

# Supplementary material

**Table S1.** Studies conducted on firewood use in Mexico and their primary assumptions and source of information.

Authors	Objective	Energy Consumption	Population Data Utilized for Firewood Users	Regions or Population Centers where BCS Utilized
[1]	Identifying on a national scale the segments of the residential sector where firewood is utilized; the availability of the resource in the year 2000; and provision of an estimate of net CO <sub>2</sub> emissions resulting from non-renewable use of firewood.	Based on data from both case studies and academic studies reported in [2–4], a per capita range of 1.5 to 3.0 kg per day of firewood was obtained, depending on the climate region	Based on Mexican Census of Population and Housing (CPH) data for the years 1990–2000, an estimated number of exclusive users was obtained; and on the basis of local interviews reported in an academic study of reference [4], an estimate of mixed users was determined.	Using a 1995 geo-referenced map of Mexican municipalities, WISDOM methodology was employed (which utilized data from the National Forest Survey of 2000 and the INEGI vegetation map) to identify 2395 municipalities.
[5]	Analysis and projection of type of firewood consumption in Mexico between 2010 and 2030 at the municipal level and examination of regional differences, with identification of areas of highest consumption.	Based on data adapted from [1], it was determined that per capita firewood consumption ranged from 1.5 to 3.0 kg/day, depending on climate region.	No. of households utilizing firewood in 2010 was estimated on the basis of CPH data from 1990 and 2000. Projections for the year 2030 were obtained utilizing a BAU scenario, as well as the projection of population growth in the 2012 CONAPO.	Based on estimate of exclusive users and mixed users reported by [1], 2500 municipalities were identified.

Source: Own elaboration.

**Table S2.** Studies that have analyzed firewood use during a particular year and their primary assumptions and sources of information.

Authors	Primary Assumptions for Calculated No. of Persons Using Firewood	Reported Consumption of Firewood	Geographical Breakdown
[6]	An estimated 6 million households utilized firewood in a traditional manner during the year 2003. An estimated one-fourth of the Mexican population cooks with firewood on three-stone fires. Estimated consumption using these inefficient devices during 2003 of 257 PJ.	Approximately 43 GJ per conventional device	National
[7]	An estimated 25 million persons (one-fourth of Mexican households). Approximately 80% of Mexico's rural population depends on firewood for cooking and boiling water.	Consumption of firewood using three-stone fires: 4.2 tDM per device per year. Firewood productivity: 2.9 tDM/ha/year	National
[8]	In the reference year, there were 4.5 million users of three-stone fires. Initial renewability of firewood use is 80% (20% of users use non-renewable firewood).		National
[9]	In the residential sector, firewood used on three-stone fires. National consumption of firewood in residential sector 259.3 PJ, based on 2010 National Energy Balance [10].	Data from Masera et al. [11] case study, which reported specific consumption using traditional firewood stoves of 2.17 kg DM per day.	National
[12]	Users consume firewood utilizing three-stone fires. Data reported by Serrano-Medrano et al. [5]. For the year 2010, no. of dwellings utilizing firewood was estimated on the basis of CPH data from 1990 and 2000.	Data reported in Reference [5]: per capita consumption of firewood ranged from 1.5 to 3.0 kg per day.	Data reported in Reference [5], identified 2500 municipalities.
[13]	It was estimated that, during the reference year, there were a total of 4.6 million three-stone fires in existence [9,14]. Estimated firewood consumption of 259 PJ in the residential sector.	Data reported by García et al. [9] and by the National Commission for the Promotion of Housing (2006) [15]: average consumption of	National

firewood using  
inefficient stoves of  
56.9 GJ/year per stove.

Source: Own elaboration.

**Table S3.** Indicators used to determine socioeconomic stratification of dwellings, in accordance with INEGI classification based on the 2010 Census of Population and Housing Units.

No. of indicator	Description
Proportion of population	
1	With right to receive medical treatment in any public or private institution, except for public insurance (Seguro Popular).
2	With right to receive healthcare services.
3	Between the ages of 3 and 14 and attending school.
4	Between the ages of 15 and 24 and attending school.
5	Between the ages of 8 and 14, who know how to read and write.
6	15 years of age or older, who passed at least one school year other than pre-school.
7	15 years of age or older, who completed no grade higher than sixth grade of primary education.
8	15 years of age or older, who completed no higher than the third year of secondary education.
9	Average number of years of schooling
10	12 years or older who worked; who had a job but did not work; or who were seeking work during the reference week.
11	Girls and women aged 12 or older who worked; who had a job but did not work; or who were seeking work during the reference week.
12	Occupancy rate
13	Unoccupied by persons between the ages of 12 and 17 who are included among the working population.
14	Occupied by persons aged 18 and above who are included among the working population.
Proportion of occupied private housing units	
15	In which there is no crowding.
16	That have a solid floor made of cement, tile, or other material.
17	Having between 2 and 25 bedrooms.
18	Having more than one room.
19	Having between 3 and 25 rooms.
20	With electrical lighting.
21	With available running water within the housing unit, or outside the housing unit, but on their land.
22	That have a lavatory, toilet, latrine, or hole in the ground.
23	With drainage connected to a public network, septic tank, ravine, crevice, river, lake, or sea.
24	With drainage connected to a public network.
25	With a flushing toilet.
26	With electrical lighting, running water inside the housing unit, or outside the housing unit but on the land, as well as drainage.

27	With no crowding on its street block.
Proportion of private housing units possessing:	
28	Television
29	Automobile or pickup truck
30	Cell phone
31	Cell phone and landline phone
32	Radio, television, refrigerator, and washing machine
33	Radio and television
34	All household goods

Source: INEGI [16].

## References

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