

November Cal TF Meeting



ANNETTE BEITEL
NOVEMBER 15, 2018

Meeting Agenda

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- Introductions
- Updates
 - Workpaper Workshop
 - Measure Submission & Approval
 - Stage 2 Issues
- Draft 2019 Business Plan
 - ACT: Cal TF feedback on 2019 Business Plan
- eTRM Demo
 - ACT Cal TF feedback & ideas for Phase 3 enhancements
- Low Income
 - ACT: Identify members for a low income subcommittee
- Stage 2 Issues
 - GHG
 - Water Energy Nexus
 - Fuel Switching

Updates

- Workpaper Workshop
- Measure Submission & Approval
- Stage 2 Issues

Draft 2019 Business Plan

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eTRM

Update and Phase 2 Demonstration



ROGER BAKER
NOVEMBER 15, 2018

eTRM new features

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- Phase 2 added a number of additional enhancements
 - Versioning
 - ✦ Measures
 - ✦ Shared Data
 - Data export functionality
 - ✦ Measure Reports
 - ✦ Measure Permutation Reports
 - ✦ Report subscriptions
 - Expanded system roles
 - ✦ Measure Manager – a non-administrator who can publish measures
 - ✦ Measure Reviewer – Similar to measure developer, but cannot edit measure directly

eTRM new features

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- But Wait, There's More!
 - Measure notifications
 - ✦ Allows users to be notified by measure developers
 - ✦ Opt in per measure/version
 - Application Programming Interface (API)
 - ✦ Enables machine-to-machine communication
 - ✦ Other systems can extract measure data directly from eTRM platform "behind the scenes"
 - Measure pruning via Exclusion tables
 - ✦ Allows trimming of unneeded measure permutations
 - Full measure download
 - ✦ All tables, equations, parameters
 - ✦ Single zip file is generated with all measure contents
 - Administrator mass email

Live Demo

eTRM Schedule

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- Testing and Acceptance, Phase 2
 - Through November 21
 - ✦ Final testing of all features in platform
 - Product hand-over early December
 - Training sessions January 2019
 - ✦ for IOUs, POUs
 - ✦ Modular sessions
 - General system navigation
 - Measure Entry
 - Reporting and API
 - ✦ Tailored sessions to be available for regulators

Future Enhancements

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- Over 3 dozen enhancement opportunities identified
- Some relatively easy, some complex
- Examples:
 - ❑ Automated workflow process
 - ❑ Incorporate hourly saving profiles for measure savings
 - ❑ Add “scenario analysis” capability (e.g., monte carlo simulation of input-output)
- List being circulated to CalTF for input/feedback
- Final list will be used to establish scope, budget and path for Phase 3 and beyond

Questions?

Low Income Savings Analysis

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JENNIFER BARNES, CAL TF STAFF
BRENDA GETTIG, SDG&E
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Background on Low Income Program



- Statewide Energy Savings Assistance (ESA) Program
 - Formerly known as Low Income Energy Efficiency (LIEE) Program
- Direct install measures, no cost to participant
- Eligibility for program based on income and feasibility
 - Feasibility based on on-site home assessment
- Impact evaluation conducted once each program cycle
- Not all measures result in energy savings
 - Example: furnaces and hot water heaters replace non-working equipment
- Low income savings measured from existing baseline, not from code

Measure Categories



- Weatherization
 - Caulking, weatherstripping, attic insulation, minor home repairs
- HVAC
 - Furnaces, room a/c, some central a/c, evap coolers
- Hot water measures
 - Hot water heaters, showerheads, faucet aerators, others
- Appliances
 - Washing machines, refrigerators
- Lighting
 - LED bulbs and fixtures
- Other
 - Smart strips, others

Source of Savings Estimates



- D.14-08-030: “The IOUs are to use the most current energy savings estimates as determined in the Final Report of the Load Impact Evaluation for the applicable program cycle, unless directed otherwise by the Commission. For measures not reflected in the Load Impact Evaluation, those energy savings can be derived from DEER, engineering calculations, etc. as appropriate.”

Impact Evaluation Methodology



- Billing analysis using monthly billing data
- Previous evaluations typically analyzed one year of installations
- Previous evaluations may or may not have included a comparison group
- Current cycle impact evaluation expanded to include multiple years and comparison group

Current Impact Evaluation Underway



- Phase 1 results used in latest filing (2018 Midcycle Filing)
 - Based on 2014 through 2016 installations
 - In general, results are lower than previous years as expected given the mix of the measures and population differences.
- Phase 2 results expected in Q1 2019
 - Phase 2 adds another year of data (2017 installations)
 - To be used in PY2021 application filing due June 2019
- Webinar to present results and solicit feedback to be held in Q1 2019
 - All interested parties are welcome to review results and provide feedback

Deemed Savings Directive



D.17-12-009:

- “...we have become increasingly aware that our continued reliance on billing analyses may have limitations. Recognizing these limitations, as well as similarities among measures in both the ESA program and mainstream direct install EE offerings, beginning in 2018, the ESA Program will utilize deemed savings values for all program measures, in alignment with mainstream EE program activity.”
- “...we encourage our next impact evaluation and 2017 EE Potential Study to examine applying DEER values to the 2017 ESA Program Year’s installation figures.”

Deemed Savings



- ESA planning savings (Deemed Savings) need to be based on actual results for ESA population (Ex post results)
- ESA Planning savings need to be able to accommodate changes in what is provided and how.
- Usage patterns of low income households may differ from general population and warrant separate analysis from mainstream EE
 - ❑ May use less before program treatment because cost is high
 - ❑ May use more after program treatment because more affordable or program replaced nonworking equipment
 - ❑ High rate of transiency in low income population
 - ❑ Large proportion of low income customers are senior and/or disabled

Cal TF Directive



D.17-12-009:

“We direct the IOUs to coordinate with the California Technical forum to recommend prospective savings values and revisions to its EM&V methodologies for the low-income program.”

CalTF Assistance for ESA



- Review and provide comments on ESA ex post methodology for next impact evaluation (2022)

Breakout Groups on Remaining Stage 2 Issues

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Breakout Timeline

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What	Who	When
GHG Overview (15 min)	Jennifer B	1:15 – 1:30
Water Energy Nexus Overview (15 min)	Martin Vu	1:30 – 1:45
Fuel Switching Overview (15 min)	Jennifer B	1:45 – 2:00
Breakout Groups (45 min)	All	2:00 – 2:45
Report outs (10 min each)	All	2:45 – 3:15

California GHG Policy Overview

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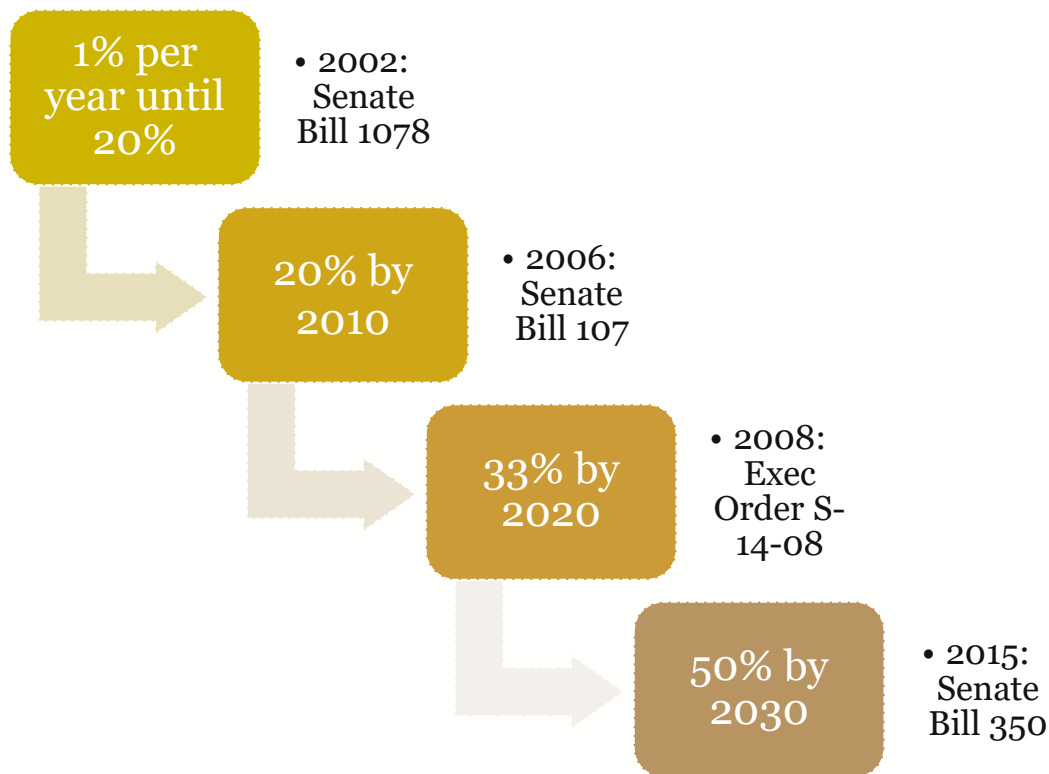


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Renewable Portfolio Standard

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Requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources.



Renewable Portfolio Standard

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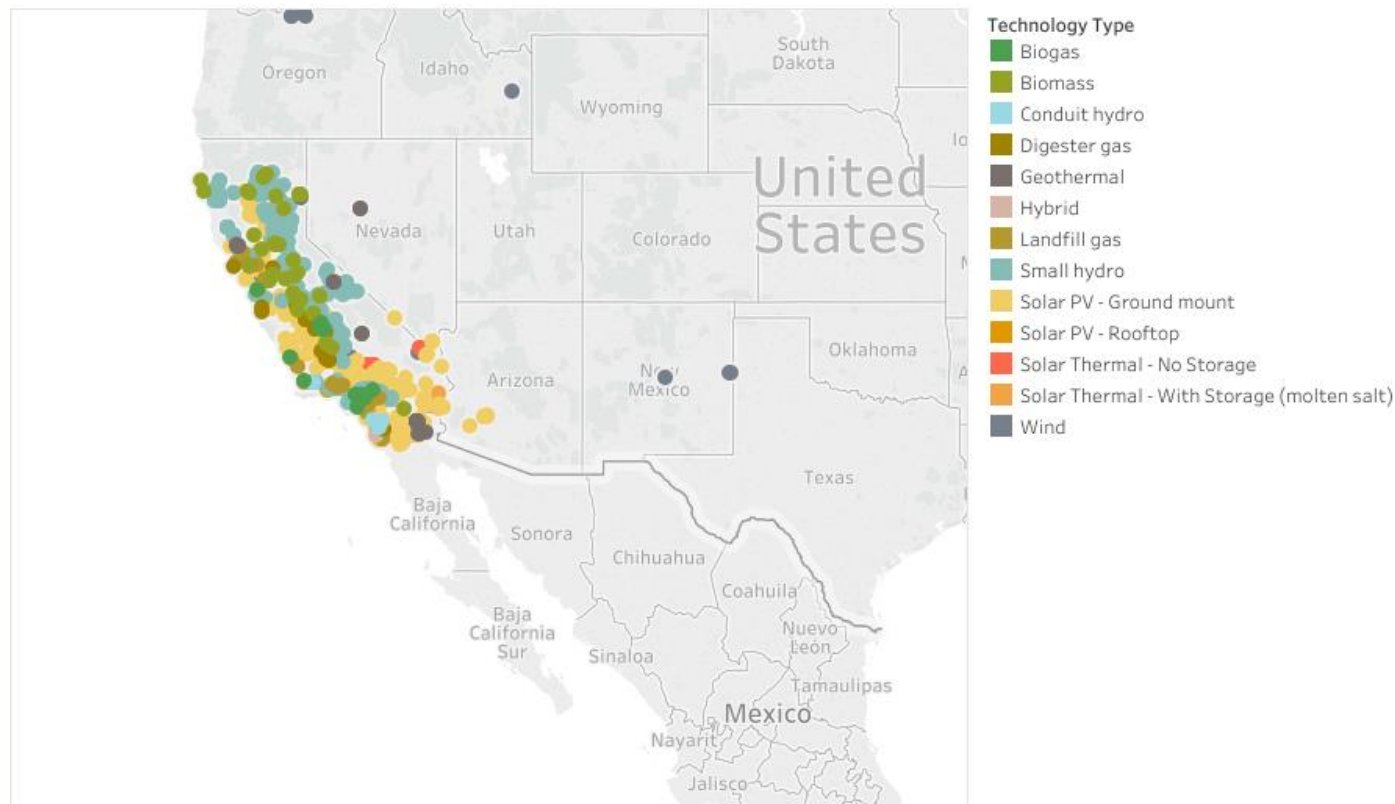
- The Energy Commission and the California Public Utilities Commission work collaboratively to implement the RPS:
 - CPUC implements and administers RPS compliance rules for California's retail sellers of electricity, which include IOU, POUs, electric service providers (ESP) and community choice aggregators (CCA)
 - CEC is responsible for the certification of electrical generation facilities as eligible renewable energy resources, and adopting regulations for the enforcement of RPS procurement requirements of POUs

Renewable Portfolio Standard

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California's three large IOUs collectively served 34.76% of their 2016 retail electricity sales with renewable power.

Investor-Owned Utility RPS Projects in California



AB 32: California Global Warming Solutions Act of 2006

- Calls for reducing emissions to:
 - ❑ To 1990 levels by the year 2020
 - ❑ 80% below 1990 levels by 2050
 - ✦ 2020 target is a reduction of approximately 15 percent below emissions expected under a “business as usual” scenario
- First program in the country to take a comprehensive, long-term approach to addressing climate change
- Does so in a way that aims to improve the environment and natural resources while maintaining a robust economy
- Air Resources Board is the lead agency to implement the law
 - ❑ Must develop a Scoping Plan which lays out California’s strategy for meeting the goals. The Scoping Plan must be updated every five years.

Timeline for Implementing AB 32

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Governor's Climate Change Pillars

CALIFORNIA CLIMATE STRATEGY

An Integrated Plan for Addressing Climate Change



VISION

**Reducing Greenhouse Gas Emissions
to 40% Below 1990 Levels by 2030**

GOALS



**50%
renewable
electricity**

**50%
reduction
in petroleum
use in vehicles**



**Double energy
efficiency savings
at existing buildings**



**Carbon
sequestration
in the land base**



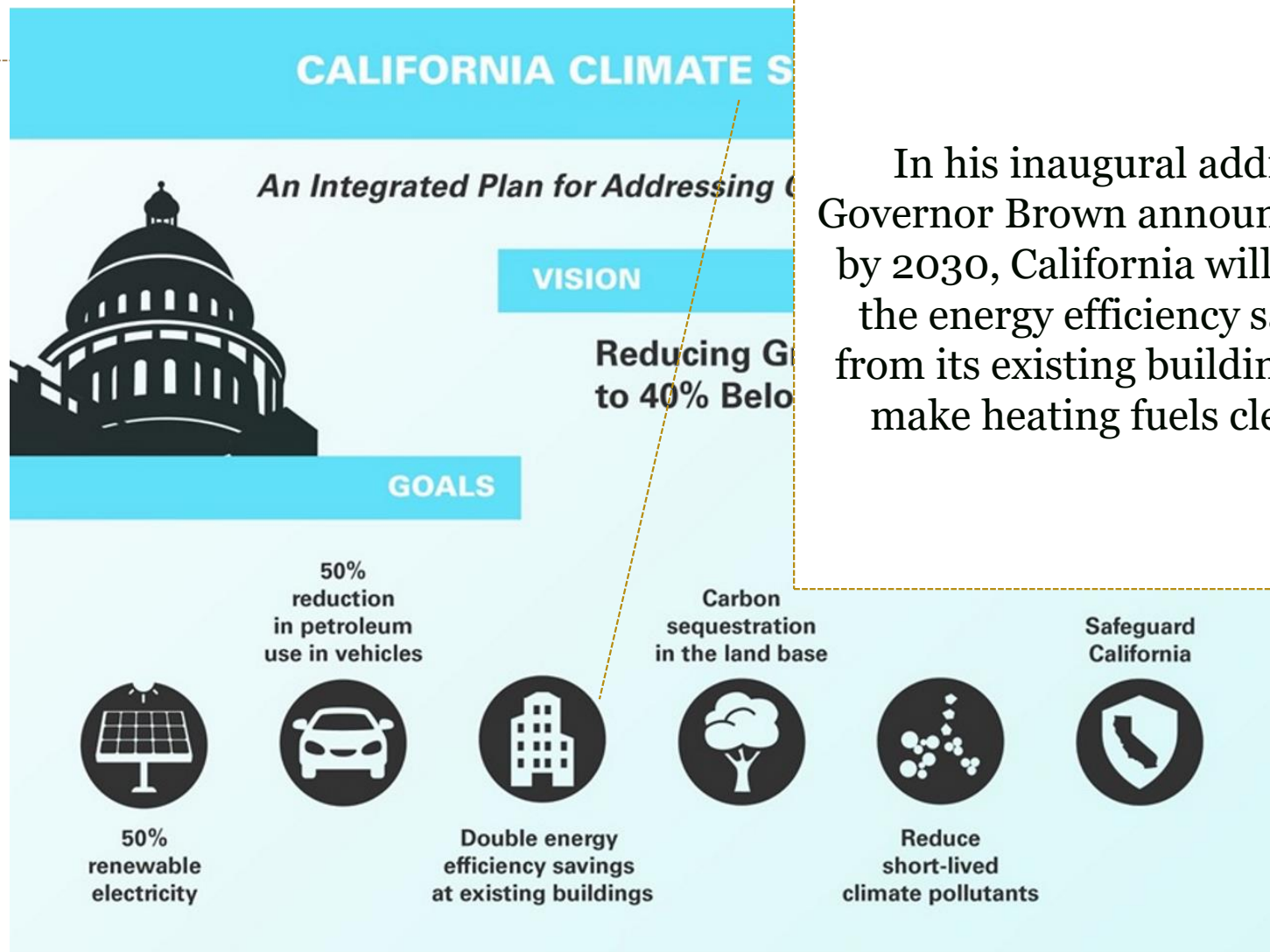
**Reduce
short-lived
climate pollutants**



**Safeguard
California**



Governor's Climate Change Pillars



In his inaugural address, Governor Brown announced that by 2030, California will double the energy efficiency savings from its existing buildings, and make heating fuels cleaner.

GHG Inventory

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- CARB GHG Inventory 2000 to 2016
 - The transportation sector remains the largest source of GHG emissions in 2016, accounting for 39% of California's GHG inventory
 - Emissions from the electric power sector comprise 16% of 2016 statewide GHG emissions.
 - ✦ Driven primarily by the large increase in renewable energy resources as a result of California's Renewable Portfolio Standard and the Cap-and-Trade Program.
 - ✦ Incrementally higher energy efficiency standards keep electricity consumption from increasing despite a growing population and economy.
 - GHG emissions from the commercial & residential sectors are dominated by...space heating, cooking, and hot water or steam generation.
 - ✦ While the number of residential housing units grew steadily from 12.2 million units in 2000 to 14.0 million units in 2016, emissions and fuel consumption per housing unit have generally followed a declining trend during this period

Water Energy Nexus Primer

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MARTIN VU, RMS CONSULTING
NOVEMBER 15, 2018

Fuel Switching Overview

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NOVEMBER 15, 2018

Fuel Switching

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- Electrification is necessary to achieve CA GHG goals:
 - *“We can get to 100 percent clean electricity across the state, but we don't get to our greenhouse gas goal unless we start to supplant gas and transportation fuel with clean electricity as our first fuel.” – CPUC President Picker*
- In CA, fuel substitution programs/projects must meet the following three-prong test to be funded:
 1. Must not increase source BTU consumption
 2. Must have TRC and PAC benefit-cost ratio of 1.0 or greater
 3. Must not adversely impact the environment
- NRDC, Sierra Club, and CEDMC filed a motion seeking review and modification to the 3-prong test in June 2017

Three-Prong Test

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- NRDC, Sierra Club, and CEDMC filed a motion seeking review and modification to the 3-prong test in June 2017
 - ❑ Asserts that the test is a roadblock to fuel substitution opportunities in buildings despite significant climate benefits
 - ❑ Test is opaque in terms of burden of proof
 - ❑ Unclear which “baseline” the proposed fuel substitution project should be compared with:
 - ✦ EEPM 5: comparison to “the industry standard practice same-fuel substitute technologies available to prospective participants,”
 - ✦ EEPM 3, 3.1, and 4: points to “the most efficient same-fuel substitute technologies available to the prospective participants.”

Breakout Groups

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Breakout Instructions

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- Clearly state the problem statement:
GHG emissions and carbon reductions are not estimated for current deemed measures and therefore are not directly aligned with state policy goals.
- Determine appropriate plan for Cal TF to address:
 - What should we be taking in to account about these issues?
 - ✦ For example, should we include GHGs or water energy in our templates?
 - ✦ Which measures might be affected?
 - Are there any issues that we should be weighing in on?
 - If not, how should we be using the output of these proceedings in Cal TF work?

Breakout Dial In #s

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What	Lead	Dial in #
GHG	Jennifer B	TF Call Dial In: United States: +1 (669) 224-3412 Access Code: 198-166-693
Water Energy Nexus	Martin Vu	
Fuel Switching	Ayad	

Report Outs 10 min. each

- GHG Overview
- Water Energy Nexus Overview
- Fuel Switching Overview

Closing

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