How to get a Load Analysis report

The ENERGYai™ Load Analysis report identifies energy savings opportunities in your facilities by analyzing historical meter data. ENERGYai™ works with any energy commodity – electricity, natural gas, steam, chilled water, etc. The Load Analysis report is applicable to loads of any size, large or small. A load might represent a single lighting panel in a building, or an entire university campus.

This document describes the steps for getting a Load Analysis report. You don't necessarily need this document because our web site, www.EnergyAi.com walks you through the steps. But if you want to know what to expect before diving in, all of the details are here.

Here is a quick overview:

1. If you haven't already done so, register as an ENERGYai™ client on our web site. Select "New Client Sign Up" under "Login/New Client". It's free, there's no obligation to buy anything. You will be asked to provide a user name, password, some contact information, and some billing information (you can be invoiced or pay by credit card).

2. Get your load data files. You'll need 6-13 months of interval energy data for each load you wish to have analyzed. ENERGYai™ accepts data files from all of the leading energy management systems used by utilities and energy service providers. You can see the latest list of sources from our web site (select "Where can I get my historic meter data" under "Resources"). And if your data is not available in one of our recognized formats, you can send it to us anyway for a cost estimate to reformat it.

3. Submit your batch of loads on our web site by selecting "Submit New Batch" under "Login/New Client". Follow the on-line instructions. A "batch" can be one load, or up to 50 loads.

4. In 3 business days or less, we will email your Load Analysis reports to you (unless you requested delivery by mail, in which case a CD with the reports will be on the way to you). You can also check the status of the batch at the ENERGYai™ website while the report is being prepared.

That's all there is to it. Now for the details….

1 Register as a New Client

Only registered ENERGYai™ clients can get Load Analysis reports. To register, go to www.EnergyAI.com and select "New Client Sign Up" under "Login/New Client". Registration does not obligate you to purchase reports, and you will not be asked for credit card information. You can update your registration information at any time.

You'll choose a user name and password, which are required to submit a batch of loads. You can email us at support@energyai.com if you lose either of these.

In addition to the standard contact information, you'll be asked to provide billing information (bill to address, an optional vendor number, and any special instructions we need to know). Before you submit your batch, you will see an estimate of the total cost for the Load Analysis report. The actual billed amount may be less because we only charge for loads which can be successfully analyzed (if a load is missing too much data, ENERGYai™ wont' process it).

You will also be asked to select a "preferred upload method". You have three options for sending your load data to ENERGYai™:

1. "FTP" – secure File Transfer Protocol.
2. "Mail" – good old U.S. mail, by copying your load data files onto a CD or DVD and mailing it to us. If you select "Mail" you will be asked to provide a mailing address which we will use to mail your Load Analysis report to you.
3. "Web upload" – directly uploading the load data files when you submit your batch. Note that this method is limited to batches whose combined load data files are less than 8 Megabytes in size.

Each of these methods is described in more detail at the end of this document. When you register, you select your "preferred", or default method. You can change this selection when you submit each batch of loads.

2 Get Your Load Data Files

ENERGYai™ needs 6-13 months of interval data for each load in your batch (the more you've got, the better the analysis). The data is pretty basic: a date, timestamp, and energy or demand value for each interval. Intervals are usually hourly, 30 minute, 15 minute, or less. Intervals can be irregular.

So where do you get this data? It originates from meters, submeters, building control systems, data recorders, and similar sources. It is usually stored in a data collection system, and that is where you can grab it. You may have access to such a system and not even realize it. Your utility or energy service partner may maintain a system with your meter data. Or you may have an in-house system.

Almost all of these systems have the ability to create files of interval data, usually as text files, comma-separated values (csv), or spreadsheets. You download these files onto your computer, and send them to us (as described in the next step). ENERGYai™ "understands" these files for all of the leading data collection systems. You don't need to "clean" the data, or identify any gaps in the readings, ENERGYai™ will do this. You don't need to convert units, we will accept whatever energy or demand unit your system generates.

Our web site contains a current list of recognized load data sources. Select "Where can I get my historic meter data" under "Resources". Find your utility, energy service provider, or in-house energy management system from this list. Instructions for creating load data files for each source are available there.

If your load data is not available in one of our many recognized formats, you still have two options for getting a Load Analysis report. Send us your data files as they are, and we will provide you with a cost

estimate to reformat them. Or if you are handy with Excel spreadsheets, you can download the "ENERGYai™ Generic Load Data spreadsheet" (also under "Resources") and paste your data into it.

In addition to interval load data files, there is one other type of data file you may wish to send to us. ENERGYai™ reports energy savings opportunities in terms of avoided costs and CO_2 emissions, which requires energy prices and emission factors. ENERGYai™ maintains a complete database of this information from recognized sources, including the U.S. Energy Information Administration, U.S EPA eGRID, and the International Energy Agency. So you do not need to provide prices or emission factors.

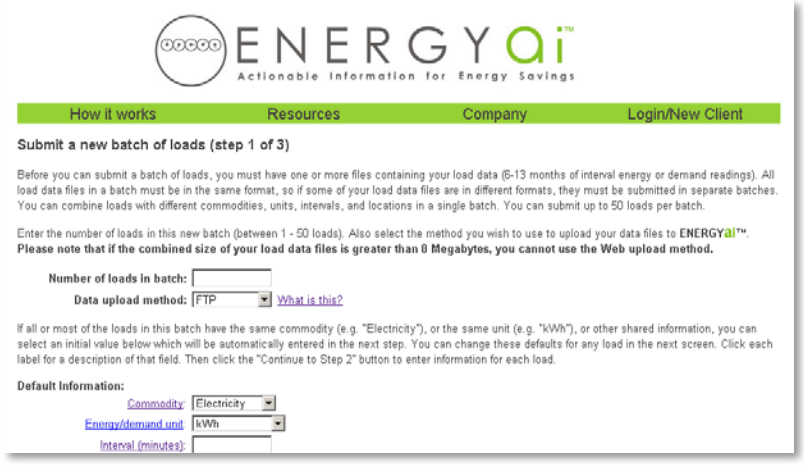
However, if you have load-specific prices or emission factors which you would like ENERGYai™ to use in your Load Analysis report, you can provide them with your batch. You do this by entering them in the "ENERGYai™ Optional Information spreadsheet" (also available under "Resources"), saving the file with a new name, and submitting it with your load data files.

3 Submit Your Batch

ENERGYai™ generates one Load Analysis report for each load in your batch. You can mix loads with different commodities in the same batch. For example, your batch might contain electric, natural gas, steam, and chilled water loads for a campus. You can also mix different loads of different intervals. For example, some loads may have hourly readings while others have 15 minute readings. A given load cannot have mixed intervals, though its timestamps need not be regular. It is not unusual for a load with nominal 15 minute intervals to have consecutive readings of between 10-20 minutes.

You cannot combine loads in different file formats in the same batch. For example, if you have load data files for two facilities which came from two different utilities which do not share the same format, then you must submit these in separate batches (there is no additional cost to do this).

To submit your batch, go to our web site, www.EnergyAI.com, and select "Submit New Batch" under "Login/New Client". After logging in, the following screen will be displayed:



This is the first of three screens for submitting a new batch of loads. The first two inputs are important:

- "Number of loads in batch" – pretty simple, if you are submitting ten loads, enter "10" here. This input drives the screen layout for the next step, where you will enter some information for each

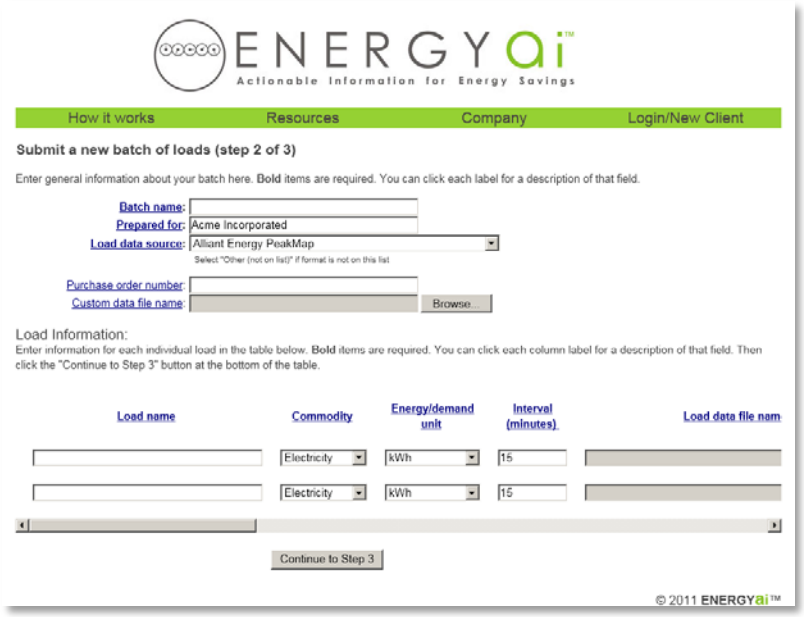
load. So if your input here turns out to be wrong, you will need to come back here and start over. You can enter between “1” and “50” here.

- “Data upload method” – as described earlier in this document, you have three options for transmitting your load data files to us: “FTP”, “Mail”, and “Web upload”. The default is your preferred upload method (which you entered as part of your registration), but you can change it here for each batch. The three upload methods are described in more detail at the end of this document.

The remaining fields in this screen are optional. If you are submitting lots of loads in this batch, and they all have the same commodity (let’s say electricity), you can select “Electricity” as the default commodity here. Then in the next screen, all of the loads will already have electricity selected. You will be able change the defaults for individual loads in the next screen.

Note that you can click on the labels for any of these default fields. A description of that input will be displayed.

Click the “Continue to Step 2” button, and the following is displayed:



You can click on any of the field labels in this screen to display more information about that field. The first three fields are required:

- “Batch name” – this is the name which will be used to track the status of the batch as it is being processed. It must not duplicate any earlier batch names you’ve used. For example, if the batch consists of meter data from your electric utility for a college campus, you might name the batch “Campus Main Electric Meters” or something like that.
- “Prepared for” – this is also in the Load Analysis report. It indicates for whom the report is prepared. The default is the organization name you entered in your registration, but you can change it here as needed.
- “Load data source” – this is a very important selection. This tells ENERGYai™ where your load data files came from, which also determines how they are formatted. Choose the source from where you generated your files. If your source is not on this list, select “Other (not on list)”. If

you imported your load data into the ENERGYai™ Generic Load Data spreadsheet, select that from the list.

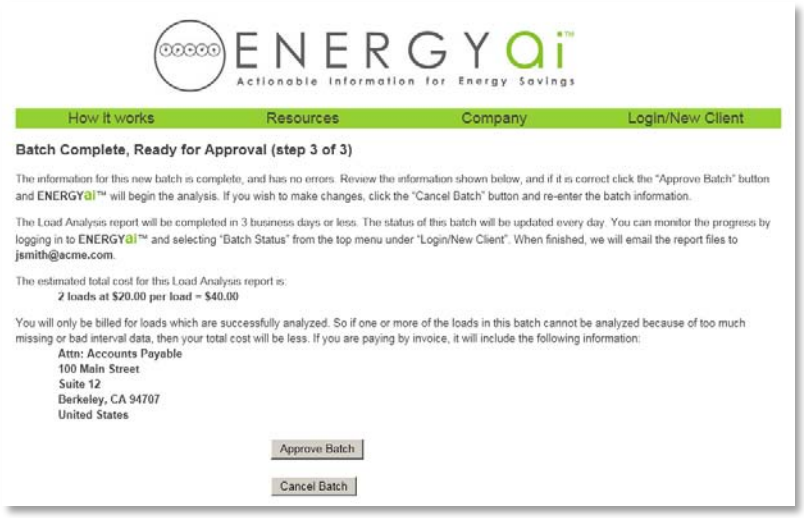
The next two fields are optional:

- "Purchase order number" – if you require a purchase order number on an invoice for this batch, enter it here.
- "Custom data file name" – if you are providing your own custom energy prices or CO_2 emission factors for this batch, as described in the previous section, select or enter the name of the spreadsheet file containing the custom data. This optional information must be provided using the "ENERGYai™ Optional Information spreadsheet", saved under a new name.

The "Load Information" table has rows for each load in the batch. It is a wide table, with 13 columns. You probably won't need to fill in all columns, and only the first 5 columns are required. You can click on each column head for more information, and most of the fields are self-explanatory. But here are a few important notes to emphasize:

- "Load name" – the load name appears throughout the Load Analysis report, so choose it carefully. Each load must have a unique name.
- "Load data file name" – select or enter the name of the load data file which contains the interval data for each load. The file name must exactly match the actual file name, and include the extension (e.g. "Building H Elec Load.xls" or "Building H Elec Load.csv".
- "Load data sheet name" – if the load data file for a load is an Excel spreadsheet, you must enter the name of the worksheet which contains the interval data for the load.
- "Country", "State/Province", and "Zip/postal code" – these are only used by ENERGYai™ to select local default energy prices and CO_2 emission factors. Country and state are the most important location fields. If you select "none" for state, ENERGYai™ will use national average prices and factors for the country you select.
- "Custom price schedule name", "Custom CO_2 factor schedule name", and "Custom holiday set" – if you are providing custom information via the custom data file discussed above, then you provided each data set with a name in the data file. Here you link the custom data set to the load(s) where it is to be applied. For example, if your custom data file contains a set of electricity prices named "Green Power Rate", then enter this name for any electric loads that should use this rate.

Click the "Continue to Step 3" button, and ENERGYai™ will check your batch information for errors. If errors are found, appropriate messages will be displayed, and you can correct your inputs. When no errors are found, the following screen is displayed:



Carefully review the information on this screen. If you chose the "Web upload" method of transferring your load data files to us, and the information here looks correct, click the "Approve Batch" button and ENERGYai™ will begin the analysis.

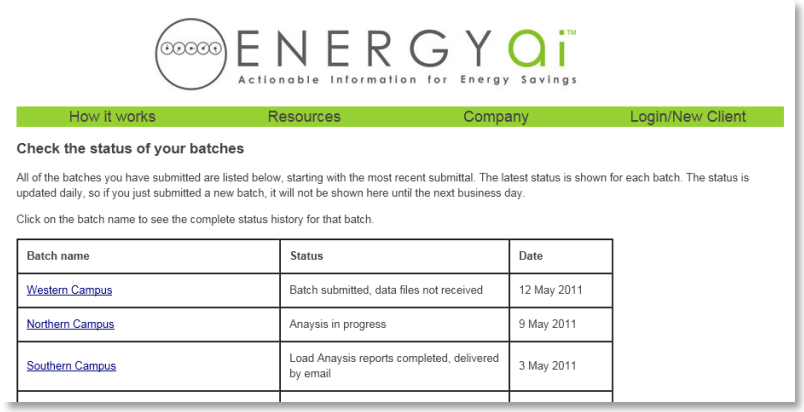
If you chose "FTP" or "Mail", you will see a list of load data files you need to send us before the analysis can begin. But if everything else looks correct, click the "Approve Batch" button. The analysis will begin as soon as we receive your files. Instructions for FTP (and mail) are at the end of this document.

This final screen shows the email address to which the Load Analysis reports will be sent (unless you requested delivery by mail). A cost estimate for the batch is also shown. Note that the actual billed amount may be less if some loads cannot be analyzed because of missing data. Your billing information is also shown.

If the email address or billing information need to be updated, go ahead and approve the batch. Then go to "Update Client Info" under "Login/New Client" and update your information.

4 Check Batch Status

Your Load Analysis report will be completed in 3 business days or less from the time that we receive your load data files. You can check the status of your batch by selecting "Batch Status" under "Login/New Client":



Each batch you have submitted is shown here. The "Status" is the latest status for the batch. You can click on the batch name to see its complete status history.

When your Load Analysis reports are ready, you'll receive them via email (they are PDF files). If you selected "Mail" as your upload method, then we'll send you an email when the report is ready, notifying you that the Load Analysis report is on its way to you by mail on a CD.

5 Using FTP to Upload Data Files

The security of your energy data is important to us. The ENERGYai™ web site supports "FTP over SSL", also known as "FTPS". This automatically encrypts your data when it is transferred over the Internet, so it cannot be intercepted in a useable form.

If you do not already have FTP software on your computer, we recommend you use "FileZilla", one of the most popular open source FTP tools. FileZilla is distributed free of charge under a general public license. Instructions for installing and configuring FileZilla are provided below.

You can also send your data files to us via regular FTP. For example, you can use Windows Explorer to transmit your data, though it will not be encrypted. Instructions for this follow the FileZilla instructions.

For experienced FTP users, here are the credentials for connecting to the ENERGYai™ FTP site (both secure and regular FTP):

Host: **energyai.com**
User name: **EnergyAI**
Password: **EnergyAI*1**

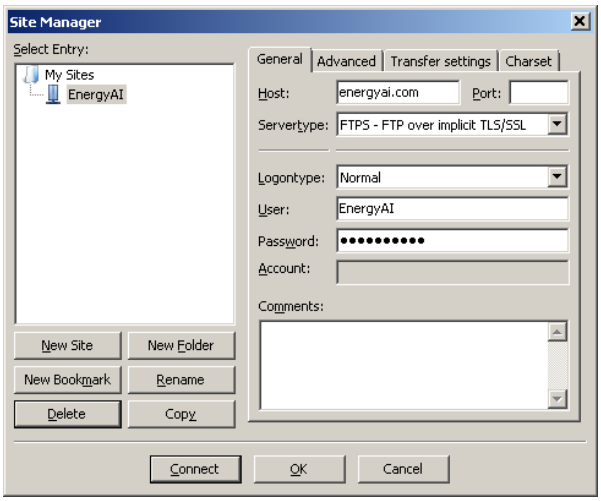
Note that both the user name and password are case sensitive.

You can download the latest version of FileZilla from http://filezilla-project.org. From the FileZilla home page, select "Download FileZilla Client" (you don't need the Server version). Select the client download for your platform – Windows, Linux, or Mac OS. Follow the on-line installation instructions. There are no special options or requirements for the client tool.

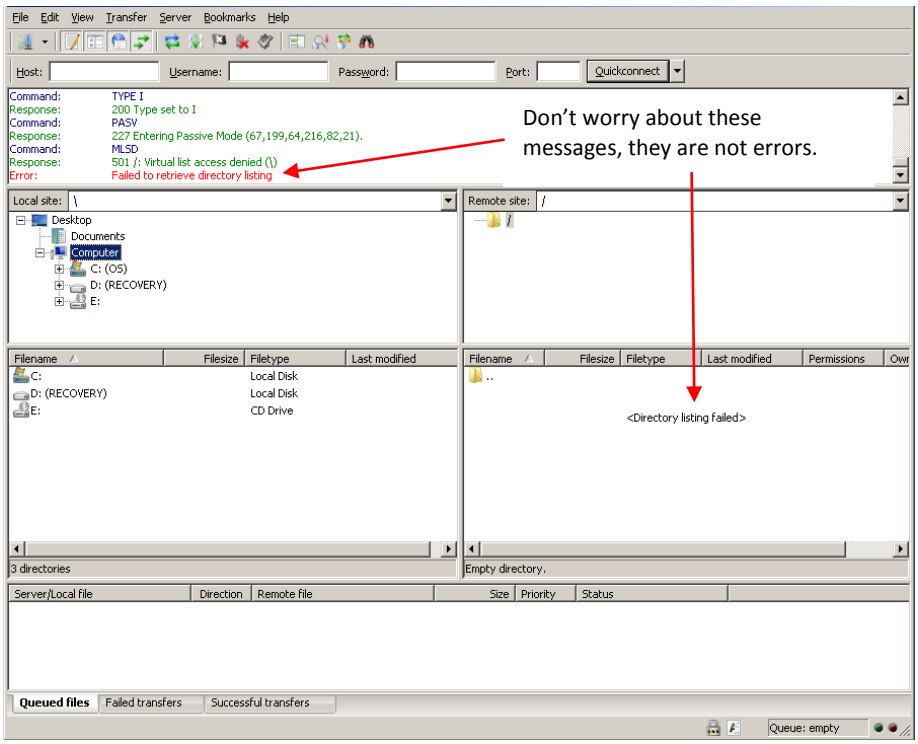
After the installation is complete, start FileZilla and follow these steps to set up a secure FTP connection from your computer to ENERGYai™:

1. Select "File", then "Site Manager" from the top menu. This opens a blank Site Manager screen.
2. Highlight "My Sites" in the Select Entry section. Then click the New Site button and enter "EnergyAI" (or something similar) for the new site's name.
3. Under the General tab, enter "energyai.com" for the Host. Leave the Port blank, and select "FTPS – FTP over implicit TLS/SSL" for the Servertype. Select "Normal" for the Logontype. Enter "EnergyAI" for the User and "EnergyAI*1" for the password (don't enter quotes for either the user or password).

The Site Manager screen should look like the following:



4. Click the Connect button to test the connection between your computer and the ENERGYai™ FTP site. You should see a FileZilla screen similar to the following:

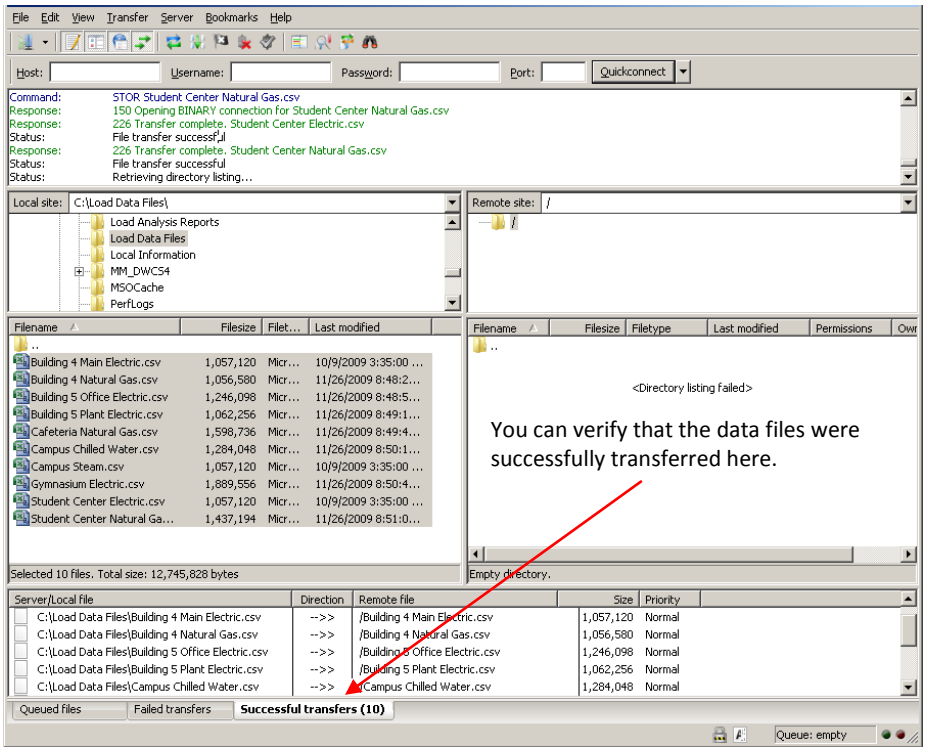


And that's it, you are now securely connected to ENERGYai™. Note the two apparent error messages in the screen shot above. They are not really errors, you should see these messages. For security reasons, the user "EnergyAI" does not have permission to view the contents of the remote site (the right hand side of the screen). So FileZilla is simply saying that it is unable to show you any files which might be in the ENERGYai™ FTP site. This is normal.

Now you can transmit files to ENERGYai™ simply by locating them on your computer as shown in the left hand side of the screen, under Local site. Then drag them to the right hand side (where it says "Directory listing failed" above).

As an example, let's suppose you have ten load data files to upload to ENERGYai™. They are located in a folder named "Load Data Files" on your C: drive. Each is a comma separated value (CSV) file which you obtained from your energy management system. Navigate to the "Load Data Files" folder in the left hand panel (under Local Site). Highlight the ten data files, and drag them to the right hand panel, where it says "Directory listing failed". The files will start transferring, and you will see the status of the transfer in the bottom panel of the FileZilla screen. The transfer should be fast over a high speed Internet connection, about 5-20 seconds per file.

When the transfer is complete, the FileZilla screen should look similar to the following:



Note that the Remote site panel (right hand side) is still blank, you won't see the files you just transferred. But you can verify that they were transferred by clicking the "Successful transfers" tab at the bottom of the screen.

Each time you wish to transfer files from your computer to the ENERGYai™ FTP site, just open FileZilla, select Site Manager from the File menu (or just press Ctrl-S), select the "EnergyAI" site and click the Connect button.

Transfer files with Windows Explorer

You can also use Windows Explorer to transfer your data files to ENERGYai™, though this will be via regular FTP instead of secure FTP. So your files will not be encrypted during transmission.

This is a simple process – start Windows Explorer. Type "ftp://energyai.com" in the top address bar and press Enter. You will be prompted for a user name and password. Use the same credentials as shown earlier, "EnergyAI" for the user name and "EnergyAI*1" for the password (without quotes). Now you can copy your data files from any folder on your computer to ENERGYai™.

6 Send Your Data Files via Mail

Simply copy your load data files to a CD or DVD and mail them to us. Our address will be shown in the "Step 3 of 3" screen where you approve a batch. You can also get our address under "Company" on our website.

If you send your data files by mail, we will send the Load Analysis report to you by mail. We will send it to the mailing address you entered with your registration information. You can update this by selecting "Update Client Info" under "Login/New Client".

7 Transmit Your Data Files via Web Upload

The "web upload" method is the simplest way to send your data files to us. When you enter individual load information in the "Step 2 of 2" screen, you select the load data files on your computer. The files are automatically transferred to the ENERGYai™ web site when you submit the batch.

But the web upload method only allows a total of 8 Megabytes to be uploaded for each batch. So the combined size of the custom data file (if you are submitting one) and all the load data files for the batch cannot exceed 8 Megabytes. So check the sizes of each data file to see if their total exceeds this limit before uploading. As a rule of thumb, if your sending a full year of 15 minute interval data for each load you are probably limited to four loads.

If you try to send more than 8 Megabytes via web upload, an error message will be displayed. You must change the data upload method selection for this batch to "FTP" or "Mail" and resubmit the batch. Or you can divide your loads into smaller batches and use the web upload method, as long as the combined data file size for each batch is less than 8 Megabytes.

If you have any questions about this information, please email us at support@energyai.com.