

The IFI Dataset of Default Grid Factors v.2.0

The IFI (Interim) Dataset of Grid Factors (Version 1.0)' was released in July 2016 on the basis of the methodological approaches to GHG Accounting for Emissions from grid-connected RE and EE projects, that were announced by the IFIs at the 21st Conference of the Parties in Paris in December 2015.

The IFI Data set (Version 2.0)' will be used by IFIs as the default basis of their GHG emissions accounting.

The IFI Technical Working Group on GHG Accounting committed to refine its approaches on an ongoing basis and will periodically publish an updated version of the harmonized dataset reflecting methodological advances, evolving knowledge, good practice and quality of data sources.

Jul-19

Country / Territory / Island	Combined Margin Grid Emission Factor, gCO2/kWh	
	Firm Energy (e.g., Hydro, Geothermal, Energy Efficiency)	Intermittent Energy (e.g., Sola, Wind, Tidal)
Afghanistan	206	300
Albania	43	16
Algeria	429	498
American Samoa (U.S.)	544	699
Andorra	43	16
Angola	426	613
Anguilla (U.K.)	493	680
Antigua and Barbuda	527	693
Argentina	350	497
Armenia	247	339
Aruba	450	664
Australia	412	646
Austria	134	173
Azerbaijan	411	488
Azores (Portugal)	433	658
Bahamas	462	669
Bahrain	475	662
Bangladesh	502	565
Barbados	502	684
Belarus	336	390
Belgium	165	227
Belize	304	461
Benin	624	705
Bermuda (U.K.)	374	636
Bhutan	43	16
Bolivia	409	529
Bosnia and Herzegovina	864	1231
Botswana	1179	1480
Brazil	201	296
British Virgin Islands (U.K.)	456	667
Brunei	379	536
Bulgaria	547	813
Burkina Faso	636	734
Burundi	316	465
Cambodia	580	820
Cameroon	275	397
Canada	231	286
Canary Islands (Spain)	474	673
Cape Verde	544	699
Cayman Islands	401	646
Central African Republic	224	332
Chad	655	741
Channel Islands	422	654
Chile	339	532
China (P.R. China & Hong Kong)	494	775
Colombia	231	309
Comoros	647	738
Congo, Democratic Republic of	43	16
Congo, Republic of	342	472
Cook Islands	326	519
Costa Rica	145	215
Côte d'Ivoire	436	530
Croatia	237	327
Cuba	598	755
Curaçao (Netherlands)	466	645
Cyprus	441	630
Czech Republic	501	794
Denmark	235	384
Djibouti	639	735
Dominica	551	702
Dominican Republic	460	566
Ecuador	404	586
Egypt	411	483

El Salvador	344	491
Equatorial Guinea	531	694
Eritrea	739	845
Estonia	733	1049
Eswatini	43	16
Ethiopia	44	16
Falkland Islands (U.K.)	399	645
Faroe Islands (Denmark)	362	631
Fiji	428	631
Finland	162	241
France	99	124
French Guiana	335	522
French Polynesia	443	661
Gabon	439	634
Gambia	643	736
Georgia	195	278
Germany	366	596
Ghana	360	509
Gibraltar (U.K.)	398	646
Greece	449	611
Greenland	367	633
Grenada	557	704
Guadeloupe (France)	454	666
Guam	447	663
Guatemala	402	564
Guinea	484	677
Guinea-Bissau	656	741
Guyana	607	723
Haiti	703	829
Honduras	473	654
Hong Kong (China)	396	576
Hungary	248	318
Iceland	43	16
India	673	878
Indonesia	637	677
Iran	470	570
Iraq	934	1159
Ireland	226	328
Isle of Man	303	391
Israel	303	391
Italy	252	359
Jamaica	543	672
Japan	381	456
Jordan	516	607
Kazakhstan	653	817
Kenya	317	478
Kiribati	602	721
Korea (North), Dem. People's Rep. of	407	622
Korea (South), Republic of	291	442
Kosovo	832	1005
Kuwait	407	578
Kyrgyzstan	156	218
Laos	366	549
Latvia	177	245
Lebanon	552	697
Lesotho	43	16
Liberia	407	574
Libya	538	632
Liechtenstein	97	135
Lithuania	215	302
Luxembourg	191	301
Macao (China)	239	370
Macedonia, North	691	921
Madagascar	377	538
Madeira (Portugal)	474	673
Malawi	43	16
Malaysia	470	551
Maldives	553	703
Mali	550	702
Malta	456	652
Marshall Islands	610	724

Martinique (France)	468	671
Mauritania	512	687
Mauritius	552	651
Mayotte (France)	545	700
Mexico	320	450
Micronesia	610	724
Moldova	436	503
Monaco	43	16
Mongolia	1049	1272
Montenegro	544	830
Montserrat	542	699
Morocco	551	612
Mozambique	128	172
Myanmar	367	518
Namibia	134	195
Nauru	568	708
Nepal	43	16
Netherlands	221	280
Netherlands Antilles	485	677
New Caledonia (France)	417	652
New Zealand	160	235
Nicaragua	429	606
Niger	749	761
Nigeria	395	477
Niue	355	529
Northern Mariana Islands (U.S.)	486	678
Norway	61	55
Oman	381	494
Pakistan	453	594
Palau	530	694
Panama	361	551
Papua New Guinea	468	671
Paraguay	43	16
Peru	301	424
Philippines	489	543
Poland	568	765
Portugal	263	366
Puerto Rico (U.S.)	390	548
Qatar	276	424
Reunion (France)	430	658
Romania	332	455
Russian Federation	352	461
Rwanda	461	643
Saint Helena (U.K.)	310	488
Saint Kitts and Nevis	502	684
Saint Lucia	561	706
Saint Martin (France)	487	678
Saint Pierre and Miquelon (France)	432	658
Saint Vincent and Grenadines	521	691
Samoa	459	667
San Marino	43	16
Sao Tomé & Principe	530	694
Saudi Arabia	475	650
Senegal	568	674
Serbia	690	938
Seychelles	516	689
Sierra Leone	455	641
Singapore	249	366
Sint Martin (Netherlands)	469	671
Slovak Republic	201	285
Slovenia	329	536
Solomon Islands	631	732
Somalia	658	742
South Africa	831	1008
South Sudan	743	844
Spain	236	342
Sri Lanka	468	615
Sudan	352	530
Suriname	485	741
Sweden	64	60
Switzerland	55	39
Syrian Arab Republic	525	609

Taipei (Chinese)	365	482
Tajikistan	63	57
Tanzania	477	620
Thailand	390	428
Timor-Leste	630	732
Togo	341	527
Tonga	583	714
Trinidad and Tobago	424	561
Tunisia	404	470
Turkey	320	360
Turkmenistan	691	850
Turks and Caicos Islands (U.K.)	468	671
Tuvalu	528	693
Uqanda	140	201
Ukraine	525	738
United Arab Emirates	353	522
United Kingdom	252	358
United States	285	418
Uruguay	158	237
Uzbekistan	506	610
Vanatu	371	634
Venezuela	345	534
Vietnam	356	385
Virqin Islands (U.S.)	375	560
West Bank and Gaza	625	730
Yemen	636	724
Zambia	99	129
Zanzibar (Tanzania)	648	739
Zimbabwe	883	1302
Memo: EU 28	266	399

Note: For methodology and sources used to derive the default emission factors, please refer to the document " GHG Accounting for Grid Connected Renewable Energy Projects" available [here](#).