuos bajos a cero para todos los nuevos proyectos y la instalación importante.**

- Norma de residuos de la construcción, donde se establece el uso de concreto reciclado en la construcción de nuevos edificios públicos y privados.
- Actualización de los lineamientos de compras del gobierno, enfocados a la adquisición sustentable, desde una perspectiva de análisis de ciclo de vida en el caso que existan estudio, o mediante el reconocimiento de certificaciones existentes.



Exija transparencia y rendición de cuentas, empezando por exigir ECV en los permisos de planificación e incrustándolos en políticas de planificación, procesos y códigos de construcción dentro de un año de respaldar esta declaración. Exigir la divulgación pública de estos datos para facilitar una mayor transparencia y fomentar la rendición de cuentas para desarrollar lineamientos base, estándares, certificaciones y políticas sólidas.

Trabajar con empresas, la industria, instituciones públicas, ciudadanos, trabajadores, colaboradores sociales, y otras organizaciones para establecer una ruta conjunta adhiriéndose a los principios de la economía circular dentro de los dos años siguientes a la aprobación de esta declaración e incorporarla a nuestro Plan de Acción Por Climático. La hoja de ruta proporcionará un camino de aplicación a los compromisos de declaración de construcción limpia y a alcanzar sus objetivos de manera inclusiva y equitativa.

Aprobar al menos un proyecto emblemático de cero emisiones netas (operativas e incorporadas) para el 2025.

Evaluar el impacto que la selección de materiales y diseño de construcción tendrá en la resiliencia general de nuestras ciudades a los impactos climáticos (es decir, el aumento de la isla de calor urbano, la superficie impermeable aumentando el riesgo de inundaciones, etc.).

• El Gobierno cuenta con un sistema de transparencia muy riguroso, en el cual se reportan los procesos de licitación desde su concepción hasta el termino del proyecto. Cualquier obra de construcción requiere de una Manifestación de Impacto Ambiental para su autorización, por lo que a través de este instrumento pueden darse a conocer los datos relativos a obras. La Ciudad planea reforzar este tipo de instrumentos para que la información sea más precisa y el seguimiento de los residuos este actualizado y disponible.

• La CDMX busca desarrollar un mapa de Economía Circular con la UNEP, desde la perspectiva de empleo con resultados esperados para el 2021.

• Existen grupos multidisciplinarios de trabajo formados por diferentes Secretarías de Gobierno que buscan dirigir su trabajo bajo esta visión.

• Actualmente, la CDMX cuenta con un Programa de Cero Residuos, siendo una política pública hacia una Economía Circular,

• Se está trabajando para formar vínculos con las oficinas locales dedicadas (SEDUVI, INVI) a la edificación de vivienda social para que incluyan una perspectiva de sustentabilidad en sus criterios.

• Se trabaja en el establecimiento de incentivos para aquellos edificios que disminuyan su contribución mediante estrategias como azoteas blancas mediante el programa de acción climática.

• La Ciudad de México esta trabajando con la Unión Europea y la Agencia de Cooperación Alemana (GIZ) para cuantificar el número de toneladas de residuos de construcción generadas, incluyendo aquellas que son depositadas en lugares clandestinos u otras áreas con valor de conservación natural. El proyecto cubrirá trabajos públicos y privados y se espera que este completado para el Q3 2021.

con objetivos a 5 años donde esta establecido el reciclaje y reutilización de los residuos de la construcción y demolición.

Trabajar y abogar para que el gobierno regional, nacional y supranacional tome medidas sobre las fuentes fuera de los límites de nuestro control.

Informar públicamente cada año sobre los progresos que nuestras ciudades están haciendo hacia estos objetivos.

• La CDMX continuará en coordinación con la Comisión Ambiental Metropolitana para incluir medidas ambientales en el Valle de México.

• En los próximos meses se publicará el programa PROAIRE que contiene medidas a nivel metropolitano.

• Se informa a través del Programa de Acción Climática y el Programa de Gestión Integral de Residuos, ambos de la Ciudad de México.







### DECLARATION COLLECTIVE TARGETS

**Reduce embodied emissions by at least 50% for all new buildings and major retrofits by 2030, striving for at least 30% by 2025**

- Oslo’s overall climate target is to reduce greenhouse gas emissions by 95% by 2030, compared to 2009 levels.
- Oslo has conducted a baseline study on embodied carbon in buildings. Using the baseline study, the city is in the process of establishing a target on embodied carbon (by end 2021 at the latest) consistent with the declaration commitment.
- In parallel, Oslo is exploring policy measures to meet such a target. Firstly, for municipal projects by setting maximum emission limits on embodied carbon and/or using

tender competition criteria to reward the use of low-emission materials. These measures need to be implemented following the establishment of a target – starting in 2022. Secondly, how to use planning permits and processes to set requirements for the rest of the market for both Life Cycle Assessment (LCA) accounting in the 2021/22 timeframe, and also for specific materials emission requirements in the 2022/23 timeframe.

• Oslo is also using [FutureBuilt](#) to pilot new technical solutions for low emission buildings.

**Reduce embodied emissions by at least 50% of all infrastructure projects by 2030, striving for at least 30% by 2025**

- The baseline study on embodied carbon also looked at infrastructure, but there are much less LCA data on infrastructure projects and more data collection is required.
- For infrastructure, the municipality itself is in charge of almost all projects. Oslo is setting low emission requirements in its procurement processes. The first step, in the 2021-2022 timeframe, will be requirements to conduct LCA accounting for all projects,

followed by specific material emission requirements and/or tender competition criteria to incentivize low-emission materials.

• Oslo has several large new infrastructure projects towards 2030, including a new metro line and a new water supply pipeline. Both these two projects have a strong focus on reducing embodied carbon (<https://www.klimaoslo.no/2019/07/05/tiltak-for-utslippsfri-anleggsplass/>).

**Require zero emission construction machinery in municipal projects from 2025 and zero emission construction sites city-wide by 2030, where available.**

- Oslo’s Climate Strategy towards 2030 states that municipal construction sites shall be zero emission by 2025 and all construction sites by 2030.
- To follow up the targets in the climate strategy, Oslo in 2019 approved a set of common procurement criteria for all municipal construction sites. These criteria require fossil-free (bio-fuels) construction as a minimum and award zero-emission technologies in all tender competitions. From 1 January 2025, all municipal construction sites must be emission free and transport to and from the sites must be emission free or biogas-fueled.
- Oslo is going to set a requirement for fossil free construction for many private sector projects, through its planning permits. The city is preparing to require zero emission construction in all planning permits in the future. This was approved in 2020 and fossil free construction will be required in all new planning permits.
- In the 2020 financial budget, 40 million NOK is set aside to support the procurement of zero emission machinery in municipal agencies.

### DECLARATION COMMITMENT

**Prioritise the better use, repurposing, and retrofit of existing building stock and infrastructure across the city to ensure their optimal use before new construction projects are considered.**

### INTENDED ACTION/APPROACH TO MEET COMMITMENT

- In June 2020, the Agency for Planning and Building Services launched new guidance and climate criteria to be applied for all new development, building and infrastructure projects done by the City of Oslo.
- Project developers are required to consider using existing building stock in their projects, including combinations of new and existing buildings. Oslo has in 2020 developed and approved guidelines for more climate friendly management of excavated building masses. Suppliers will also be credited for climate friendly/ reduced transport of materials, personnel and waste.

**Lead by example with municipal procurement by requiring life cycle assessments (LCAs) and the diversion of construction and demolition waste from disposal for all municipal projects. Use municipal purchasing power to procure or demand zero emission construction machinery in municipal projects. Reward resource efficient and circular design, use of low carbon materials and low to zero waste construction sites for all new projects and major retrofit.**

- The climate guidance from the Agency for Planning and Building Services includes specific criteria to assess materials choice and construction-related emissions.
- On materials choice, it is required to assess the potential to reduce climate and environmental impacts through choosing more sustainable materials, such as wood, biomass-based materials, low carbon concrete, recycled metals etc. The municipal building agencies require at least two EPDs for each of the ten largest categories of building materials as well as emissions accounting for different phases of the project.
- There is also a requirement to consider indirect emissions as a result of the production and transport of materials.
- Oslo rewards using low-emission and zero-emission solutions in its public procurement.



**Demand transparency and accountability, starting with requiring LCAs in planning permissions and embedding them into planning policies, processes and building codes within a year of endorsing this declaration or in the next revision of planning policies and codes. Require the public disclosure of this data to facilitate greater transparency and foster accountability to develop robust baselines, standards, certifications and policies.**

- The new climate guidance from the Agency for Planning and Building Services will contribute to drive LCA practices in the construction and building industry.
- All information about public procurement is publicly available.

**Work with businesses, industry, public institutions, citizens, workers, social partners and other organizations to establish a joint roadmap adhering to circular economy principles within two years of endorsing this declaration and incorporate it into our Climate Action Plan. The roadmap will provide an implementation pathway to the Clean Construction declaration commitments and to reaching its targets inclusively and equitably.**

- Oslo has started to develop a strategy for circular economy, which is expected to be finalised by mid-2021.
- Oslo's cooperation with the business community "Business for climate" promotes climate solutions for the private sector. New members in this organization must commit to reducing their climate footprint. In 2020, the network has had a specific work

stream on construction and buildings, with a particular focus on reuse of materials. This work stream is likely carried forward in 2021.

**Approve at least one net zero emission (operational and embodied) flagship project by 2025.**

- Oslo opened a zero-emission construction site in 2019, for infrastructure development in the city centre. All construction machinery at this site is [electric](#).
- Oslo is also using [FutureBuilt](#) to pilot new technical solutions for low emission buildings.

**Assess the impact our choice of materials and construction design will have on our cities' overall resilience to climate impacts (i.e. increasing urban heat island, impermeable surface increasing the risk of flooding, etc.).**

- The climate guidance from the Agency for Planning and Building Services includes a requirement to consider if the materials selected for the construction will be resilient to future climate change, for instance in terms of increased precipitation and temperature.
- In 2014, Oslo adopted a strategy for managing surface water runoff, for the period 2013-2030 - [Strategi for overvannshåndtering](#)
- An updated action plan was established in 2019 - [Handlingsplan for overvannshåndtering](#). The action plan includes expanding the city's green areas, build rain beds and open waterways, as measures to reduce the risk of flooding.

**Work with and advocate for regional, national and supranational government to take action on sources outside the boundaries of our control.**

- Oslo is working with other cities in Norway as well as regionally, to stimulate a larger market for clean construction. The Big Buyers Initiative plays a key role.
- At the national level, Oslo is seeking broader legislative mandates to set stricter requirements in our public procurement.
- Internationally, the city of Oslo has initiated the C40 Clean Construction initiative, launched in 2019. The initiative is very important in driving guidance, sharing experiences and mobilising influence on markets.

**Publicly report every year on the progress our cities are making towards these goals.**

- Oslo uses a climate budget approach to monitor progress towards our climate targets. The climate budget is presented annually as part of the overall budget, and includes progress assessment as well as new measures to be implemented.





# San Francisco

## DECLARATION COLLECTIVE TARGETS

**Reduce embodied emissions by at least 50% for all new buildings and major retrofits by 2030, striving for at least 30% by 2025**

## INTENDED ACTION/APPROACH TO SUPPORT THESE TARGETS

San Francisco is in the process of updating our Climate Action Plan (CAP), with a goal for completion in December 2021. The following draft strategy for Responsible Production and Consumption offers a parallel track to address the Declaration Commitment.

**Strategy:** Achieve total carbon balance across the buildings and infrastructure sectors.

- **Supporting Action 1:** Between 2022-2025, phase in policies to reduce embodied carbon more than 10% per project by addressing at least three product categories or building assembly types.

- **Supporting Action 2:** By 2023, develop a suite of incentives, policies, and/or guidelines for adaptive reuse of existing buildings, as well as the design and procurement of low carbon structural materials for new construction.

- **Supporting Action 3:** By 2025, establish a maximum allowance for embodied carbon of buildings, to be adjusted at regular intervals.

- **Supporting Action 4:** By 2025, amend existing policies to require deconstruction of buildings and increase the source separation of specific materials.

- **Supporting Action 5:** By 2025, engage with designers, landlords, and lessees to develop guidelines for tenant improvement and space turnover projects that reduce excess material purchases and support reuse distribution channels.

- **Supporting Action 6:** By 2025, create a policy framework to expand and cultivate regional building material reuse markets that support workforce development, small business enterprises, and entrepreneurial innovation.

- **Supporting Action 7:** By 2030, advance best practices for “Design for Disassembly” and “Buildings As Material Banks” by creating implementation resources in partnership with global cities, and pilot at least one municipal project to maximize the value of carbon already invested in buildings.

**Reduce embodied emissions by at least 50% of all infrastructure projects by 2030, striving for at least 30% by 2025**

There are no currently defined approaches for reducing embodied carbon exclusive to infrastructure projects, which may be influenced by Supporting Actions 1-3 (above), at a minimum.

**Require zero emission construction machinery in municipal projects from 2025 and zero emission construction sites city-wide by 2030, where available**

The following draft CAP supporting action for Transportation and Land Use advances low- and no-emission construction machinery.

**Strategy:** Accelerate the adoption of zero-emissions vehicles (ZEV's) and other electric mobility options.

- **Supporting Action:** By 2030, reduce greenhouse gas emissions from construction equipment at least 50% from 2020 levels by incentivizing the use of renewable diesel and emerging zero-emission technologies.

## DECLARATION COMMITMENT

**Prioritise the better use, repurposing, and retrofit of existing building stock and infrastructure across the city to ensure their optimal use before new construction projects are considered.**

**Lead by example with municipal procurement by requiring life cycle assessments (LCAs) and the diversion of construction and demolition waste from disposal for all municipal projects. Use municipal purchasing power to procure or demand zero emission construction machinery in municipal projects. Reward resource efficient and circular design, use of low carbon materials and low to zero waste construction sites for all new projects and major retrofit.**

## INTENDED ACTION/APPROACH TO MEET COMMITMENT

- San Francisco's [Economic Recovery Task Force Report](#), published in October 2020, includes a recommendation for adaptive reuse: 1.5 Promote reactivation and consider adaptive reuse of buildings for a vibrant San Francisco, complementing CAP Supporting Action 2. We have yet to develop specific approaches for implementation.

- The Municipal Green Building Task Force has approved a recommended draft update to Environment Code Chapter 7 that includes embodied carbon calculation and reduction requirements (including LCAs) for municipal construction projects. It also includes a per-square-foot cap on waste generated for Tenant Improvement projects and specific materials that must be source-separated during construction. Goal for adoption is early 2022. (CAP Supporting Action 1)

- San Francisco created a robust citywide policy for C&D waste diversion in 2006, banning the direct disposal of any such material to landfill. In 2018, we updated the regulation to mandate third party

verification that facilities receiving C&D materials are maximizing recovery. This regulation has been recognized as an alternate compliance path for the LEED credit “C&D Waste Management” for Certified Commingled Recycling Facilities – the first program (and municipality) to do so. Another update to this ordinance was passed in September that will tighten regulations by improving the tracking of material haulers. The update will also encourage increased source separation of building materials. Our goal is to reduce generation by 15% and disposal to landfill by 50% by 2030 compared to 2015, per the Advancing Toward Zero Waste Declaration.



<b>Demand transparency and accountability, starting with requiring LCAs in planning permissions and embedding them into planning policies, processes and building codes within a year of endorsing this declaration or in the next revision of planning policies and codes. Require the public disclosure of this data to facilitate greater transparency and foster accountability to develop robust baselines, standards, certifications and policies.</b>	<ul style="list-style-type: none"><li>• Once the embodied carbon requirements have been tested on municipal projects and refined as necessary, these will be extended citywide. (CAP Supporting Action 1)</li><li>• We have introduced a concept of a Professional Development program through the Office of Economic and Workforce Development for BIPOC to receive training on Revit and LCA tools and placement in architecture and engineering firms throughout the city.</li></ul>	<ul style="list-style-type: none"><li>• In 2020, San Francisco shifted away from paper tracking of construction Material Recovery and Reduction Plans to an online platform, “Green Halo”, which allows for more precise and on-demand reporting of material types and quantities diverted from landfills as well as their destinations.</li><li>• We are working toward a Deconstruction requirement that also mandates source separation of buildings materials that can be better candidates for regional reuse if they are collected independent from mixed debris (e.g., wood, wallboard). (CAP Supporting Action 4)</li></ul>
<b>Work with businesses, industry, public institutions, citizens, workers, social partners and other organizations to establish a joint roadmap adhering to circular economy principles within two years of endorsing this declaration and incorporate it into our Climate Action Plan. The roadmap will provide an implementation pathway to the Clean Construction declaration commitments and to reaching its targets inclusively and equitably.</b>	<p>We have a holistic view of the building materials reuse ecosystem and are starting to pursue several collaborations (CAP Supporting Actions 4-7). For example:</p> <ul style="list-style-type: none"><li>• Publishing by the end of 2021 a ‘Surplus Construction Products Reduction and Redistribution Study’, with the participation of 12 General Contractors and Developers and their subcontractors. Phase One is an opportunity to learn more about typical types and quantities of materials purchased but not installed. We hope to include a Phase Two that includes onsite inventory and donation.</li><li>• Partnered with the “All for Reuse Initiative” to create an alliance of large portfolio building owners/ developers/renters to commit to rescuing and reusing salvaged/ surplus products in their tenant improvement projects.</li></ul>	<ul style="list-style-type: none"><li>• Received grant funding from CNCA to build an online exchange infrastructure to support the regional use of salvaged/surplus products. Observing cities outside the Bay Area include Chicago/Cook County, IL; Atlanta, GA; Boulder, CO; and San Diego, CA. Additional cities involved in Oregon and Washington.</li><li>• Pursuing funding and coordinating among several San Francisco agencies to develop a Building Resources Innovation Center to improve material access and exchange for contractors, small businesses, nonprofits, entrepreneurs, and makers, as well as partnerships with manufacturers to facilitate extended producer responsibility/takeback programs.</li></ul>

<b>Approve at least one net zero emission (operational and embodied) flagship project by 2025.</b>	<ul style="list-style-type: none"><li>• San Francisco’s participation in the inaugural Reinventing Cities competition led to the commitment by a private development to strive for net zero emissions: The Kelsey Civic Center.</li><li>• We are currently exploring several options in the Recreation and Parks Department’s portfolio for a flagship net zero emissions municipal project.</li></ul>
<b>Assess the impact our choice of materials and construction design will have on our cities’ overall resilience to climate impacts (i.e., increasing urban heat island, impermeable surface increasing the risk of flooding, etc.).</b>	<p>This is a topic that we are just starting to explore, particularly as it relates to infrastructure (e.g., streets and sidewalks).</p>
<b>Work with and advocate for regional, national and supranational government to take action on sources outside the boundaries of our control.</b>	<p>Related to deconstruction and material reuse:</p> <ul style="list-style-type: none"><li>• San Francisco has staff that are Steering Committee members of the Bay Area Deconstruction Work Group, working closely to promote shared solutions for deconstruction and material reuse with staff at other regional cities, as well as representatives from the Bay Area Air Quality Management District and US EPA Region 9.</li><li>• San Francisco staff has been appointed to the LEED Steering Committee, helping to inform the future requirements of the green building standard that has been integrated into codes throughout the US and internationally.</li></ul>
<b>Publicly report every year on the progress our cities are making towards these goals.</b>	<p>One implementation proposal for CAP Supporting Action 1 is to require the achievement of two LEED credits as part of a first step for policy for both municipal and private-sector buildings. The credit “Building life-cycle impact reduction” (v4.0) awards points to projects for completing an LCA and reducing embodied carbon 10% compared to a baseline building. (The new version of the credit under v4.1 has 5, 10, and 20% thresholds.) There is also a credit “Building Product Disclosure and Optimization - Environmental Product Declarations”, which requires EPDs to be submitted for twenty different products. Using these LEED credits to document compliance would offer a standardized process for all construction projects that would ease the potential for public reporting on regular intervals.</p>

**EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS (CAN BE APPLICABLE TO ONE, SOME, OR ALL OF THE DECLARATION COMMITMENTS ABOVE)**

- Most of the actions and possible approaches outlined above require an expansion of existing programs or the creation of new programs and infrastructure. As such, they will require additional staff time/FTE and funding. While we have been successful in receiving one grant so far, and are pursuing financial support via additional grants and partnerships with likeminded organizations to augment our ‘in-house’ capabilities, we will not be able to implement the scale of change desired in the timeframe allotted without new streams of capital, some of which will be necessary seed funding and others that will be needed mid- and long-term.



