Bruce Mast <bruce@builditgreen.org>

follow-up to today's conversation

Moosbrugger, Earl <Earl.Moosbrugger@ladwp.com> Wed, Dec 10, 2014 at 12:53 PM
To: "bruce@builditgreen.org" <bruce@builditgreen.org>
Cc: "Kwan, Delon" <Delon.Kwan@ladwp.com>

Hello Bruce,

Here are the parameters that you had requested (see highlighted section in thread below):

1. Energy Intensity (EI) for DWP System
    a. 611 kWh/AF
        i. kWh – kilowatt hour
        ii. AF = acre foot

    This value is what DWP currently reports to the California Energy Commission (CEC) for greenhouse gas (ghg) credit.

    This EI Includes:

    b. Los Angeles Aqueduct Filtration Plant treatment energy
    c. Distribution energy
    d. Weighted wastewater treatment energy
    e. Does not include: end-user, groundwater, or recycled water energy.
2. EI for Imported Water

    All imported water comes from Metropolitan Water District. There are three sources and corresponding EI values.

    a. State Water Project– West Branch (SWP – WB)
        i. EI = 2,580 kWh/AF
    b. SWP – East Branch (SWP – EB)
        i. EI = 3,236 kWh/AF
    c. Colorado River Aqueduct (CRA)

i. EI = 2,000 kWh/AF

Source: Summed up from Exhibit 12H, p. 261, of the 2010 Urban Water Management Program (UWMP)

It is expected that some of the values above will change in the coming years, but these values are reliable for estimating purposes.

Please note that DWP does not include imported water ghg savings in its reporting to the CEC for ghg credit. DWP only includes ghg generated from DWP-supplied power (EI = 611 kWh/AF).

3. Fraction of Water that is Imported

The fraction of total imported supply varies greatly depending on hydrology of the watersheds of the various sources. In general, in years of plentiful precipitation in the Eastern Sierra Nevada Mountains, the percentage of imported (purchased) water decreases. I will provide actual percentage values of imported MWD water from past years.

a. 02/03: 57%

b. 03/04: 49%

c. 04/05: 56%

d. 05/06: 32%

e. 06/07: 31%

f. 07/08: 70%

g. 08/09: 66%

h. 09/10: 61%

i. 10/11: 37%

j. 11/12: 24%

k. 12/13: 65%

l. 13/14: 77%

It is worth noting that the Mayor's Executive Directive 5 includes a goal to reduce imported water by 50% by 2023/24 from 2012/13 levels.

The percentage breakdown for each of the three sources of imported water to the total amount of imported water also greatly varies, but generally averages over time to about a 70/15/15 split for SWP – WB, SWP – EB, and CRA, respectively. The breakdown below is calculated from Exhibit 12L, p. 267, of the 2010 UWMP:

m. SWP – WB: 73%

n. SWP – EB: 15%

o. CRA: 12%

4. GHG Emissions Factors for DWP System

Below are actual values. Most are in calendar years, but I also included the fiscal year values, as reported to the CEC.

a. Calendar Year Values

i. 02: 1.388 lbs/kWh

ii. 03: 1.393 lbs/kWh

iii. 04: 1.380 lbs/kWh

iv. 05: 1.319 lbs/kWh

v. 06: 1.279 lbs/kWh

vi. 07: 1.245 lbs/kWh

vii. 08: 1.217 lbs/kWh

viii. 09: 1.152 lbs/kWh

ix. 10: 1.104 lbs/kWh

x. 11: 1.156 lbs/kWh

xi. 12: 1.094 lbs/kWh

b. Fiscal Year Values, as recently reported to the CEC

i. 12/13: 1.115 lbs/kWh

ii. 13/14: 1.135 lbs/kWh

The DWP Power System's Integrated Resource Plan includes detailed information about the future conversion of the energy portfolio to more clean, renewable energy sources. It is expected that if the anticipated projects associated with clean energy are completed on time, the ghg emission values might drop significantly beginning in year 2016.

If you have any further questions, please let me know.

Thanks,

Earl

From: Bruce Mast [mailto:bruce@builditgreen.org]
Sent: Tuesday, December 02, 2014 4:56 PM
To: Tranby, Craig
Cc: David Myers
Subject: follow-up to today's conversation

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Bruce Mast <bruce@builditgreen.org>

follow-up to today's conversation

Moosbrugger, Earl <Earl.Moosbrugger@ladwp.com> Wed, Dec 10, 2014 at 3:18 PM
To: "bruce@builditgreen.org" <bruce@builditgreen.org>
Cc: "Kwan, Delon" <Delon.Kwan@ladwp.com>

Bruce,

I would like to correct an error in the information provided below. See value below of 13/14: 1.135 lbs/kWh.

This value is approximate and is the calendar year value for 2013.

I have not yet obtained the 13/14 fiscal year value.

Thanks,

Earl

From: Moosbrugger, Earl
Sent: Wednesday, December 10, 2014 12:53 PM
To: 'bruce@builditgreen.org'
Cc: Kwan, Delon
Subject: FW: follow-up to today's conversation

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Craig,

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Best,