

1 [Building Code, Environment Code - Mandating New Construction Be All-Electric]

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3 **Ordinance amending the Building Code to require new construction to utilize only**
4 **electric power; amending Environment Code to provide public hearings on**
5 **implementation of all-electric requirement; adopting findings of local conditions under**
6 **the California Health and Safety Code; affirming the Planning Department’s**
7 **determination under the California Environmental Quality Act; and directing the Clerk**
8 **of the Board of Supervisors to forward this ordinance to the California Building**
9 **Standards Commission upon final passage.**

10 NOTE: **Unchanged Code text and uncodified text** are in plain Arial font.
11 **Additions to Codes** are in *single-underline italics Times New Roman font*.
12 **Deletions to Codes** are in *strikethrough italics Times New Roman font*.
13 **Board amendment additions** are in double-underlined Arial font.
14 **Board amendment deletions** are in ~~strikethrough Arial font~~.
15 **Asterisks (* * * *)** indicate the omission of unchanged Code
16 subsections or parts of tables.

17 Be it ordained by the People of the City and County of San Francisco:

18

19 Section 1. General Findings.

20 (a) The Planning Department has determined that the actions contemplated in this
21 ordinance comply with the California Environmental Quality Act (California Public Resources
22 Code Sections 21000 et seq.). Said determination is on file with the Clerk of the Board of
23 Supervisors in File No. 200701 and is incorporated herein by reference. The Board affirms
24 this determination.

25 (b) On August 19, 2020, the Building Inspection Commission considered this
ordinance at a duly noticed public hearing pursuant to Charter Section D3.750-5.

1 Section 2. Findings Regarding Local Conditions.

2 (a) California Health and Safety Code Sections 17958.7 and 18941.5 provide that local
3 jurisdictions may enact more restrictive building standards than those contained in the
4 California Building Code, provided that the local jurisdictions make express findings that each
5 change or modification is reasonably necessary because local climate, geologic, or
6 topographical conditions and that the local jurisdictions file the local amendments and
7 required findings with the California Building Standards Commission before the local changes
8 or modifications can go into effect.

9 (b) The Board of Supervisors hereby finds and declares that the following
10 amendments to the San Francisco Building Code are reasonably necessary because of local
11 climatic, topological, and geological conditions as discussed below.

12 (1) The topography of San Francisco creates increased risk of fire due to
13 high density of buildings on very small lots and high population density. It is necessary and
14 appropriate to stop building new natural gas infrastructure that increases acute and
15 cumulative fire risk across the City.

16 (2) San Francisco's geologic and topographic conditions produce increased
17 risk for earthquake-induced failure and consequent fire due to local hazardous seismic
18 microzones, slide areas, and local liquefaction hazards. Natural gas infrastructure may
19 rupture, fail, and/or explode due to earthquake-induced structural failure. After seismic
20 events, natural gas infrastructure will take significantly longer to resume service compared to
21 electrical infrastructure. It is necessary and appropriate to reduce fire risk and increase
22 resiliency by eliminating the construction of new natural gas infrastructure.

23 (3) San Francisco's climate and topography create wind patterns and
24 periodic seasonal high temperatures that produce smog and ozone that exacerbate the
25 respiratory ailments of residents. Natural gas combustion is a major source of indoor air

1 pollution that further exacerbates the effects of regional pollution for the City's residents and
2 can be particularly acute in the City's dense population and smaller dwelling units. Studies
3 have shown children living in homes with natural gas stoves have a 42% increased risk of
4 experiencing asthma symptoms and those impacts may be exacerbated in a compact city
5 such as San Francisco where low-income households are more likely to have more people
6 living in smaller spaces with less ventilation. It is reasonable and appropriate to decrease
7 pollution exposure and resulting human health impacts by utilizing All-Electric construction
8 instead of creating additional natural gas infrastructure.

9 (4) Human activities releasing greenhouse gases into the atmosphere cause
10 increases in worldwide average temperature, which contribute to melting of glaciers and
11 thermal expansion of ocean water. As a city located on the tip of a peninsula, surrounded on
12 three sides by water, San Francisco is experiencing and will continue to experience the
13 repercussions of climate change such as extreme heat events and rising sea levels causing
14 significant erosion, increasing impacts to infrastructure during extreme tides, and causing the
15 City to expend funds to modify its infrastructure.

16 (5) The operation of buildings comprises a significant portion of the City's
17 greenhouse gas emissions. In 2017, the operation of buildings was responsible for 43.7% of
18 citywide greenhouse gas emissions. The City has grown considerably in recent years. For
19 example, since 1990 the economy of the City grew 162% and population increased by 22%.
20 This growth results in construction of new buildings and significant rehabilitation of existing
21 buildings.

22 (6) San Francisco's electric system increasingly utilizes renewable energy.
23 Emissions of carbon dioxide per megawatt hour of electricity delivered to the City have
24 decreased by 78% since 1990. The City has set a goal of ensuring that 100% of electricity
25 usage citywide is generated via renewable, greenhouse gas-free sources by 2030. In 2017,

1 80% of greenhouse gas emissions from the operation of buildings citywide was due to
2 consumption of natural gas or district steam produced via combustion of natural gas.

3 (7) The primary constituent of natural gas is methane, which is 86 times
4 more potent of a greenhouse gas than carbon dioxide. In addition, more than 4% of methane
5 leaks into the atmosphere prior to delivery.

6 (8) It is necessary and appropriate to stop construction of new natural gas
7 infrastructure in San Francisco in order to reduce the unique impacts San Francisco will
8 endure from global warming.

9 (c) The Board of Supervisors hereby also finds that the City values the diverse
10 restaurant community that makes the City a vibrant center of both culinary innovation and
11 traditional cuisines that are critical to the cultural integrity, identity, and economic vitality of
12 San Francisco. While electric cooking technology is widely and increasingly available, the
13 Board of Supervisors finds that the potential for deleterious impacts to restaurant enterprises
14 is sufficiently present, particularly in light of the severe economic disruption posed by the 2020
15 COVID-19 pandemic, that an additional transition period and process for seeking an exception
16 for such enterprises that may be included in a new construction project is prudent,
17 appropriate, and necessary for the public welfare.

18 (d) The Board of Supervisors hereby finds that building electrification will
19 necessitate a significant transition in construction design, technology and workforce practices,
20 and that implementation of All-Electric Building standards may present opportunities for the
21 adoption of revised green building standards, and that such opportunities should be
22 considered concurrently with the implementation of All-Electric Building standards.

23
24 Section 3. The Building Code is hereby amended by revising Sections 106A and 202,
25 to read as follows:

1 **SECTION 106A – PERMITS**

2 * * * *

3 **106A.1.16.3 Inspections.** Inspections by the Electrical Division are required for EV
4 Charging Station installations, and for any alteration or modification of the electrical system on
5 the property, including the installation of EVSE.

6 **106A.1.17 Mixed-Fuel Buildings.** *The Building Official shall not issue permits for*
7 *construction of any new Mixed-Fuel Buildings that submitted ~~an~~their initial application on or after*
8 *January June 1, 2021. Permits for new construction that submit ~~their~~ initial applications on or after*
9 *that date may only be obtained for All-Electric Buildings or Projects. For purposes of this*
10 *subsection, the initial application shall be the first site or building permit application associated*
11 *with the project.*

12 **EXCEPTIONS:** *The Building Official may issue a permit for construction of a new Mixed-Fuel*
13 *Building in the following circumstances, and provided that the building shall be Electric-Ready as*
14 *specified in the Design Guidelines for Electric-Ready Buildings published by the Department*
15 *of Building Inspection:*

16 *(1) Upon the Building Official’s finding that constructing an All-Electric Building or Project is*
17 *physically or technically infeasible and that a modification pursuant to section 104A.2.7 is warranted.*
18 *Financial considerations shall not be a sufficient basis to determine physical or technical*
19 *infeasibility. Modifications from this section 106A.1.17 shall only be issued under this exception*
20 *where the Building Official finds: sufficient evidence was submitted to substantiate the infeasibility of*
21 *an All-Electric Building or Project design; the installation of natural gas piping systems, fixtures*
22 *and/or infrastructure is strictly limited to the system and area of the building for which All-Electric*
23 *Building or Project design is infeasible; ~~the area or service within the project where gas piping~~*
24 *systems, fixtures and/or infrastructure are installed is as Electric-Ready as feasibly possible*
25 *considering other provisions of the Building and Electrical Codes; and that the project’s modified*

1 design provides equivalent health, safety and fire-protection to All-Electric Building or Project design;
2 or

3 (2) The Building Official may issue a permit for a new Mixed Fuel Building that includes an
4 area specifically designated for occupancy by a commercial food service establishment (A-2
5 Occupancy) that is a Mixed-Fuel Building solely because it provides gas piping systems, fixtures and/or
6 infrastructure exclusively for cooking equipment within the designated commercial food service area
7 where the initial application was submitted prior to January 1, 2022.

8 (i) For initial applications submitted on or after this date, the Building Official
9 may issue a permit for such a new Mixed-Fuel Building—that is a Mixed-Fuel Building solely
10 because it provides gas piping systems, fixtures and/or infrastructure exclusively for cooking
11 equipment within the designated commercial food service area—upon finding that the
12 applicant has submitted sufficient evidence that such gas systems are necessary for the
13 specific commercial food service establishment that will operate the food service area.
14 Applicants may appeal determinations made by the Building Official to the Board of
15 Examiners, pursuant to section 105A.1.

16 **REPORTING:** No later than July 15, 20222024 and annually thereafter until 2025, the
17 Building Official shall provide to the Department of Environment a report listing the status of all
18 permits granted or in process to construct a new Mixed-Fuel Building pursuant to the above
19 exceptions. The reports shall be cumulative and shall include a brief description of the
20 circumstances for which the applicant seeks or has been granted an exception.

21 **106A.1.17.1 Conversion to Mixed-Fuel Buildings.** The Building Official shall not issue
22 permits that would convert an All-Electric Building or Project into a Mixed-Fuel Building where the
23 initial application was submitted after ~~January~~June 1, 2021.

24 **106A.1.17.2 Municipal New Construction** ~~or Major Renovation Projects.~~ The provisions in
25 section 106A.1.17 do not apply to Municipal New Construction ~~or Major Renovation Projects~~ as

1 defined by Chapter 7 of the Environment Code that are subject to Section 706 of the Environment
2 Code.

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6 **SECTION 202 – DEFINITIONS**

7 Add these definitions as follows:

8 **ALL-ELECTRIC BUILDING OR PROJECT.** A building or project that uses a permanent
9 supply of electricity as the source of energy for all space conditioning (including heating and cooling),
10 water heating (including pools and spas), cooking appliances, and clothes drying appliances. An All-
11 Electric Building or Project may not install natural gas or propane piping systems, fixtures or
12 infrastructure for those purposes in or in connection with the building, structure, or within property
13 lines of the premises, extending from the point of delivery at the gas meter.

14 * * * *

15 **ELECTRIC-READY.** A building, project, or portion thereof that contains electrical systems
16 and designs that provide capacity for a future retrofit of a Mixed-Fuel Building to an All-Electric
17 Building. Electric-Ready includes sufficient space, drainage, electrical conductors or raceways, bus
18 bar capacity, and overcurrent protective devices to provide capacity for a future retrofit to an All-
19 Electric Building as specified in the Design Guidelines for Electric-Ready Buildings published
20 by the Department of Building Inspection.

21 * * * *

22 **MIXED-FUEL BUILDING.** A building that uses natural gas or propane as fuel for space
23 heating or cooling, exterior heating, decorative uses and lighting, water heating (including pools
24 and spas), cooking appliances or clothes drying appliances, onsite generation of electricity (except
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1 where primarily fueled by onsite digestion of organic material), or contains fixtures, piping systems, or
2 infrastructure for natural gas or propane equipment for such uses.

3
4 Section 4. The Environment Code is hereby amended by adding Section 909, to
5 read as follows:

6 **SEC. 909. IMPLEMENTATION OF ALL-ELECTRIC BUILDING STANDARD.**

7 (a) The Department of Environment (“Department”) shall coordinate with the
8 Department of Building Inspection in implementation of the All-Electric building requirement in
9 Section 106A.1.17 of the Building Code, and shall provide technical assistance to support San
10 Francisco residents, workers, and businesses through the transition to building electrification.

11 (b) The Department shall hold at least one public meeting annually to discuss the
12 annual report from the Department of Building Inspection detailing the status of applications
13 for permits to construct new Mixed-Fuel Buildings pursuant to an exception to Building Code
14 Section 106A.1.17.

15 (c) Concurrent with implementation of the All-Electric building requirement, the San
16 Francisco Public Utilities Commission will evaluate opportunities for the expansion of non-
17 potable onsite water treatment systems, graywater heat recovery systems, and solar thermal
18 water heating, and shall present findings and recommendations to the Board of Supervisors
19 by no later than March 1, 2021

20
21 Section 5. Preexisting Rights Unaffected. Nothing in this Ordinance is intended to
22 impair or limit any contract right that exists as of the Effective Date of this Ordinance. In
23 connection with the application of this Ordinance as it relates to development agreements or
24 similar contracts, or approved development plans administered by the Office of Community
25 Investment and Infrastructure, the Department of Building Inspection shall consult with the

1 City Attorney to determine whether the denial of a permit or approval will violate the terms of
2 contracts that the City entered into before the Effective Date of this Ordinance.

3
4 Section 64. Effective Date. This ordinance shall become effective 30 days after
5 enactment. Enactment occurs when the Mayor signs the ordinance, the Mayor returns the
6 ordinance unsigned or does not sign the ordinance within ten days of receiving it, or the Board
7 of Supervisors overrides the Mayor’s veto of the ordinance.

8
9 Section 75. Scope of Ordinance. In enacting this ordinance, the Board of Supervisors
10 intends to amend only those words, phrases, paragraphs, subsections, sections, articles,
11 numbers, punctuation marks, charts, diagrams, or any other constituent parts of the Municipal
12 Code that are explicitly shown in this ordinance as additions, deletions, Board amendment
13 additions, and Board amendment deletions in accordance with the “Note” that appears under
14 the official title of the ordinance.

15
16 Section 86. Severability. If any section, subsection, sentence, clause, or phrase of this
17 ordinance is, for any reason, held to be invalid, such decision shall not affect the validity of the
18 remaining portions of this ordinance. The Board of Supervisors hereby declares that it would
19 have passed this ordinance, and each section, subsection, sentence, clause, or phrase of this
20 Ordinance, irrespective of the fact that any one or more sections, subsections, sentences,
21 clauses, or phrases be declared invalid.

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23 Section 97. Directions to Clerk. Upon final passage of this ordinance, the Clerk of the
24 Board of Supervisors is hereby directed to transmit this ordinance to the California Building
25 Standards Commission pursuant to the applicable provisions of State law.

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APPROVED AS TO FORM:
DENNIS J. HERRERA, City Attorney

By: /s/ Robb W. Kapla
ROBB W. KAPLA
Deputy City Attorney

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