Statewide Energy Efficiency Collaborative

Supporting California local governments

ClearPath 101 – Follow-Up
Best Practices and Tool Special Features

September 26th, 2016

Mike Steinhoff – ICLEI-USA

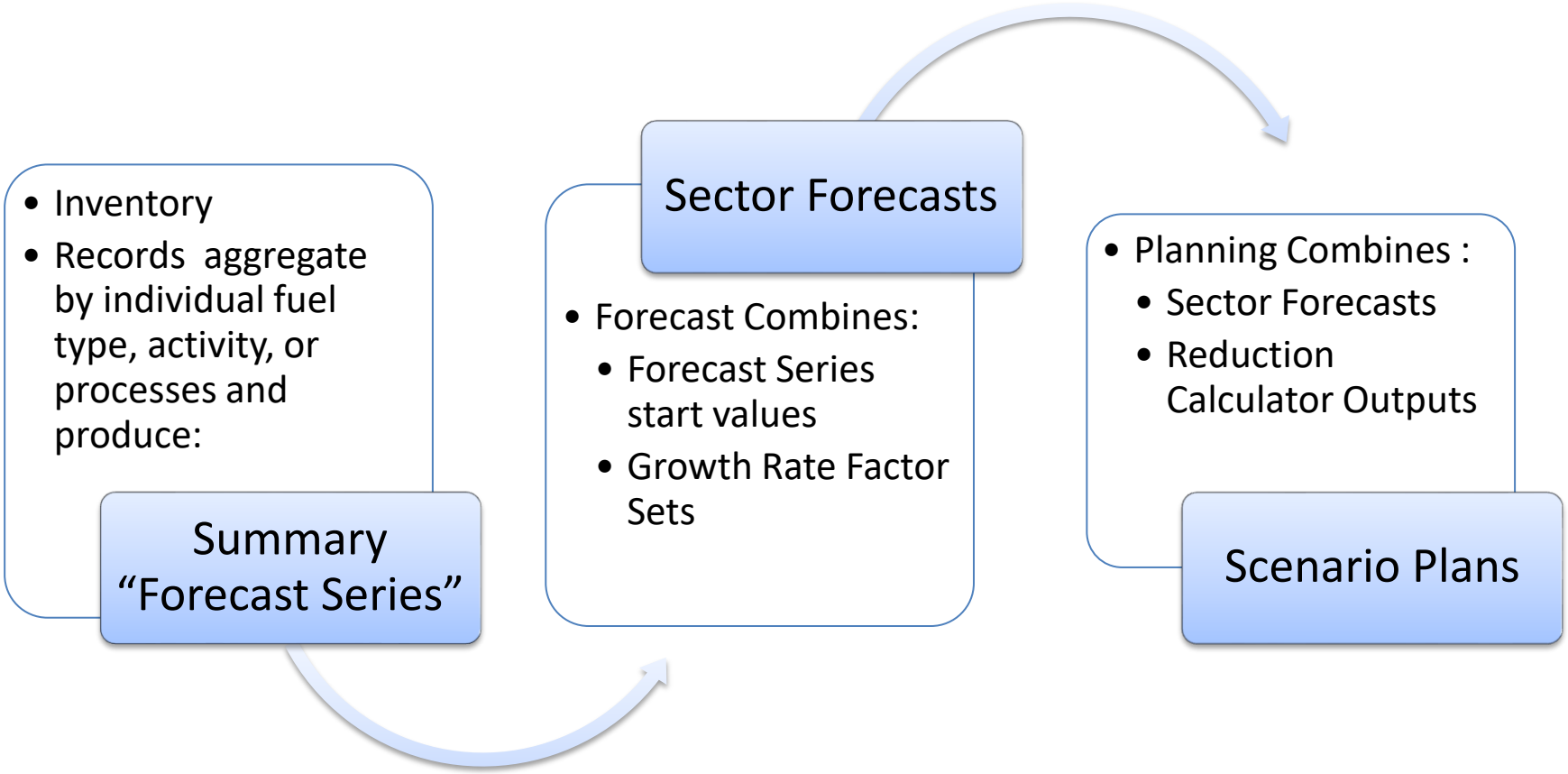
About SEEC

The Statewide Energy Efficiency Collaborative (SEEC) is an alliance between the Local Government Commission, ICLEI Local Governments for Sustainability, the Institute for Local Government and California's four investor-owned utilities. This program is funded by California utility customers and administered by Pacific Gas and Electric Company®, San Diego Gas & Electric Company®, Southern California Edison® and Southern California Gas Company under the auspices of the California Public Utilities Commission.

Agenda

- Brief Review of ClearPath functions
- Inventory Features for managing data and managing change better
- Best Practices in Forecasting and Planning
- Q&A

ClearPath Workflow



Inventory Management Tool – Dealing with Change

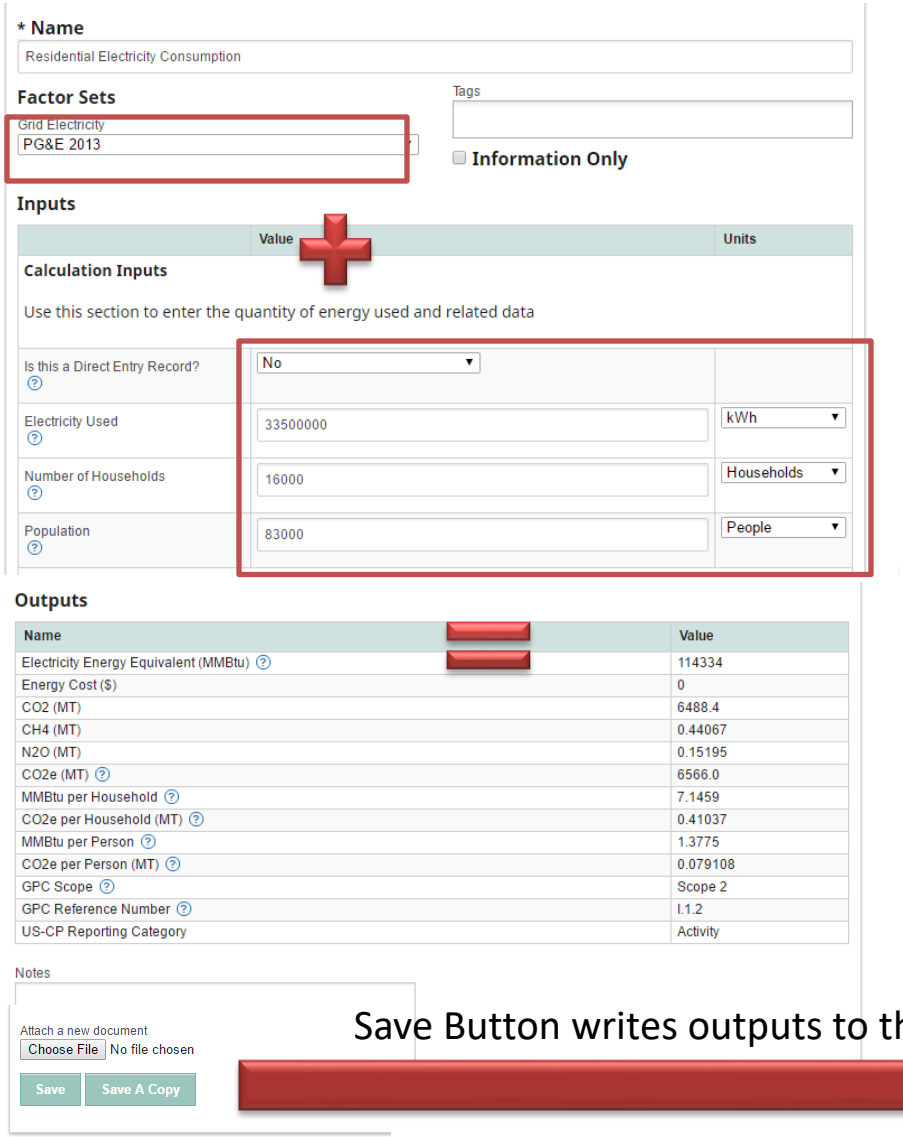
- ClearPath – Your data is safe and sound on the cloud!
  - Ability to revisit, review, and revise at any time
  - Build upon past progress – If you inherited the GHG accountant role
  - Leave a legacy – if you are pioneering this work for the first time in your community

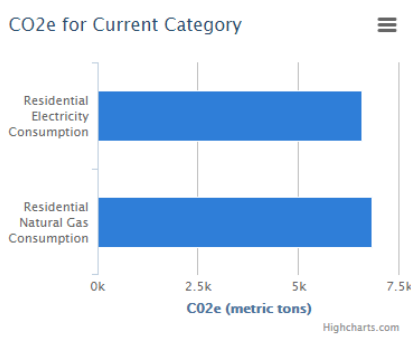
ClearPath – Under the Hood

Linked Data from Factor Sets or GWPs

Record Inputs

Outputs calculated on-the-fly as you add data.



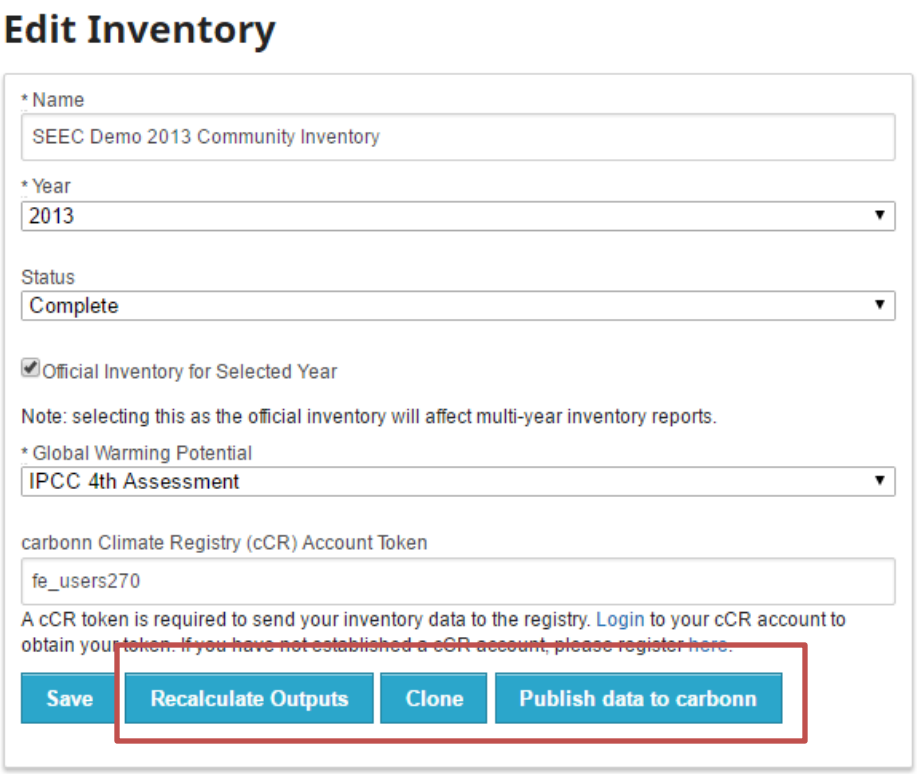


Charts and reports are read from the database

Save Button writes outputs to the database

Inventory Management Tool – Features for Managing Change

- What to do when data changes
- One record impacted or many?



Inventory Management Tool – Data Management

- Use Case: Our Activity Data Provider has developed a new method that is different from what was used in past inventories.

- We'd like to maintain a record of the original calculations that match published reports for reference.

- Clone an Inventory and Update Records

Inventory Management Tool – Data Management

- Emissions Factors that change year-to-year, always a few years behind, sometimes 5 years behind.

- Best practice is to make use of the most recently available.

- What to do when new info becomes available?
  - A: Clone & Update Records

Inventory Management Tool – Data Management

Global warming potential (GWP) values relative to CO_2

Industrial designation or common name	Chemical formula	GWP values for 100-year time horizon		
		Second Assessment Report (SAR)	Fourth Assessment Report (AR4)	Fifth Assessment Report (AR5)
Carbon dioxide	CO_2	1	1	1
Methane	CH_4	21	25	28
Nitrous oxide	N_2O	310	298	265
Substances controlled by the Montreal Protocol				
CFC-11	CCl_3F	3,800	4,750	4,660
CFC-12	CCl_2F_2	8,100	10,900	10,200

… More in the future

- As these numbers continue to evolve, you will be able to keep pace with the science
- Explore the impact of shifting GWP sets with the “Recalculate Outputs” button

WRI – GHG Protocol Global Warming Potential Values
http://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29.pdf

An Inventory Management Tool – Tracking Progress

- Indicators are great for tracking progress

- How you construct records impacts how well you can take advantage of the indicators feature

Outputs

Name	Value
Electricity Energy Equivalent (MMBtu)	114334
Energy Cost ($)	0
CO2 (MT)	6488.4
CH4 (MT)	0.44067
N2O (MT)	0.15195
CO2e (MT)	6566.0
MMBtu per Household	7.1459
CO2e per Household (MT)	0.41037
MMBtu per Person	1.3775
CO2e per Person (MT)	0.079108
GPC Scope	Scope 2
GPC Reference Number	I.1.2
US-CP Reporting Category	Activity

An Inventory Management Tool – Tracking Progress

- How does ClearPath know which records to connect across years?

- A: Matched on two pieces of info
  - Record name
  - Tag

Inventory Management Tool – Data Management

- Bulk Data Entry
  - Community Accounting usually has a small number of records within a category
  - Government Operations **Buildings** and **Fleet** may have many records
  - Save time with the Bulk Entry Option

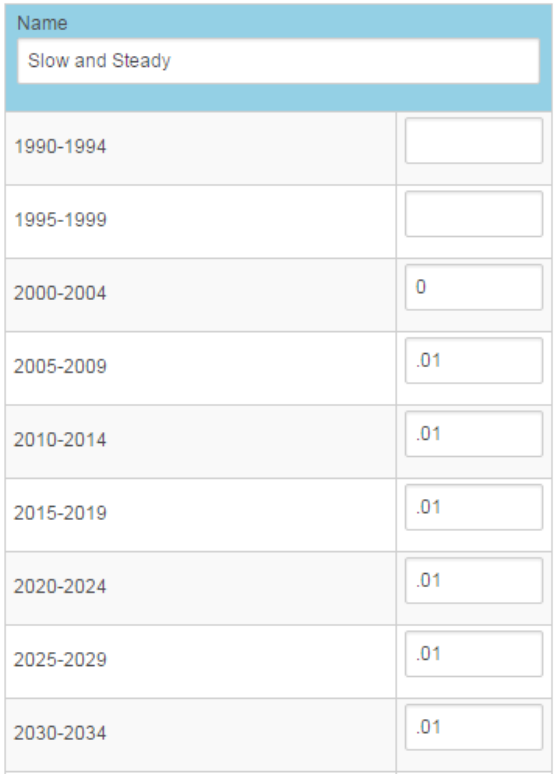
Forecasting – Anticipating Change

- Review:
  - Inventory data defines “Forecast Series”
  - Growth can be 1 factor (activity only) or 2 factor (activity and carbon intensity)

Inventory Output	Starting Value		Coefficients	Growth Rates
Electricity Energy Equivalent (MMBtu)	Quantity	507421	Growth Rate	High Growth Scenario
	CO2e	16146	Carbon Intensity Factor	RPS Scenario 1
Natural Gas - Energy Equivalent (MMBtu)	Quantity	1252050	Growth Rate	Slow N Steady
	CO2e	66554		

Forecasting – Anticipating Change

- Review:
  - Growth rates are flexible and can represent many different drivers as long as presented in compound annual growth terms
  - Forecast Helper calculator can create growth rates from raw numbers



Forecasting – Anticipating Change

- Testing multiple scenarios
  - Investigate many futures (+ or – 5%, 10%)
  - Once growth rates set up, run scenarios, export results and compare
  - Use Case: What's the impact of the RPS for my community?

Planning - Driving Change

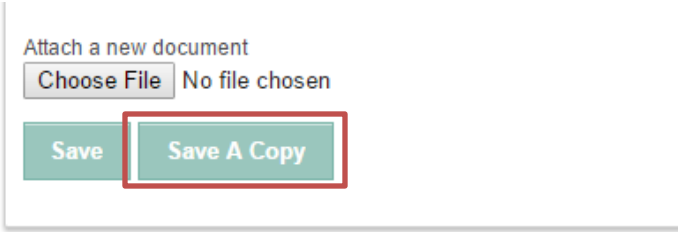
- Review Cumulative and Effective Useful Life (EUL) dynamics

- Example Action reduces 5 MT/Yr, lasts 5 Years
  - (Most EUL ~15-20 years)

	Implementation Activity Reductions	Activity Returned Post - Effective Useful Life	Net Change From BAU
2015	-5		-5
2016	-5		-10
2017	-5		-15
2018	-5		-20
2019	-5		-25
2020	-5	5	-25
2021	-5	5	-25
2022	-5	5	-25
2023	-5	5	-25
2024	-5	5	-25
2025		5	-20
2026		5	-15
2027		5	-10
2028		5	-5
2029		5	0

Planning – Driving Change

- Challenging to acknowledge the short life of many actions
- Prompt to design plans around the next, better version of the action.
- Use the “Save a Copy” button for the future version of the action
- Only update the parts that need to change
  - % savings,
  - square feet affected,



Other Best Practices

- Use Notes!
- Attach data source files!
- Utilize Office Hours!

Q&A