How Is It Impacting You & Your Business?

Compilation of Essay Responses to Survey Questions

California Energy Commission

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This survey was created by ENERGYCODE:2013, an ad hoc committee comprised of stakeholders throughout California whose businesses deal directly, and indirectly with the 2013 Energy Code. We are comprised of Title 24 Energy Consultants, Contractors, HERS Raters, Building Developers and utility ratepayers.

To our knowledge, no entity has ever actively solicited the opinion of stakeholders in regards to how energy legislation was actually impacting energy code businesses, their employees and their clients and how it is affecting the construction industry in California as it marches toward its Zero Net Energy goals.

The survey ran from August 15, 2014 to Sept 3, 2014 and received over 300 responses. This report is a compilation of those responses.

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Question 5 2013 Compliance Software {CBECC-RES}

8-15-2014: Although CBECC-Res is an option for me, I am more comfortable using EnergyPro V6.x as I am much more familiar with their product. I like their support staff as well.

8-16-2014: I do not comprehend how software that is still in beta-stage can not only be released but be MANDATED. It damages the credibilty of the software manufacturer and the Energy Commission and in doing so it has harmed my reputation with my clients as dysfunction with software is most often attributable to user-error...my error.

8-18-2014: The initial start date for implementation of the 2013 Energy Code was 1 January 2014. That came and went. Then it was 1 July 2014. That has also come and gone. Still the California Energy Commission is scrambling to try and catch up with a freight train that they started. Errors in the software. Very long calculation run times. Parts of the program that are not even ready to be used. The CEC is worrying so much about their "FREE" software that they make it almost impossible for commercial programs to compete. No solutions to our problems as Energy Analysts. Lost productivity. Delays in providing answers to even the most basic questions. I have personally written both of my representatives at the State Capitol to intervene. They do not even have a clue that this government agency is running rough shod over the entire state construction industry. Former Governor Pete Wilson had it right. Disband this fugitive oligarchy that duplicates the United States Energy Code. There is no need for the State Energy Commission at all.

8-19-2014: Our understanding is that, by design, CBECC-Res is cripple-ware specifically designed to not compete with private sector tools. Instead it is intended to be integrated by such third-party developers, who will be responsible for improved interface development, training, technical support, etc. Despite this well-

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planned strategy and tool architecture, it is our understanding that CEC rejected recommendations (in 2012) to set explicit 3rd party vendor adoption goals (quantitative) and to develop an integrator's Software Developer's Kit and outreach campaign to facilitate adoption by multiple 3rd party vendors. Our understanding is that to date only one other commercial vendor (believed to be affiliated with the CEC's project team) has adopted CBECC-Res. Had such goals been set by CEC, this would indicate the project has not been successful to date. Nevertheless, third-party vendor adoption of CBECC-Res may still improve in the future, after initial bugs have been fixed, and commercial vendors are in a position to evaluate the business case.

8-19-2014: The run times are ridiculous and makes it impossible to provide the service I like to give my clients. Sometime it does not give me any results at all but does not tell me where my error is, forcing me to spend countless hours trying to pinpoint where the problem lies. The software does not support underground walls or floors nor anything except a central furnace. The prescriptive forms are inaccurate and inadequate to provide the information provided by the Standards. These are just the few problems I can think of off the top of my head at 10:50 at night - having had to work a 17 hour work day just to stay even....and still falling behind.

8-20-2014: Trash it and go back to the 2008 standards

8-20-2014: Not user friendly or intuitive. NO cooling loads and nothing ever complies.

I did not like the CBECC-Res software so bought Energy Pro 2013 as it has always had an easy to use presentation.

8-21-2014: I wish I could give scores even greater than 5. Expecting people to enforce these regulations is absurd.

8-22-2014: Difficult, Time consuming, does not function 100% with the code, a step backwards, not intuitive.

8-23-2014: Does not truly reflect other build software standards

Was not adequately prepared for roll out. Still after a year of using it has different answers for the same Bldgs

8-25-2014: The software is plagued with bugs and the reports also do not print out properly. There are many features that are not implemented like steel framing and hyac options.

8-25-2014: Do not like it. Instead of simplifying the process in helping the industry and jurisdiction, the compliance approach and requirements are far more complex than before especially for the small residential projects.

8-27-2014: I've been using CBECC-Res almost exclusively for current projects. There are some quirks to be sure. I'm invested in it enough that I'm aggressive at problem solving. There are lots of ways that CBECC-Res stands above all the other modeling software that I've used in the past (EnergyPro and Micropas for Title 24). In many ways, it's also a no-frills package where I wish there were some simple added features and more fully fleshed out documentation and error management.

I'm generally favorable to it, and now that I'm comfortable with its flaws, I like it.

Now the criticism-- It's not clear whether its the GUI or the Compliance Engine, but it's still very much in Beta. There are all sorts of bugs and things with workarounds that should have been ironed out a year ago. I expect that this is the majority of the criticism that you're getting on this.

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Everyone I've talked to on the CBECC-Res team has been absolutely awesome and trying diligently to make things work. I'm specifically thinking of DeAnne (who's been the face of CBECC-Res over email) and been working double-overtime to get things right from all appearances.

8-28-2014: No worth my time to use this free software because of all the bad reviews it has and the complete lack of support.

8-28-2014: A big mistake to chnage something that worked perfect and the whole industry was using. I dont understand the reasoning behind this and I'm loosing clients because of how complianced the CEC has made even regiustering a Title 24.

8-29-2014: was not ready for prime-time when it came on line

8-29-2014: It is a work in progress, and it is good to see there is some work on making multi-dwelling building modeling more rational.

8-29-2014: the software is full of bugs; the compliance report takes easily 5x more time to generate compare to energysoft

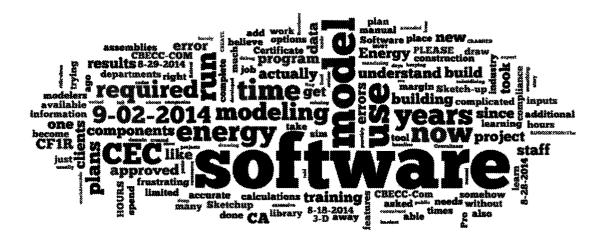
8-30-2014: It is like re-living the Obamacare roll-out!

8-30-2014: For the public domain software to be a practical tool support needs to be readily accessible with verbal communication as its primary source of support. Error codes should be described in a manner that the user can resolve input errors without support. MicroPas and I suspect Energy Pro (though I never used it) was very effective in doing that. The public domain software needs to provide load calc's as the building dept's routinely ask for that. It's nice not to have to invest \$900.00 for software but I have serious reservations with the public domain product and am considering the Energy Pro Product. Seminars are an integral part of the training and also need to be in a conference setting. Webinars though practical are not effective in my opinion.

9-02-2014: Learning the "software" is only one component. My 9 year old daughter can learn the software, assuming at least SOME of the bugs have been removed (how many "updates" so far?). Learning the applicability of the regulations and the "magic" factors are another thing entirely. And then, of course, convincing a building official of their misunderstanding is nearly impossible until THEY finally get up to speed. Every time these regulations change it takes AT LEAST a year for the dust to settle. Every calculation and every submittal will be done twice over. Then we face all the problems and misunderstandings in the field.

9-03-2014: Needs to address all heating systems, heating systems w/o cooling. Engine seems glitchy. Way too long to run.

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Question 8 2013 Compliance Software {CBECC-COM}

8-15-2014: WHY after all these years am I now asked to become an AutoCAD expert in regards to learning how to use Sketch-up software. WHY after all these years am I now required to take a perfectly good set of architectural plans and spend significant hours REDRAWING them into Sketch-up when I could just as easily do inputs from my calculations off the plans as I have done for ever???

WHY after all these years am I now required to CREATE CONSTRUCTION ASSEMBLIES in CBECC-Com after the C.E.C. took that away from us years ago and created a user library construction assemblies such as Wall, Roof, SOG, Raised Floor, Etc. ???

Does the CEC plan on subsidizing my income for all the additional hours I have to work in order to get results to my clients???

I can not possibly pass on the expense of my additional time to my clients. In effect, I am losing \$\$\$ on every job now. I have been an energy consultant here in California for over 35 years and now my feeling is one of desperation, depression and ready to shut down my business.

8-16-2014: To require that an entire industry of energy modelers become proficient with 3-D modeling and CAD without weeks or months of training is ridiculous and I believe that this is part of the faulty logic the CEC has used in mandating the new software; that somehow re-designing a tool that everyone knows how to use into an entirely different tool that renders it useless to most users is somehow going to fly in the market place. Runtimes are UNACCEPTABLE - you've taken away our high-speed internet and given us the equivalent of a dial-up modem. The software MUST run at the speed of commerce.

8-18-2014: do something sane

8-18-2014: The manual is miserable. It is worse than no manual. Terrible.

8-20-2014: Is to complicated and takes to much time.

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8-25-2014: I attended a training seminar in which someone asked to add a second story to the model and the staff could not get it to work. Also basic features like cut and paste and hvac features are not implemented. 8-26-2014: There is a question of learning to use a software vs. the software being practical to use. The time required to build a model, debug it so that it actually runs, and then further check the results for actually being reasonable (combined with the run times themselves) is at minimum a factor of 10 increase from the previous code / approved software.

8-28-2014: Before the Energy Pro was approved I tried to learn CBECC-COM, with no luck. I'm glad Energy Pro was approved

8-28-2014: There are bugs in the software and errors in the CF1R report. In talking with CEC staff it has been suggested that energy consultants provide an explanation to building departments concerning the above-mentioned errors and omissions. Why is this my job?

When reading the new 2013 CF1R Certificate, I advise my clients and building departments to disregard incorrect data, missing information, values that don't add up, blank data fields and any HERS verification being required when it is not.

In addition, there are things that the CBECC-Res software cannot model or handle. Energy Consultants are told to use workarounds such as modeling the next most similar equipment or situation.

Since December 2013 I have filed over 35 error reports. I will continue working towards the goal of a more accurate CF1R Certificate.

8-29-2014:

- Even with a modeler already experienced in sketchup and other modeling tools, it took 90 HOURS to build a MF project.
- Then, instead of running a sim in 2-3 minutes as it would with EPv5, , it took 4 HOURS to run one sim!! we usually run 30 40 sims during our early design / modeling options process.
- THEN, when we made an update, it CRASHED ALTOGETHER, and we couldnt' tell whether the problem was in Sketchup, Open Studio, or CBECC-com.

SUGGESTION: The CEC staff, while I do believe their hearts are in the right place, seem to be driven by academics. The path to ZNE will run into a wall if they do not decide to listen to us other true-believers who are trying to actually improve projects and keep the bldg. industry engaged, rather than enraged.

To the CEC: PLEASE take advantage of our deep experience, implement CABEC's suggestions and let us help you salvage this debacle. PLEASE!!!!!

8-29-2014: it is a very complicated software and needs extensive training which is not available and technical support is very limited

9-01-2014:

Stop trying to end construction in CA . The designers of the res. & non-res. energy codes admited this in a CABEC meeting several years ago in the LA area

9-02-2014: The software must be tested & vetted prior to imposing it on CA companies for mandatory compliance with Title 24. This should not be treated like the development of any other software since it is required to build new buildings in the state of CA!

9-02-2014: Software needs to have the Joint Appendices assemblies as a library to choose from since these components make up the baseline items in the energy model; constructing each layer leaves too much room for error and is time consuming; creating these components also requires too many steps; not being able to complete all inputs pertaining to a specific system or component on the same screen also is error prone; re-

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rendering a drawing developed by a licensed professional and hoping you get it right is time-consuming and frustrating - again leaving a greater margin for errors.

Professionally, I resent that I cannot perform a plan review and takeoff necessary information to input the data for a performance approach run, without developing a 3-D model with all the same components such a overhangs, etc.

9-02-2014: While it isn't the hardest thing to learn, that lack of functionality is aweful. Too many modeling options are not available or not functioning. And as for the Sketchup integration, I understand the intent, but it is a failure in my eyes. You either have to draw the building in such a simple manner that the results barely reflect reality, or you spend a ten times the normal amount of time and create an accurate model that the program cannot understand or use. I don't care if it alienates the entry level energy modelers; if the CEC insists on keeping the 3d model aspect, it has to transition to a more robust program like Revit, and it has to be able to understand the complexities of what that model shows.

9-02-2014: It is a frustrating and waste of time to use this program. since one has to redraw the plans when most designs are done by cad now a days. For a small project such as a TI, designer has to draw the plans to just start the calculations. If this is the public domain software, it has to be designed in such way that anyone can use it.

9-02-2014: I have serious concerns about this software. Bug fixing/troubleshooting was not complete before the software was issued. There is limited guidance on numerous issues, some of which result in large inconsistencies between CBECC-Com & EProNR (i.e. how to model "no cooling"). I have a project where the compliance margin between the two software engines differs by 30%; that is unacceptable.

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Question 13 Ideas on how to improve the implementation of the 2013 Energy Code?

8-16-2014: No. At this point I don't think it's possible as I can already see that it will get much worse and may never get better. I believe that this is because of the myopic vision of the CEC as it marches towards a shiny Zero Net Energy tower on the horizon. This blind marching pays no attention to what , or who gets trampled underfoot. It is a lofty goal - and it's easy to draw a roadmap on paper on getting there, but it has never been looked at in the reality of what it is actually going take to get there.

- 8-18-2014: Fix your software. It contains lots of bugs. Why was the 2013 Energy Code implemented before the software was working accurately?
- 8-19-2014: Get rid of it! It's demanding to much cost for each project!
- 8-19-2014: Speed up calculations
- 8-21-2014: Can you say BETA testing? Or since they must have know there was going to be serious issues with roll out, why not an overlap and keep 2008 methods approved with maybe say a 15% penalty for a year.
- 8-21-2014: Delay any further implementation until issues resolved.
- 8-21-2014: Do not implement the new code until users and reviewers have been given plenty of opportunities and training to learn the requirements and changes. Clarify the process of submittal and approval of the energy calcs by the commission so the authors do not get stuck in a circle of approval for first plan submittal then revised submittal, etc. What are we as plan reviewers supposed to see when we do our plan review an approved or not yet submitted for approval set? Are we supposed to see copies of approved calcs on final along with the 2Rs & 3Rs?

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Bottom line, updates on the new 2013 building codes and changes started appearing at least six months before implementation. We are just starting to see updates, webinars and additional information for the new energy requirements at one to one and a half months after implementation. Not a very well thought out process.

- 8-21-2014: Saying the regulations are complex is too much of an understatement. The fact that after delaying implementation six months and that the software still cannot show compliance says it all. Non res training not even available for the first month, really?
- 8-22-2014: Provide clear guidance on how to show compliance for projects that can't be modeled given CBECC-comm software limitations.
- 8-24-2014: FIX THE FALSE WATERMARK ISSUES, especially when the Prescriptive forms are used. Also, fix the false reporting of HERS measures in the Performance approach. Get to a point where there is no excuse not to "register" when registration is actually required, so that Building Departments can start insisting on it with confidence.
- 8-24-2014: get the energy pro software implemented. quit trying to force other software down our throats. quit asking us to upload. quit charging for the uploads. is that enough? do I need to go on?
- 8-25-2014: Get rid of it. It is causing nothing but trouble and complications.
- 8-25-2014: Listen to us, to have a workshop/meeting by the area i.e. south bay area, SF, ... we cannot afford to travel to SAC to attend your meeting or hearing!
- 8-25-2014: Use a proven and tried software tool like EnergyPro (2008 version) until it can be proven that the new code is bug free and easy to use.
- 8-25-2014: Having online self-paced instructional lessons on the Code would be great.
- 8-26-2014: Analysis of impacts and example of implementation need to be done prior to implementing the code.

8-27-2014: Yes--

step one: admit problems and publish (openly). There are a lot of bugs in the software. Publish them along with guidance for workarounds. Now that we've entered the part of the process where the 2013 code is in effect, then there's a lot of questions flying for interim policies.

Other than calling the Title 24 hotline and getting someone on the line to dispense verbal advice on a documentation-centric process (hilarious), there is absolutely no formal guidance on 'what to do while stuff gets fixed'

No worries-- I'm perfectly happy to fill that vacuum of guidance for you. I wish I didn't, but the CEC gives me no other choice. And, I've talked to a few building officials who are game to work with me in working around you (the CEC), and not with you. Enforce your own unenforceable code.

Lastly-- who copy-edits the Part 6 standards? Did someone who knows about buildings and assemblies do it? I keep on finding errors and things that just don't make sense. I've called the Title 24 hotline about them, and it goes into a black hole, never getting fixed.

Errata in the code happens-- we're human-- what disappoints me is that there doesn't appear to be the wherewithal there to fix these mistakes.

Can you notice a theme here about flaw-dom? We have them-- it's best if we admit them.

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8-27-2014: Focus on simplifying COMPLIANCE through software that (a) leads a project developer to the right forms and information, and (b) completes the forms for her/him, based on data s/he input.

8-28-2014: The new format for the data input with the CF2R's and CF3R's is clumsy and redundant. First, taking away the signatory agreement has slowed down the registry process. What the CEC appears to not acknowledge is that the installers are resistant to adopt any of the code changes let alone fill out what they consider unnecessary paperwork. Prior to the 2013 code under most circumstances the HERS rater filled our the CF-6R's not the installers. This allowed the Raters to immediately record and register the CF-4R's The installers rarely did any of there own FV/DT unless sampling was done. Sampling is the only reason that the installer forms should be required. If sampling is not done there should be a streamlined process requiring only the CF3R HERS certs. Additionally both the CEC and Providers put the burden on enforcement on the HERS Raters without giving them the authority of enforcement. This, in my humble opinion, creates an unethical environment and promotes doing more and more alteration projects without pulling permits or following the Energy Standards.

8-28-2014: Put some big boy pants on, ignore the lobbyists and make it work for the home owners and building owners. Make it clear simple and concise.

8-28-2014: create easy accessible information source / webpage with current information what is working right now and what is not:

- which type of project can be registered today and which is not
- which systems can be modeled today and which is not
- how to handle each situation which can't be modeled/registered
- publish instructions for BD staff (must be accessible for everybody) most staff outdated and even doesn't understand how reporting and registration systems work. Instruction must super seed local fantasy.
- add Q & A area with demand update
- crate fast way to resolve problems with BD's clients can wait a weeks until somebody will educate staff

8-29-2014: I have never seen such a ridiculously draconian set of regulations in my entire career. This edition of the code has all but eliminated the financial benefits of renovating existing building stock at the scale of the small project. Designers are now often forced to remove older light fixtures because the mandated technologies are simply not compatible with the older equipment. Microsoft and Apple give us all enough heartache in this department, don't you think?

Clients don't understand the benefits of energy upgrades and don't care about them when budgets are tight. The latest increase in regulation is simply too great and should be revised to consider the small project. If relatively new buildings become obsolete due to excessive regulation such as this, we will certainly be in a sustainable building crisis as a lot of embodied energy in the existing building stock will be lost as components are thrown in the dumpster.

- 8-29-2014: 1. Provide examples of compliance in the compliance manual for everything. Examples of compliance for the new Electric Power requirements are virtually non-existent.
- 2. It would be nice if the people in Sacramento would follow through with things. At the January webinar(approx. date) we were told to submit questions and the answers would be published. So far nothing has been published or posted.
- 3. Provide examples of how to fill out forms along with the instructions. A sample completed form would go a long way in educating contractors.

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8-29-2014: Combine the manual, appendices and the code and truely simplify the whole thing. It is so cumbersome it is either hard to enforce, impossible to enforce and more importantly it forces contractors owners and other to do work without permits.

8-29-2014: Input and training for not only for users but for plan reviewers BEFORE implementation. Currently the contractors have to print out a small book with all of the pages needed for the 1-R, 2-R & 3-R forms. Some are refusing to leave these forms at the jobsite because it takes a ream of paper. They would rather email it to us for us to confirm their results, but that is not how this is supposed to work. Very poor design with no forward thinking as to how they expect people to implement these new codes. Extremely poor design with no common sense used at all!

8-29-2014: Revise the format to match other building codes. It is not user friendly. The format make it difficult to read and understand.

8-29-2014: Develop an industry cooperation team and work out the functional issues well before the implementation occurs. OOPS too late. Maybe we could do this with the 2016 regs.

8-29-2014: Reach out to the architectural community and have classes about the changes and how they affect our industry.

We need real answers, it is code.

8-29-2014: Improve the communication between the software providers, the registries, and the CEC. Work out the inefficiencies that are happening industry wide that are causing ill effects to businesses throughout the state in being able to work with the their projects. Provide a work around for HERS Raters, CEPE's, Title 24 Consultants, and all other key players in the industry to use for registry uploads and modeling approaches that are clearly defined and actually work so that the entire industry can keep working in helping to achieve the goals of Energy Efficiency on all of their projects throughout the state without causing the loss of business.

8-30-2014: Make it simpler. The compliance forms are out of control. Why does it take 4-5 times the number of pages for compliance forms as the number of pages of the regulations. Now add in the two volumes of design manuals...you have regulations that are not understood by the industry and not being enforced. The support documents were too late. This is ridiculous...from a person who supports energy conservation and has taught energy standards for 30 years. Place more emphasis on orientation both for the site and rooms/windows/shading within the building. This provides a much greater opportunity for energy savings than the complex energy standards. I remember a push for PV which shows a subdivision with PV, irrigation water running down the street, ac compressor/condenser on the south side of buildings, garages on the wrong side, no shading, etc.

8-30-2014: The EnergyCodeAce website tools and trainings have been good. I would like to see the full menu completed for the forms tool. Also I would like to see fixed forms, and more energy modeling classes.

8-30-2014: Keep it Simple Stupid (KISS)

8-30-2014: Improve the usability of the public domain software as described above. Better support (more readily accessible)

I've contacted and tried to contact CalCerts numerous times and still haven't heard from them.

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Bring back the default vintage tables and eliminate HERS verification for altered envelope components.

8-31-2014: The 2013 code has convinced me to find new profession

9-01-2014: Code is too complicated and extremely difficult to enforce. Testing at end of project without adequate enforcement, although thought by the Energy Commission to guarantee compliance, will render building department exposed to litigation, as when all life safety issues are achieved and the project is held up waiting for testing/corrections to be made to pass HERS, political pressure and threats of litigation will sometimes force the "small" department building official to give final without HERS approval. In addition, due to release of power to allow testing before certificate of occupancy, this will take away a powerful leverage of the building department to ensure compliance as there will be no incentive for the owner to make corrections so he could get power.

Training offered by the utilities is extremely complicated and confusing as they try to address all issues for building departments, designers, builders and raters in one session. If you wish to discuss further, call Fady Mattar, PE, CBO, (714) 788-0593

- 9-02-2014: (1) Identify the big ticket items that are broken and can be fixed within a month or two, and start by focusing on those.
- (2) Then identify big ticket items that require some fundamental redesign (of compliance manager software, forms, ACM manual guidelines) and establish a schedule to fix those things.
- (3) Focus on fixing and improving both the accuracy, clarity and completeness of both the Residential and Nonresidential compliance forms following the priorities of #1 and #2 above.
- (4) Do not decertify Nonres Energy Pro v6.2 by January 1, 2015 unless all aspects of the Nonresidential Compliance Software Manager running E+ are working properly.
- 9-02-2014: Since the 2013 Standards are focusing on 3-D drawings to create an energy model and develop the compliance analysis, we should have more public training available for CAD type services.
- We need to be able to insert the registered CF-1R documents into the balance of our energy reports (a simple PDF function) without changing the secure document along with support documents in a professional looking manner. We also may need to extract certain pages from the registered versions for other functions or mark-up to explain issues to clients. Instructing our customers to print to paper, then scan and upload images into their plan sets is ridiculous in this digital age.
- 9-02-2014: I support the new requirements in the 2013 code and the significant step in efficiency that was taken moving from the 2008 to the 2013 code. The implementation of this reasonably well designed code has not been well designed. Following are some suggestions:
- -The CEC should not take on development of new engines for compliance software. This has required a lot of CEC resources which could have been better applied to fine tuning the code, forms, and the implementation process. The existing engines are not perfect, but re-inventing this wheel should not have been within the CEC's domain. However, I recognize that there is a lot of value in developing free public domain software. I think this still could have been accomplished within a reduced scope of work.
- The process for verifiers (building departments, plans reviewers, HERS raters) needs to be simplified. As Title-24 becomes more stringent, it will inevitably become more complex. However, how this information is communicated to the public and digested into compliance forms can be appreciably simplified. Ultimately, our goal is achieve widespread compliance with the energy code. A robust energy code and training protocol is the foundation for this, but the ultimate key to success lies in the hands of the verifiers. More focus needs to be paid to how this process can facilitate their job.
- Don't launch until ready. I believe the residential code was mature enough on July 1st to launch. However, the commercial code was not, largely due to the software issues. This has caused nothing but pain for the

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people who serve as the champions of energy efficiency on the front lines (the consultants & verifiers) and has caused people on all sides to become disenchanted with Title-24 and the entire process.

9-02-2014: Streamline the number of forms

Simplify requirements so an average contractor and homeowner can understand exactly what is needed to comply

Create an easy to understand flowchart or flowcharts for most projects

9-3-2014: Improved training and available information for building departments. All the available compliance software is limited in one way or another. Due to the infancy of the current software modules and programs the building departments should be made aware of current limitations and how they should be handled. Seminars should be offered for compliance submittals. Currently seminars are offered for basic input and ideal situations. Advanced classes should be offered which covers "D to Z" in the submittal process.

9-3-2014: The table of content in the manuals are hard to use.

The C2R forms should not have watermarks

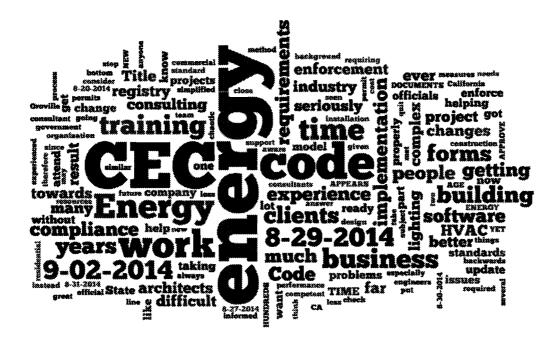
Clearly the CEC wasn't ready in releasing the standards. We were not able to put out a job for 3 weeks after July 1st.

The software engine has many issues and it is hard to trust the results.

Compliance forms are hard to read and often the documents are incorrect.

Since i am not trusting results and have had to delay doing some jobs, I am not able to give my clients the level of service my business is known for.

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Question 14

Is there anything else you'd like to share about your experience with the implementation of the 2013 Energy Code?

8-15-2014: I am so seriously depressed and feel like I have let down all my existing clients after years of what I considered great professional service. I think that the CEC is taking an unprofessional defensive attitude towards all of this which does not help anyone, especially the energy consultant. Seriously I am just disgusted with all of this and all my time wasted talking, email and texting what is going on here. Get It Together Please !!!

8-18-2014: This Energy Code encourages cheating by Building Departments, Builders, and people doing poor quality Title 24 Energy Calculations. People (like myself) who want to things properly are suffering at the hands of the cheaters. My clients are overwhelmed by the number of HERS inspections required for compliance. I did a project for someone who lives 25 miles away (Oroville, CA). He told me the two Title 24 Energy Consultants in Oroville quit as a result of the 2013 Energy Code requirements.

8-19-2014: It has nearly put my company (established in 1978) out of business.

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8-19-2014: CABEC have been anti-progressive. I commend the CEC for moving into the future; yes,, there are teething problems but that was always expected.

8-20-2014: I do a lot of alteration/change out and it is driving my HVAC clients to not obtain a permits.

8-20-2014: It is atrocious.

8-21-2014: It's been awful. The Code change has negatively effected my business and increased disatisfaction with the Energy compliance industry as a whole - a major step backwards. My clients want high efficient solutions, but it is absurd that we cannot simulate them for compliance with their true efficiencies and operating characteristics.

8-22-2014: This has and continues to be the biggest slap in the face that I've ever experienced in dealing with a government entity. It really has me questioning if I want to keep my company here in California, is a thorn in the side of the design and construction industry and is helping to make remodeling and new construction less and less affordable, hurting those who it is ostensibly supposed to be helping.

8-24-2014: This has been a night mare. it has taken over 10 times the time to process a SFD and then add on 10-15 visits to CalCERTS website and phones to get an EnergyPro XML through to be a registered project CF1R

8-27-2014: I'm a consulting mechanical engineer who used to work as an energy consulting helping to develop changes to the 2013 Title 24 code. While it's easy for me to interpret the code based on my background, it is very difficult for my colleagues who do not have the same background. Many practicing engineers are aware of the code and how to read it, but do not know of the existence of the compliance manual, ACM, etc. and are not informed of the Title 24 update process.

Among architects, the trend is even worse - many architects that I work with are completely unaware of the recent update to the code and the impacts on their work. While they may have been informed of training, few have the time or resources to attend, or attend training by third-parties who provide misinformation or misinterpretation.

More training is not the answer. While many professionals (and code officials) are aware of training, they do not have the time or resources to attend. They would prefer a "one stop shop" that answers their project specific, justisdiction specific questions.

8-27-2014: I'm all for the CEC mission. I am a child of Rosenfeld back when energy efficiency wasn't cool. There are some HUGE advancements that I'm seeing in this code and upcoming codes which I'm very excited about. I'm on your team.

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So that's why it hurts to see all of these problems and the necessity to fill out this form. We obviously shouldn't have gotten to this point--

The CEC is opaque and an organization to me, but I personally know and have met people there. Everyone I've met is a diligent, competent person in their field. There may be a Turkey Farm somewhere, but I haven't seen it. So-- based on this unscientific study on my part, I can only blame some bureaucratic structure which hasn't given those competent people the tools to succeed. It's not personal-- I am relegated to blaming the organization, unless I hear some other more compelling and explanatory narrative to take this place. No individual messed this up-- in fact, I expect many, if not most, were trying their best to get it right.

The lack of active public relations or official statements or any lip-service in meetings on these issues (well-- I haven't listened to that much stuff) indicates an institutional tone-deafness and/or incuriosity towards the actual implementers and enforcers of the energy code (id est-- us). That sucks. I thought we were on your team?

Maybe you've got some list-serv where you send out official looking emails. I've signed up for some of them for meeting announcements, which is nice.

If the CEC is going to play uber-technocrat, then y'all better do it a lot better, and by better, I mean almost perfectly. Otherwise, learn how to ask for help. Ask us for help, or give us some guidance so we continue a relationship where I (energy consultant) work with your goals by playing along with interim policies. Right now, you're doing neither as far as I can tell.

8-28-2014: Do you know about the SOM vs Beacon Law suit?

8-29-2014: It was not, and is not ready to use, the program does not deal with additions. The only registry that is currently certified does not accept all types of compliance runs. The requirements for commissioning are for the most part not understood. Non-res lighting is a nightmare to plan check and enforce. I think the CEC should seriously consider taking on enforcement of all energy standards if they cannot be simplified because it is so complex. The CEC has heard from the enforcement community that the standards are to complex for many years, instead of getting easier they have got harder to enforce. I do appreciate the extensive training efforts that have been provided however, enforcement is so complex it would take full time employees devoted to only energy to properly enforce the energy standards. A program similar to CASP is not the answer. Again, the CEC should seriously consider taking over enforcement through HERS raters.

8-29-2014: I've been doing energy analysis since 1985. This is absolutely the worst roll-out of the energy update by the Energy Commission I have ever experienced. I'm so fed up, I'm getting out of the business in the next year or so....

8-29-2014: It is overwhelming

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8-29-2014: Yes, I quit!

8-29-2014: Older homes should be given more consideration. If they are choosing to upgrade it is already better than what they have and therefore an improvement. Too strict of regulations will put people off from doing the work or encourage them to complete the work over the weekend without getting a permit.

8-29-2014: The 2013 Energy Code implementation has caused our company to experience the loss of business and has created a chaotic atmosphere for both our internal and external clients. We are faced with the possibility of loosing some our key personnel due to loss of business after years of dedication, hard work, and continuous investments on training of software programs and registry changes as a result of the inability to have these things function together as a solid unit of support for this industry.

8-29-2014: IT APPEARS THAT THE CEC SHOULD HAVE HAD ENOUGH TIME TO IMPLEMENT A SMOOTH TRANSITION TO 2013, BUT IT DID NOT HAPPEN. I RELATE THE 2013 IMPLEMENTATION TO THE RECENT OBAMACARE DEBACLE-- IT'S BEEN DIFFICULT FOR ME, AS AN EXPERT, BUT IS NEARLY IMPOSSIBLE FOR THE CONTRACTOR, HOMEOWNER, ARCHITECT, ETC. , WHO DOES NOT KNOW THE PROCEDURE, BUT IS REQUIRED TO COMPLETE AND APPROVE THE DOCUMENTS. THEY HAVE TO APPROVE DOCUMENTS THAT THEY DO NOT UNDERSTAND, YET HAVE NO CHOICE.

I HAPPILY USE ENERGY PRO, BUT THE CEC COMPLIANCE MANAGER PROGRAM FOR THE T24 CALCULATIONS RUNS UNBELIEVABLY SLOW. IT REMINDS ME OF THE 1980'S WHEN ALL WE HAD WAS 8" FLOPPY DISKS. I FEEL WE HAVE GONE BACK IN TIME, YET WE ARE IN THE AGE OF TECHNOLOGY. HOW CAN THAT BE? ARE WE CAUGHT IN A TIME WARP?

MY CONTRACTORS AND ARCHITECTS ARE SHOWING SIGNS OF DISGUST, ARE VERY DISCOURAGED WITH THE PROCESS, AND VERY CONFUSED. THERE WILL BE STRONGER ATTEMPTS TO AVOID PERMITTING WHENEVER POSSIBLE. WE ARE IN A NEW AGE WHERE THE CONSULTANT IS A NECESSITY RATHER THAN A CONVENIENCE-- SIMILAR TO WHEN YOU COULD DO YOUR OWN TAXES, BUT NOW NEED TO PAY A CPA HUNDREDS OF DOLLARS TO PREPARE HUNDREDS OF PAGES.

ON THE POSITIVE SIDE, I BELIEVE THE 2013 CODES ARE WORTHY, THEY SERVE A GOOD PURPOSE BY LEADING US INTO A NEW ENERGY ERA, AND THEY ARE NECESSARY TO MEET OUR LONG TERM STRATEGIC GOALS. HOWEVER, THE ENTIRE IMPLEMENTATION PROCESS APPEARS TO BE OF A LOWER QUALITY THAN WHAT IS EXPECTED OF THE CEC AND THE STATE OF CALIFORNIA.

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8-30-2014: The industry is close to a revolt.

8-30-2014: My experience with the CEC hotline has been very good.

The forms are cumbersome.

The bugs have produced results that are very time consuming to solve.

8-31-2014: Implemented too soon. Hers software and training too late. State dropped the ball. What a mess

8-31-2014: I've been at this full-time for 30 years. In my opinion, the 2013 energy code was not ready to be implemented. There are layers of problems that affect energy consultants, architects, builders, clients, building officials, HERS raters, HVAC contractors, and registry providers. The prescriptive residential forms do not appear to be written by anyone with energy consulting experience, especially the fenestration section. The instructions do NOT relate well with the forms. Using the performance method, one cannot properly model common HVAC systems and most new+exist/alteration projects. There are errors in the reports, such as 1) HERS measures that are not even part of the energy model, and 2) the watermark issue for those projects not requiring HERS measures, and therefore not requiring registration, yet I am spending time trying to convince the building officials and everyone involved in the project -- what IS required, without CEC support!

9-02-2014: The energy code much too complex and voluminous. It needs to be simplified.

9-02-2014: It is very hard to implement the regulation of title 24. The consultants have to jeperdise the design to meet title 24. The building departments do not have enough reviewers and inspectors to check all the requirements.

The result will be the future law suits against Citiy's, Energy Commission and State of California.

9-02-2014: Contractors, homeowners, architects and engineers have unanimously been steered towards not getting some permits for concern over costs and installation of far reaching features. This is not a productive approach to getting people to all work towards a common goal of energy reduction. Many of the designers and developers have indicated that cost differences in their projects are running close to \$1 mil. more - which is detrimental to economic growth and recovery. I fear that long term this will push more businesses out of the State.

9-02-2014: The most minimal commercial remodels which are now subject to lighting requirements now pretty much always need a lighting designer to prepare the forms and plans. The contractors are furious; the subject of updating one or two light fixtures can cost more that the job!

I believe the new commercial lighting requirements will result in work being performed without a building permit.

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9-02-2014: This has been the most insulting experience I've ever dealt with in my life. The CEC in particular are the most arrogant, rude, self serving and uncaring bunch of characters to ever be in government.

9-02-2014: This is the most difficult, time-consuming, chaotic and frustrating energy code cycle change since I got into the business in 1982. The CEC needs to do some triage and seriously re-think what it is willing to do or not do to smooth the transition to the 2013 Stds beyond what it has done so far.

9-02-2014: Overall, I have seen a lot of great changes (i.e. standardization of how the standard building energy usage is calculated using the performance method. This is much more similar to ASHRAE 90.1 Appendix G and means that several HVAC systems can be tested with out the standard building TDV energy changing each run). However, the implementation has been sloppy. It is impacted the bottom line, reduces capability of software that has been available for years, and takes much more time to create a model. It seems as though CA has taken a step backwards instead of ahead (as far as the software goes- the code itself seems reasonable).

9-3-2014: I have doing energy consulting for 24 years and have gone through several code changes. This change has been the most difficult with the software, the registry and the implementation of the code. It is affecting the bottom line of my business! When I have to wait for the CEC to fix the issues there is also a delay in when it get paid.

Some of the installation and acceptance forms are incorrect. The watermark on the on the residential CF1R-ADD/ALT & CF2R's is not necessary and makes these forms difficult to work with. It is clear the CEC was not ready for the July 1st deadline. Here it is 2 mos after the implementation and we are facing issues on a daily basis.

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Question 15

Are you able to quantify any investments, losses or gains you've incurred with the roll-out of the new software and code?

8-15-2014: I can only tell you that since July 1st I am generating only 1/3 as much work as I was doing under 2008 code. I am working 12 hour days and making 1/3 less income. If you commissioners were in the same situation how would you feel???

8-16-2014: My small business of 12 employees has been losing \$1200 to \$1500 a week since July 1, 2014. This is not to mention all the money that was lost trying to train on software that was so full of code errors and bugs that it crashed consistently, if you then factor in the time we waste waiting for the software to calculate - we have lost over \$12,000. If this continues it will be catastrophic for my company. Part of my frustration lays in the appearance by the CEC that the rollout and dysfunction is a "natural disaster" that we all must get through - together - as a team. It is not: It is a 100% man-made debacle and I am of the firm belief that the man, or the team or the brain-trust etc..that got you into the mess doesn't have the resources to get you out. When asked how the implementation of the new code is going I respond; So far...so bad.

8-18-2014: hundreds of lost hours of my time, I see more efforts at non compliance, illegal building just to avoid the hassles, this will be counterproductive to any energy conservation efforts.

8-18-2014: The first month, projects took about three times as long to complete. (Estimated loss in unbillable time: \$2000) The CF-1R prints items that are not in my computer file (very annoying). I lost four jobs because I could not get to them quickly enough. (Estimated loss: \$800) One client emailed me the energy

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forms performed by a Mechanical Engineer; they were completed using Energy Pro v5 and were accepted by the Building Department. On another project, I was unable to figure out how to transfer an alteration to the building designer using CalCERTS. That client submitted a non-registered CF-1R. I have probably lost at least one client because of the new code, poor CEC software, CalCERTS, etc. (Estimated loss: \$2400 per year) I increased my rates because of the poor CEC software, CalCERTs cost, and CF-1R registration cost. I have been doing Title 24 calculations since 1979. HERS raters are going to get rich under this new code.

8-18-2014: 4 weeks behind in my work, have lost customers because I couldn't complete a project.

8-18-2014: I have had to increase the prices of my Title 24 Analysis by at least 3 times as much as before. I am also sure that the builders have had to increase their construction costs to achieve compliance. No doubt, the potential client must suffer with higher costs to purchase a new home, and may lead to them not being able to finance new construction at all.

8-19-2014: I have invested over 840 man-hours trouble shooting the software and training staff to deal with the shortcomings of the software. Recertification cost way too much and there were not enough opportunities for training Area. We have lost a major tract builder after more than 30 years due to their frustration with how long it was taking us to get partial answers to them. They normally look at at least 8 to 15 options before deciding on the final models. The run times KILL US! Man hours have gone through the roof. My employee costs have tripled due to overtime trying to meet deadlines easily achieved before with EnergyPro and the code. My wife is pissed at me because I spend too much time now at work. She is also worried that ii don't get enough sleep anymore.

8.-19-2014: 40%loss on last 6 projects done after the code change on July 1st with CBECC-Com Can't survive this much longer....20% profit when done in EP6 based on Doe2

8-19-2014: I have spent vastly more time trying to learn and use the new code.

The main issues are the requirements to register projects with CalCERTS - a very difficult website to navigate. It is not intuitive at all and my builders, architects and designers have a difficult time navigating the registration process as well. All of this extra time is costing me money.

8-19-2014: Several factors have added cost:

- 1) Design time for determining lighting control requirements
- 2) Documentation of control requirements
- 3) Data input to energy compliance software

8-19-2014: I have raised my rates, but I am sill loosing money on every Title 24 compliance job I take. My non-title 24 work is also being hurt due to the huge number of un-billable hours being wasted on Energy Code problems.

8-19-2014: About 8 hours to do 1 hour of work, using CBECC-com for the first time. I am not including time to view the tutorial, etc. The extra seven hours was troubleshooting errors and defects in the software, trying to make it work. I spent about 3 hours back and forth with developers explaining defects to them. This is beta

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testing time, a service to the State, that I was not compensated for, which took time away from my business. I wouldn't be so bitter if the developer's attitude were more grateful and less dismissive.

8-19-2014: It is understood that time is needed to learn new procedures, tools, etc. However, WASTED time includes time lost due to software that crashes, dead-end searches, re-starts on projects due to limitations of software, etc. etc. Thus far, I would conservatively estimate my lost time at 40 hours plus (and counting). At \$120/hr, that is a \$4,800 hit (and counting) to my business. Frustration is an understatement to describe my feelings.

8-19-2014: Lost time learning the new code and software tools but overall definitely profitable gains; approximately an additional ~\$15,000 / month since June

8-19-2014: At this time I am not sure. I know my testing equipment costs will increase about 35%. I have been sending my employees to class after class only to get them more confused. We have performed many meetings with our clients to bring them up to speed with the new code, its changes and implications. So I would say about a 25% cost increase for us to learn and implement the code. We have been losing clients as we have increased our pricing only to get them back due to bad experiences elsewhere.

8-19-2014: All losses. Losses in providing excellent service to my clients, especially due to the long run times. Loss in feeling confident in my ability and knowledge due to the fact that I can't ever find an easy answer to my questions.

8-20-2014: We are raising our contract costs by 15% to pay for increased labor time.

8-20-2014: Energy compliance enforcement is dismal at best! The 2013 codes has motivated many more contractors to go "underground" to survive. Contractors know there is no enforcement, so a "slap on the hand" is all that will happen! The current attitude is "catch me if you can CEC"!!!

8-20-2014: I have lost about 20% of my installers who used to pull permits. This is because of the signing authority. They want to install systems, not do paperwork. They had been paying the HERS rater to do the testing and paperwork, so they could do HVAC work. The time required to perform Title 24 projects has doubled at least and as a result of everything my volume is down at least 50%.

Training should be working more with the computer programs so you may learn to complete a project instead of working out of the manuals. Simply can't apply everything out of a manual without learning how to apply it to the computer program.

8-20-2014: Loss of work, It's putting the dream of home ownership un reachable for a lot of people with the added costs and hoops to get a permit

8-20-2014: I can't put a value on the loss of sleep, credibility, extra hours on each project, loss of support to help me figure out anything that makes any sense or my always bitchy mood when I get a new project or I have to explain the stupid step each client has to take to sign off a project they gave me to complete. I wish I could quit this profession....it makes no sense anymore. I'm certainly not helping people save energy. I'm part of a problem now that is standing in the way of incentives and energy efficiency with it's hand open wanting money.

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8-20-2014: I'm a HERS rater, I had to stop testing due to the lack of work, I went to training for recertification but didn't find it feasible having to buy new digital gages and other expensive equipment to comply with the new code, I tried to charge more and lost ALL my clients, don't know who they went to, nobody is pulling building permits most likely. So, yes I lost the HERS part of my business.

8-20-2014: There is always time lost when entering a new Energy Code cycle.

With that said, it may be worthwhile to note that I will have to re-write at least 6 Title 24s that had to be written in a "make believe" fashion because they had items like underground walls and ductless mini-splits that could not be modeled when the T24s were written. Estimate: 18 hours work minimum.

8-20-2014: Loss of business. expense of needing to upgrade to software that is not market ready.

8-20-2014: We've experienced a loss of over 100 man hours to training and none of it has been useful.

8-20-2014: Purchased EnergyPro version 6 , res and non-res, and now not sure if A) its worth the hassle to take on new jobs under the 2013 code and B) whether EP will continue to be certified and C) whether I will have to learn new software if I want to provide energy modeling services for T24 compliance. I have so far been contacted by a dozen builders and architects wanting modeling services but have refused to take on new jobs under the 2013 code because of the problems with the registry and the software. I'm waiting for the dust to settle and let others work out the bugs.

8-21-2014: 3 projects for T24 reports paid \$900, Expenses: paper \$50, ink \$50, electricity \$75, new software \$540, labor at 48 hours.

Looks like minimum wages for a while.

8-21-2014: Time, time, time!

One common task takes 9 times longer to do for the same price.

8-21-2014: I would say the stupid energy requirements add 15-20% to the cost of the jobs we see. Hiring an energy consultant to tell the owners how much energy they should use, adds considerable cost. Lastly, you burden departments with inspecting and trying to keep up with these stupid rules, but don't pay to train or cover the time that is supposed to be spent chasing all the paperwork the state wants. In closing, it is imperative that an adult show up and begin to have serious conversations about ending this over-reaching, money wasting, nanny state, bullshit! There is no shortage of energy, only a lack of willingness to produce it.

8-21-2014: This whole process is a joke, a very bad joke.

8-22-2014: short term impact was significant in that many customers were hurrying to get construction projects in before the change in the codes due to anticipated increased construction costs. So we had more design work than we could actually handle. The long term is a bit more concerning in that our training time and even the documentation and design time for the added components and compliance forms has a bigger negative impact. We really have no recourse, except for the added construction costs to charge more fees for designed and complying to Title 24 when we have always had to do the same with no added costs.

The bigger concern in the long term is the economy's ability to keep up with the SIGNIFICANT increases to the electrical portion of the construction costs. Our first few projects utilizing the new Title 24 required components for compliance showed an increase in the electrical costs (as bid or quoted by electrical contractors) from a low of 40% higher costs to just over 70 %. We do not have a very confident feeling that

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the current increase in the health of the construction industry - at least here in California - will be able to sustain this type of "premium" for building in California.

8-22-2014: It has been extensive, perhaps on the order of \$10,000 lost productivity just in the last 2mos (between 3 staff). Biggest headache hands-down is CBECC-com. We're cool w code changes and accept getting familiar w them, embracing the changes realizing they're ultimately good in the long run.

8-24-2014: 55 hours wasted \$300 in excess whiskey

8-24-2014: My time spent per job is about 175% longer than before, but my fees are only 150% higher, so I am having to work longer hours to accomplish the same quantity of work and earn the same income. This would be o.k. if I thought my investments in learning and overhead would last, but it seems I am continually having to adjust my materials to fit the ever-changing situation.

8-25-2014: We have estimated at least 36 hours to-date of nonbillable time has been spent on implementing the new Code methods and dealing with bugs in the compliance software. Kind of a big deal for a 2-person company.

8-25-2014: Each project takes three times as long due to run times and registry uploads and client registry coordination. My average client cannot afford to pay me for the additional time for each project. It may result from loss of business for me and my clients.

8-25-2014: I am a self employed consulatnt who takes pride in the accuracy of my work and my customer service. A new code typically requires cost for new software, cost for a new/faster computer and time for the learning curve. At any code change I expect these costs. I typically do not raise my rates at the time of a code change becasue I do not expect clients to pay for my upgrades and learning curve. After a couple of month I adjust my prices once I have a true measure of the new code and how it affects my time of doing business. With this new code I'd say that I've lost a miniimum of 50% in \$\$'s per hour. This is due to the software run times which are exponential compared to what they use to be; time spent on the phone with the CEC determining reporting errors vs. input errors; time spent with Calcerts getting "patches" so files can be unloaded when their system has problems; time spent with clients hand holding/walking them through the Calcerts sign off process.

8-26-2014: I have probably lost somewhere between 60-80 hours of my personal time working through issues, not including training costs. I am currently in danger of losing a client because I cannot upload their CF1R due to technical issues.

8-26-2014: The time taken to prepare energy documentation has increased three fold. This is due to the processes of software that is not working correctly (giving incorrect results, changing input information, trying to find support to correct the issues, user unfriendly designed HERS registry, lack of knowledge in the field by contractors and designers, so much information/paperwork required]. It is difficult to pass along costs related to these issues because most of these issues should not be happening. Time and thorough study of the implementation of the energy code needs to be done before a change is made. Even though I take every training possible to learn the new codes before the implementation date, there is still an extremely large training curve that happens with the application of the new code. This shows that training for the new code

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prior to implementation is lacking. The building industry is already struggling, this energy code change seems as though it is putting another "nail in the coffin" of this industry....costs, time, paperwork....these are not conducive to bringing life and jobs back into the building industry.

8-26-2014: Attended a 2-day training on CBECC-Com, attempted to use it for an actual project and was unable to create a workable model, essentially wasted 90 hours of working time on that single project alone.

8-26-2014: Our company has had to hire additional people to manage the now complicated process of approving each step. Our HERS rater has also had to hire additional people to keep up. Our customers are frustrated and angry because it is now taking us much longer to get their inspections signed off. Lastly, we are waiting months to get paid for the financed jobs because most require HERS paperwork and several require the permit be signed off first. If we were a small Mom & Pop company, this could put us out of business!

8-26-2014: Largely because of the sweep of changes to both Title 24 analysis, documentation, and registration in concert with the new CalGreen requirements, I will not be accepting any new T24 clients and expect to close my T24 consultancy within the next 6 months unless there is a major improvement in the process and procedures for providing building energy consulting services. It is sad, but so little of the new regulations incorporate any emphasis on building form as appropriate response to varied climate ... no guidance. It seems the engineers and the LEEDs bean counters have taken over. The T24 analysis at the front end of the building process and the HERS inspections at the back end seem to be a great way to ensure the designed efficiency gets built in, but the documentation process, at the level it is approaching with the 2013 BEES, is over the top and a disincentive to compliance. I have enjoyed working with the CEC for over 30 years; this change effectively puts me out of business and permit costs out of reach for many clients. (Please note how few owners/developers actually go for LEEDs certification anymore because of the poor cost/benefit ratio.)

8-26-2014: I've spent over \$1,000 trying to gain extra training offered and traveled 2-3 hours from my office, including the \$480 I spent on the program EnergyPro. It doesn't work for Additions, can't seem to recognize simple construction situations in older construction situations and has been a problem for two months now!

8-28-2014: The increase in time to calculate projects is beyond ridiculous. The time spent having to deal with so many random errors and limitation in software hurts greatly. Clients don't care to hear why things are the way they are, they pay for a product. The increase in fees due to these issues has a direct influence in losing projects.

8-28-2014: estimated loss ~\$20000

8-28-2014: 80hrs +training

\$3,000 in losses (would be much greater if we had not raised our rates).

8-28-2014: I don't have any losses. In fact my income is up. Several energy consultants have quit due to the situation we are discussing and now I have all their clients as well. I raised my base price \$165.00 above what I was charging under the 2008 code mostly due to the extra time it takes to complete a project. I also raised my price to upload the CF1R to CalCERTS.

All these costs are passed along to the home owner, and the Energy Commission is the one responsible, because they have not followed their own documentation and specifications when creating their software.

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8-28-2014: I have lost at least 3 clients that have been repeat clients and they think I dont know what I'm doing but the reality is that the HERS registry and the program is not ready. I have lost countless man hours as well.

8-28-2014: We quit the non-res business because the ROI did not pencil out. We have yet to move from the red to the black with residential work. We hope to see daylight in September.

8-28-2014: My hourly rate (Fee received/#hrs spent on a project) has been cut in half.

I have spent probably 40 hours helping my clients navigate the Calcerts registry - without pay.

I will probably spend a couple of weeks going to seminars, listening to webinars, asking questions of Calcerts or my software provider.

I have been a licenced Architect for 30+ years, am responsible for \$200M+ worth of construction just on my active jobs, worked with SDGE in the 90's on their Lighting Upgrade program, and have been a T24 consultant for 25 years and I have been active in both and I have to spend my time dealing with totally non productive busy work.

8-28-2014: We made about \$5000 extra dollars the first month because most of our competition QUIT

8-29-2014: \$\$6,000.00

8-29-2014: Quantify alienating the industry...

8-29-2014: i am about 100% busier than before not due to the booming industry but because most are confused with the process and new requirements.

8-29-2014: How do you quantify frustration, angry clients and contractors feeling that they are being manipulated and the energy consultant is the benefactor.

The manuals are horrible. The forms are worse. I cannot even download a full compliance manual. The system needs to take a step back and look at true objectives and not just rolling out more regulations to achieve 2020/2030 goals.

Lots of new material and lots of training, but very little integration and simple steps to find your way in the regs.

8-29-2014: I use to be able to produce 4-5 projects a day, but now, I'm lucky if I can get 2 done, sometime, none. It takes more time to write the explanation of the inconsistencies to the Building Department and my clients than doing the Title-24 itself. It also takes more time to coordinate HERS registration and sometimes have to educate my clients on how the process works. The cost of registration itself is at least \$ 14.00 per project. Overall, it may take 2 to 3 times longer to do a project. It may look like the regulation is saving Energy, but it's wasting precious time and personal "energy", in my opinion.

8-29-2014: I don't want to add up the amount of money I have lost waiting for some one of the elements in the process to work. Today it is \$350. (Which is why I am answering this survey - I'm pissed off.) I have spent COUNTLESS hours, trying to get EnergyPro 6 to work, uninstalling and installing it because the update feature came with a bug from the CEC compliance manager, walking my clients through registering on CalCERTS (this includes an eighty-year-old architect who had no idea what I was talking about). I estimate in the last two months I have spent at least 20 hours a week dealing with glitches, SNAFU's, and changes in procedures that had to be resolved, during which time many of my clients threw their hands up and walked away. They either

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will not proceed with their projects or they will do what they want with or without a permit. And I can't really blame them.

8-29-2014: Lots of wasted time. And I say this as someone who strongly supports Energy Efficiency and what the CEC has done in the past. They just are taking it too far this time. As an Architect I object to continuous insulation on the outisde of the stud wall. EFIS is not necessary for this type of wall but the most simple way to do it. EFIS buildings will not last very long.

8-29-2014: I gave up a lucrative 27 year old Title-24 consulting business because you people are so over the top. Micropas gone. Energy Pro people snobby not helpful. CBECC-Res no phone support, full of bugs.

Lastly, you are taking my consulting business away from me by requiring HERS inspections for small additions. Why? Because HERS raters are often Title-24 consultants and I feel a potential conflict of interest, whereas a Title-24 consultant is not necessarily a HERS rater. I work at a desk, not in the field. The HERS raters will continue taking my business away!

Thank you CEC for implementing policy that helps no-one! Just your egos!

8-29-2014: The 2013 Energy Code has increased the plan review time on projects by an average of about 10%. This is a significant increase which cannot be recovered since the political climate in our jurisdiction does not allow us to raise fees. Especially when the new code adds cost to projects.

8-29-2014: Fortunately we haven't had the time to tally up losses due to the new software errors and code delays.

8-29-2014: I've had HVAC contractors tell me if they bid jobs including a permit with the new requirements, they will not get the job on replacements. The CEC is being successful in driving this portion underground. I suppose they can require the registration of every piece of duct and thermostat installed, that should stop it. Someone needs to stop this nonsense.

8-29-2014: - This could easily cost 3x to 10x more than previous proposals, assuming the certified software works, but is only slow (3 mins to 4 hours: excuse me?) Comparison and quality modeling can't be done at this speed. all this extra cost to me, which I cannot absorb, or to builders, who will scream murder, and WITH NO ADDED VALUE!!

- I can't even estimate the cost if the software is so buggy that it doesn't run at all.
- The cost to CA if we can't model normal systems is huge.
- Compliance, already spotty, will degrade into sheer frustration and derision.

8-30-2014: The preparation of Field Worksheets for each of the CF-3s is a huge project for transitioning from 2008 to 2013 Standards.

The cost of administrative paperwork has increased 10 fold.

The time spent in helping to prepare the installers of the new code.

We need a NEW price sheet from the approved registries for the additional posting of forms.

We need additional people at the registries to answer the phone and get answers NOW!

I have found that several citizen end users have called the CEC and received conflicting information. They are arguing costs with the installing contractor. The contractor is leaning on the Hers Rater for answers. It seems that the Home Warranty Companies will not pay for HERS testing. We are obliged to collect our fees from the Contractor.

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There you have a small piece of it!

8-30-2014: This increases my fees by 15% and the construction costs by \$4 to \$6 per sq. ft.

8-30-2014: THE CEC SOFTWARE THAT PERFORMS THE CALCULATIONS IS EXTREMELY SLOW AND IS CAUSING HOURS OF ADDITIONAL WORK. I NORMALLY PERFORM CALCULATIONS FREQUENTLY AS I CALCULATE "WHAT-IFS." THE SFR PROJECT I AM WORKING ON NOW IS TAKING NEARLY 10 MINUTES TO RUN AND I AM RUNNING IT REPEATEDLY. THIS IS UNACCEPTABLE AND UNNECESSARY. SPEED UP THE SYSTEM.

8-30-2014: Because of CEC software glitches and poorly engineered HERS provider websites, many jobs are taking from 50% to 100% longer to complete. Much of this time cannot fairly be billed to clients; so energy consultants are eating this wasted time.

Even with a lot of this unnecessary baggage, if everything worked right and smoothly, a substantial part of those large percentage time increases could be diminished to some reasonable increase.

8-31-2014: The time it used to take to get a customer a permit, is now used to explain to them how and why they have to hire a lighting designer and a certified compliance tester for what, in the past had been, a quick and simple (and affordable) process.

Building departments try to find ways to encourage the public to purchase permits as this typically results in safer installations. This is done mainly through customer service since the fees are set. The customer service that we are providing now is in informing them why their job will cost more and why it will take longer to get a permit. The feedback ranges from confusion to exasperation to defiance.

8-31-2014: Lost my ability to make a living. Shame on the state for being so poorly able to deliver.

9-01-2014: Lots of time and money . Is it worth all the effort with a depressed economy?

9-01-2014: I have had to attend 3 times the classes, webinars, and seminars for this code change than any other (Energy Analyst since 1986) and I am not done. I have had to spend countless hours trying to navigate through the directory, wait for the T24 to calculate, and wait days for answers to questions on the software, calculation, and HERS registry. The first month of the new code I provided approximately 30 Title-24's that are flawed with unnecessary HERS requirements that are printed out on the CF-1R that are not inputted or required by the software. All of this will have to be recalculated once the software and calculations bugs are worked out. This should have been done before implementation. I have gained market share because people are so fed up with the new code they have stopped providing Title-24's. In 28 years I have never had an irate or unhappy customer, and I have prided myself on that. This week, because I could not provide a client with an E+AA T24, or an answer on how to provide Energy Compliance so he could sell his home, he blamed it all on me. He threatened to sue because I could not help him. This is unacceptable. This code should have never been adopted without first knowing that all components where working. I can't begin to add up all the wasted time I have in dealing with this new code. It is a nightmare!

9-02-2014: Yes. we know that people will not come in for a furnace permit. that is lost revenue.

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9-02-2014: We are fairly certain that many contractors are being driven away by the confusion of all the new documentation. Some are trying to persevere, but others just don't come back in.

9-02-2014: Looks like less permits are being pulled.

9-02-2014: I'm an architect and I've been doing energy calculations from the beginning. That part of my business came to a close in July 2014. It simply impossible to keep up with all the changes. The software for which I was trained (Micropass) even gave up -- Nittler can't even keep up. Pay to go to the seminars, learn the law, learn the software, maybe buy new software and then get orphaned every three years when our cute new code takes effect.

9-02-2014: Normal training hours and software upgrades were expected. However, the hours per job trying to get around some part of the new code not working now accounts for two times the hours that it takes to actually do the project. We either operate at a loss, or triple our prices.

example: single family residential should be 2 hours, \$350. With software constantly buggy, and the registry not working, and having to write narratives to the building department about why the T24 reports don't match the design because the code doesn't work right yet, it now takes 6+ hours, charge \$1000.

Our high rise multifamily projects follow the same trend, with 100 times costs. Plus any software bugs there can make \$50,000 change orders appear all over later in construction, where the software isn't reliable, and now they have to upgrade insulation, or windows, or add additional HERS Testing. Our bigger clients are setting aside 2-3 hundred grand as contingency money because the software can't make up it's mind about if they are passing by 30% better than code or not passing at all.

9-02-2014: We spent 150 hours of unbilled engineering time trying to resolve discrepancies in the model with prior results. Much time was wasted in poor communications and difficulties in trying to troubleshoot and resolve problems.

9-02-2014: \$100,000 of capital outlay for software, code books, interpretive manuals and training costs to staff - and it continues to grow as we move forward with more requirements.

9-02-2014: Lot of time devoted behind demystifying the upgraded or new tools. There are still many bug fixes pending, and in my personal experience, I've spent most of half the year already in going back and forth with the software support teams in identifying their bugs and developing workarounds for things that they cannot accommodate for in their respective softwares. The energy models are expected to be as simple as possible in order to get it to run (in the process you are making all sorts of assumptions to simplify the model), but the calculation time steps have been increased to improve accuracy for compliance. This, to me, is a paradox.

9-02-2014: TIME: CBECC.com The additional training - had it really been effective (and I didn't constantly hear" we can't do this or that because these is no funding" or "support will be extremely limited because there is no funding") would have been great; however the time invested in an in-person CBECC-Com training involved 3 hours of travel and overnight hotel stay for a two- full day class wherein the developers tried to teach this software but, were not equipped to teach and answer questions directly related to those who would use the software on a day-to-day basis in applying the Standards; they also explained several times how many feature were not yet available stating they should be implemented sometime after July 1. (Seems a bit late)

IESVE - This vendor's training was effective but, it is still an entire day away from my business (plus travel) in order to investigate this option. Then evaluate the financial investment as well as the time required to learn

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how to effectively use this tool.

Change in professional direction: With the requirements for 3-D modeling being the trend in order to prepare a Performance approach Title 24 report - I now have to invest time and resources in becoming a draftsperson instead of being able to focus more completely on assisting my clients with applying and meeting the energy standards and its progressive goals (e.g. ZNE). This takes an unreasonable amount of time away from my business.

To date, the 2013 projects I have done have taken twice as much time due to the procedures involved in completing and delivering a report. This includes the registration process - just to get an official CF-1R.

Financially: The typical investment I would expect to make in compliance software is increased by 25%. My preferred software for Non-Residential compliance is only being allowed to function for 4 months due to the delays in approval from CEC from the malfunction of the CBECC engine. In the meantime I will have to invest money and time in a alternate version of software in order to stay in business and not just become a "completer of prescriptive forms".

Time lost in providing documentation due to delays in software output or troubleshooting issues also translates into dollars - estimated at 25% or more loss of profit on these projects including the time to explain to customers what the delays are both in function and learning curves.

The comment that has been on the CBECC.com support page to inform customers they may just have to wait for a fix is completely unacceptable and professionally embarrassing.

Thank you for initiating the survey. I aim to be as supportive as possible and as better developments come, I will speak positively about these.

9-02-2014: I have spent at least 4 weeks (16,000) learning CBECC-Com, working with Sketch-up, debugging, etc, most of which has been thrown down the drain after finding out that EnergyPro has been approved with DOE2, allowing me to very quickly and easily create models as I previously have. These hours are not a complete waste, however, if I had waited until next year when even EnergyPro is required to use CBECC-Com, I could have, theoretically, been trained on a bug-free software and not wasted so much time doing free dubugging work for the CEC.

9-02-2014: Enormous amount of time "re-tooling" (learning and debugging software, long emails to CEC staff, ACM vendors, etc.); huge amount of time learning and using the 2013 Stds calcerts.com web site, and educating our clients (Designers) to interact with it; gaining new clients whose old energy consultants are retiring because they cannot deal with the new energy code (a sad commentary on the state of affairs).

9-02-2014: What used to take one to two hours now takes 8 hours, the CEC engine won't take the calcs, we don't know if we're screwing up or not, it is costing us business and the cost to implement what they want to do hurts the middle class in California.

9-02-2014: I am no longer providing T-24 documentation for residential remodels and additions - too much grief form the owners over what they have to do to their existing homes and the additional costs for the HERS rater to verify the obvious. This accounted for \$2500 per year in business.

9-02-2014: At least 2 weeks of unbillable time for two people which is about 160 hours. If that time was billed at \$125/hr. that would be equal to \$20,000. So you could say we've lost out on \$20,000 and that's is not sustainable. We can't endure endless time trying to figure things out.

9-03-2014: My company has put in \sim 40 hrs in dealing with issues with the software and the registry since July 1st. There is no way to bill for that time.

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Having to wait for the software to be updated delays when I get paid and has made it difficult to keep the employees paid and the business afloat.

Energy Codes, CEC Engine, EnergyPro & My Company August 26, 2014

Dee Ann & CEC,

Please forward this message to your boss. You have of course tried to help too, but between EnergyPro support and your input, I am still unable to work through the program errors I get when trying to run my analysis. I have over 20 files attempting to get one job into compliance and the program continues to fail! I start with a new file, make one corrections, such as Climate Zone and the file stops running! First we changed the Cathedral ceiling to Attic because the program wouldn't recognize the Cathedrals. Then we deleted the Garage Below zone because the program wouldn't recognize it. So I have a floor without crawlspace and ducts that are in crawlspace must be modeled in a Attic that doesn't exist.

I have been told the CEC engine doesn't like modeling Cathedral ceilings, doesn't respond to Additions above a garage, and that the flaws will eventually be corrected. None of this is helping me to keep my clients happy. Typically I turn a job around completed in 2-4 days max.. I now have spent weeks on one job and still do not have

solutions needed to complete my work.

I have been a T24 consultant for over 25 years as you know, and have mastered a large sampling of construction types. Structures of straw bale, logs, domes, passive solar, etc., and have kept myself employed for all these years. I now am so stressed by an inability to conduct my business that I feel I may loose my clients and my company will fold. Does the CEC understand what's going on out here in the real world? I know I am not alone yet I feel like I am.

I don't wish to cause you any grief and I do truly appreciate your expertise, but please forward my concerns to someone who can really resolve the problems I am encountering now. I am truly sickened by the path my business

is now on. The new codes are causing a lot more problems than some small companies can survive! Mine too!

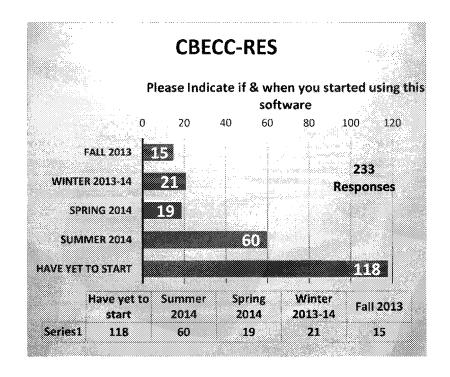
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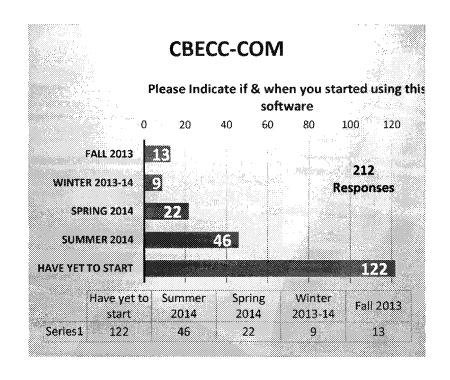
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