2018.06.07

In the matter of the California Air Resources SB 350 Greenhouse Gas Scoping Plan Process.

Plan, Do, Check

Modeling versus Material Resource Planning. How fast can you Plan, Do, Check when modeling?



Material Resource Planning (MRP) allows the above processes to be done weekly with less human resource requirements.

Delight your customer

Get your work done early: Plan, Do, Check weekly.

Will dated information delight your customer?

Please view the video contained in this California Energy Commission (CEC) docketed document, <u>https://efiling.energy.ca.gov/GetDocument.aspx?tn=211573</u>. You may have to download and view in Adobe Acrobat and have Flash installed to view the video.

Accurate Business Rules

Perhaps someone did not check for blank cells before submitting the PATHWAYS spreadsheet to CARB?

Please ask about the empty spreadsheet cells that are referenced in formulas in the E3 PATHWAYS model.

Examples of use of blank cells is "Uncertainty" calculations located on the Charts Sheet in the PATHWAYS workbook.

Cell <u>K67</u>, <u>K70</u>, <u>K73</u>, <u>K76</u> and <u>K79</u> reference blank cells therefore show 0 (zero). Use the hyperlinks for the cells listed here or open the spreadsheet to view the cell formula. In this case the formula is merely a cell address, the addressed cell is blank rendering a 0 (zero) result.

Another reference to a blanks cell is in the formula <u>AH31-BG151</u> in cell <u>AH32</u> of hidden <u>Total GHGs by sector & SP</u> <u>sens Sheet</u>. <u>BG151</u> is a blank cell.

Other areas to ask about is the lack of the use of names. This link will explain the value of naming in constructing formulas, <u>http://office.microsoft.com/en-us/excel-help/define-and-use-names-in-formulas-HA010147120.aspx</u>.

In Charts Sheet cell R47 shows the lack on naming and the reference to a blank cell R46.

Here is a link <u>http://wwmpd.com/spreadsheets/pathways/04369/</u> to an analysis of the of the E3 <u>PATHWAYS</u> model spreadsheet listed in CARB's <u>Draft Staff Report: Senate Bill 350 Integrated Resource Planning Electricity Sector</u> <u>Greenhouse Gas Planning Targets</u> as found in this CARB meeting notice <u>SB350 Integrated Resources Plans</u>.

Material Resource Planning

All of these apparent errors don't exist in modern Material Resource Planning systems that use relational databases instead of spreadsheets. Business rules are more easily checked and blank fields can be automatically reported.

Imagination, don't constrain the range of opportunities

Imagination is a wonderful thing, make choices that foster imagination. Please view this video clip <u>https://youtu.be/TtdZAEPu7Mw?t=195</u> on imagination and opportunities.

It appears that CPUC President Michael Picker wants to see a plan. <u>https://twitter.com/Sacbiz/status/997129652723486721</u>

Water Two Horses

Here is a example where two desires are satisfied for the price of one. SB 350 Greenhouse Gas (GHG) reduction Scoping and AB 1110 Power Source Disclosure. The information required to forecast GHG in SB 350 can be derived from the data used to manage AB 1110 Power Source Disclosure.

The data structure I am suggesting can be supported by your favorite database engine. The system I use is fast and can be scaled to most any task for either proof of concept or production operations. You may already own the same system.

See <u>https://efiling.energy.ca.gov/GetDocument.aspx?tn=222666</u> for a example of a data structure from which product identification and bills of material may be constructed to form the product structure to support GHG information, Material Resource Planning (MRP) and forecasting.

California law <u>ARTICLE 14</u>. Disclosure of Sources of Electrical Generation 398.1-398.5 under <u>398.1</u> and <u>398.4</u> now requires consistent information about associated emissions of greenhouse gases.

Please let me know if you would like to learn more about how MRP can provide much better actionable information and go to <u>http://wwmpd.com</u> and inspire your imagination through visualization of energy use.

Please see that California uses the best systems and makes use of redundant methods, with the design safety of "Manned Flight Awareness" and "Belt and Suspenders" approach to planning and meeting California's GHG reduction goals.

Would you fly in a aircraft that was modeled by a model such as E3 PATHWAYS?

Ever onward,

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