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# ENERGY NOTES

$RR_1 = d_{R1T1} * CI + d_{R1T2} * CI + d_{R1T3} * CI$   
 $RR_2 = d_{R2T1} * CI + d_{R2T2} * CI + d_{R2T3} * CI$   
 $RR_3 = (T + R) * (T + R - 1)$   
 $c = \sqrt{\frac{\sum (d - \bar{d})^2}{(n - 1)}} \quad \bar{d} = \sum d/n$   
 $PDF = \frac{1}{x \sqrt{2\pi\sigma^2}} e^{-\frac{(\ln x - \mu)^2}{2\sigma^2}} \quad \mu = e^{\mu + \frac{\sigma^2}{2}}$   
 $\sigma^2 = (\sigma^2 - 1)e$   
 $\lambda^k \cdot e^{-\lambda} / k!$   
 $\mu = \lambda = \sigma^2$   
 $dIP = \frac{CI * n_{xy}}{\sum CI * n_{xy}}$   
 $\sum dIP_{1...5} = 1$   
 $H = \frac{G^2}{A}$   
 $X = e^{\mu + \sigma Z}$   
 $\frac{1}{2} \ln(2\pi\sigma^2)$   
 $Q_k = n(n+2) \sum_{m=1}^k \frac{r_m}{n-m}$   
 $PMF = \binom{n}{k} p^k (1-p)^{n-k} \quad \text{ent} = \frac{1}{2} \log_2(2\pi e n p(1-p)) + O(\frac{1}{n})$   
For me it's personal  
 $\bar{d} = \sum d/n$   
**Optimization Function**  
 $\text{P1: } \min \left[ \sum_{IP=1}^n (t_{R1} * p(CI) + t_{R2} * p(CI) + \dots) \right]$   
 $\text{P2: } \min \left[ \sum_{RR=1}^n d * \left[ \frac{1}{2} (PF_1) + \frac{1}{2} (CF_1) \right] \right]$   
 $\text{P3: } \min \left[ \frac{\sum (T_{R1} - \bar{T})^2}{\text{count}(R) - 1} \right] \quad SE_{fit} = \sqrt{\frac{s^2}{1 + \frac{(x_0 - \bar{x})^2}{\sum (x_i - \bar{x})^2}}}$   
 $s(\hat{y}_0) = \sqrt{s^2 \alpha_0^2 (x_0 - \bar{x})^2}$   
 $\bar{C}I_f = \left( \bar{C}I_f + \frac{\sum (\frac{\bar{C}I_f}{\bar{C}I_f} * \bar{C}I_f) \right) * (1-p)$   
 $IP_{xy} = \min \sum \frac{(c_{xy} - IP_{xy})^2}{n-1} @ IP_{1,2,\dots}$

## Change that adds up to faster service

FPL's Matt Barrows is a customer too, so he knows every second counts when your power is out. That's why this self-proclaimed "math geek" is using his love for problem-solving to find a way to get help to your business faster if the lights go out. His team of efficiency experts used complex mathematics, mixed with our newest technology, to uncover a solution that helps dispatchers get crews to where they're needed in the shortest amount of time. The change is expected to trim precious minutes off of restoration efforts.

"Changing things for the better is what I live for. So, when you start to see the impact your work is going to have, it really feels good," said Barrows, whose work will be put to use throughout the areas we serve beginning this year.

We now have more than 1,600 efficiency experts, just like Barrows, who never stop looking for ways to deliver the best service to you every day. Visit [www.FPL.com/efficiencyexperts](http://www.FPL.com/efficiencyexperts) to learn more about his work and others.



## Free evaluation helps business save

Brian Schultz, with Catholic Health Services, hoped to find ways to cut down on St. John's Nursing Center's energy bill. He got the answers he wanted by signing up for FPL's free Business Energy Evaluation, or BEE.

While the recommendations our energy expert offered Schultz were specific to his business, there are many cost-cutting tips that you can implement at your business, including:

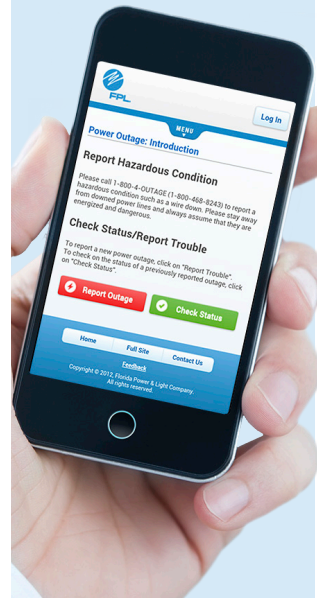
- » Installing programmable thermostats and timers, photo sensors, occupancy sensors and dimmers on lights.
- » Replacing lamps with high-efficiency fluorescents and compact fluorescent lights.
- » Performing regularly-scheduled maintenance on ventilation and air-conditioning equipment.

"FPL's BEE is an excellent tool because being the type of care facilities that we are, we watch our costs very closely," said Schultz. "Lowering our costs allows us to offer better services to our patients."

Visit [www.FPL.com/BEE](http://www.FPL.com/BEE) to learn how you can sign up for a personalized plan to cut energy costs, just like St. John's Nursing Center.

## Use smartphone to report an outage

We want it to be as easy as possible for you to reach us if the power goes out at your business. Now you can report and check the status of an outage from your smartphone. Just visit [www.FPL.com](http://www.FPL.com) from your device to use this and other mobile-friendly services.



## Storm charge adjustment

The Florida Public Service Commission approved a routine adjustment of the customer storm charge, a component of your bill that helps recover previous hurricane restoration costs and replenishes the reserve for future storms. This adjustment, effective March 1, varies for business customers depending on rate class. For small, non-demand business customers, the storm charge increased from 35 cents per 1,000 kWh to \$1.40. Visit [www.FPL.com/rates](http://www.FPL.com/rates) to view information for your specific rate class.



\* Monday-Friday

## Time-of-use peak hours change in April

If your business is on the time-of-use rate, don't forget that the on-peak hours change next month. From April 1 to Oct. 31, on-peak hours are Monday through Friday from noon to 9 p.m., excluding Memorial Day, Independence Day and Labor Day. To learn more about time-of-use or other rates, just call our Business Customer Care Center at 1-800-375-2434.

## Fast access for your business

You can have fast access to 24 months of billing and payment history with a click of a mouse. It's just one of the benefits of signing up your business for FPL E-Mail Bill<sup>®</sup>. With this convenient service, you'll also be able to receive email reminders when your payment is due and conveniently choose how to pay your bill. Sign up today for FPL E-Mail Bill at [www.FPL.com/ebillbiz](http://www.FPL.com/ebillbiz).



## Energy Answers



Visit [www.FPL.com/bizenergyanswers](http://www.FPL.com/bizenergyanswers) to submit energy-related questions.

**Q** I was once told that it takes more energy to turn a light on and off than it does to just leave it on for 10 minutes or so. Is this true?

— Patricia H., Boca Raton

**A** There is a little extra electricity involved in turning a light on due to more power needed during startup. However, the amount used is less than it would be if you leave lights on. Therefore, we typically recommend turning off lights whenever they are not needed, with one exception being high-intensity discharge (HID) lighting.

In your business, automated lighting controls can help you save energy and money by ensuring lights are off when offices, restrooms and meeting spaces are not in use.

One type of control, occupancy sensors, can detect motion and turn lights off when the room is unoccupied, then turn them back on when movement is detected.

We want to help you find other ways to save in your business. Visit [www.FPL.com/bizsavings](http://www.FPL.com/bizsavings) to learn other cost-cutting solutions.



*Cheney Brothers Inc. will help Florida's economy grow through its plans to build a new distribution center, creating 300 jobs.*

## Resources for new or growing businesses

When Florida's economy grows, everyone wins. That's why FPL now offers online resources dedicated to helping businesses start up, expand or relocate their operations within Florida.

The new services, available at [www.PoweringFlorida.com](http://www.PoweringFlorida.com), include a site-selection tool, which offers direct access to objective facts about Florida's workforce, available real estate, utility rate options and other in-depth information. Materials intended to help communities market their strengths and attract businesses are also available.

At FPL, we believe strategic partnerships, like this, are vital to getting Floridians back to work. This effort builds on our existing economic development efforts, which include a special discount on already-low electric rates for businesses that create jobs for Floridians.

Some businesses, like Cheney Brothers Inc., are already on tap to take advantage of these efforts. Our special discounted economic development rate will help the food service distributor launch a \$100 million distribution center in Charlotte County that will eventually employ about 300 people. Find other success stories and resources that may help you at [www.PoweringFlorida.com](http://www.PoweringFlorida.com).

## Did you know?

Some businesses offer to send your payment to FPL on your behalf for a fee without being authorized by FPL. Use of these unauthorized payment options may result in a delay of up to seven business days to post to your FPL account. We offer several ways you can quickly pay your bill. Visit [www.FPL.com/authorized](http://www.FPL.com/authorized) to learn more.