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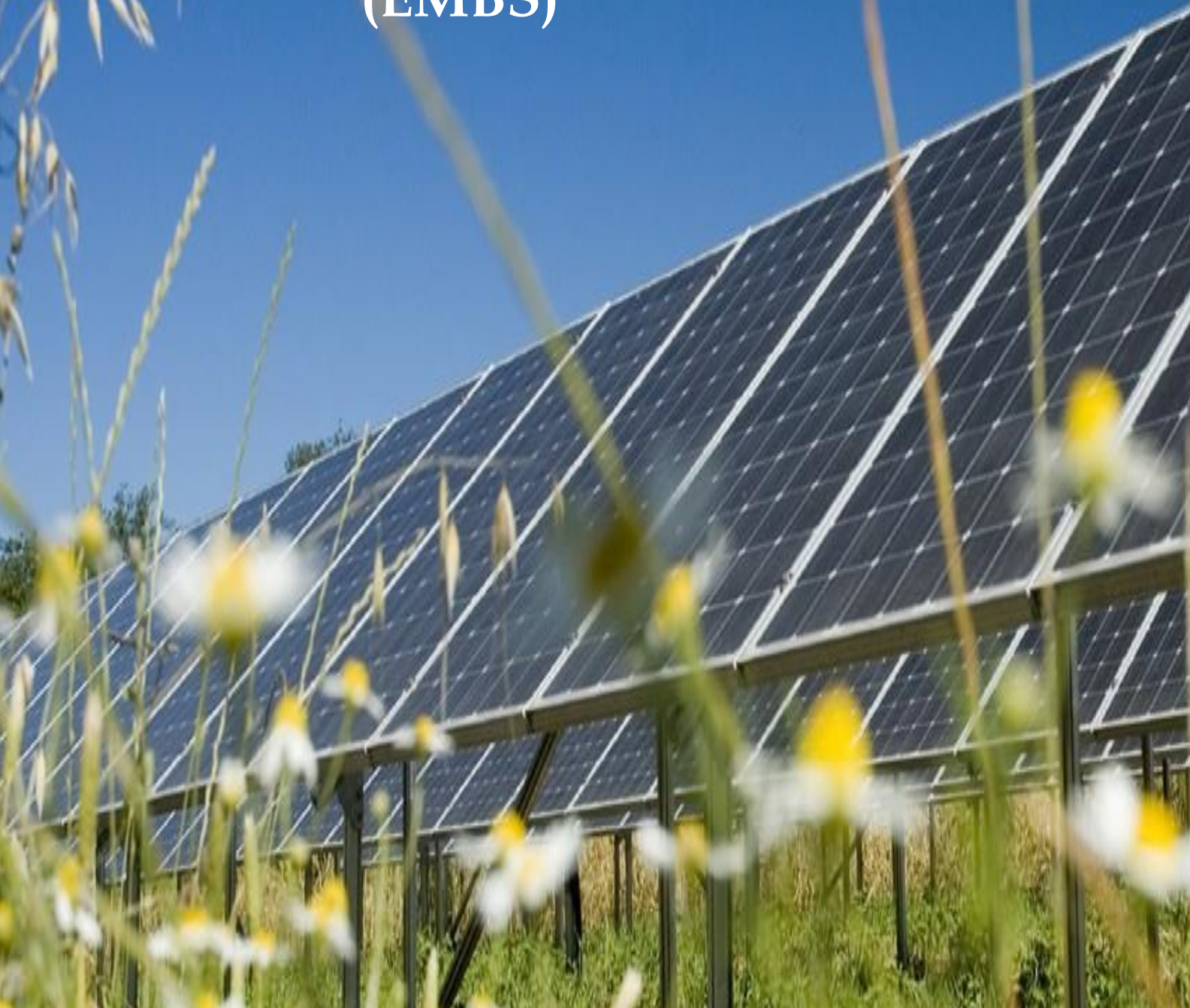
CONTACT

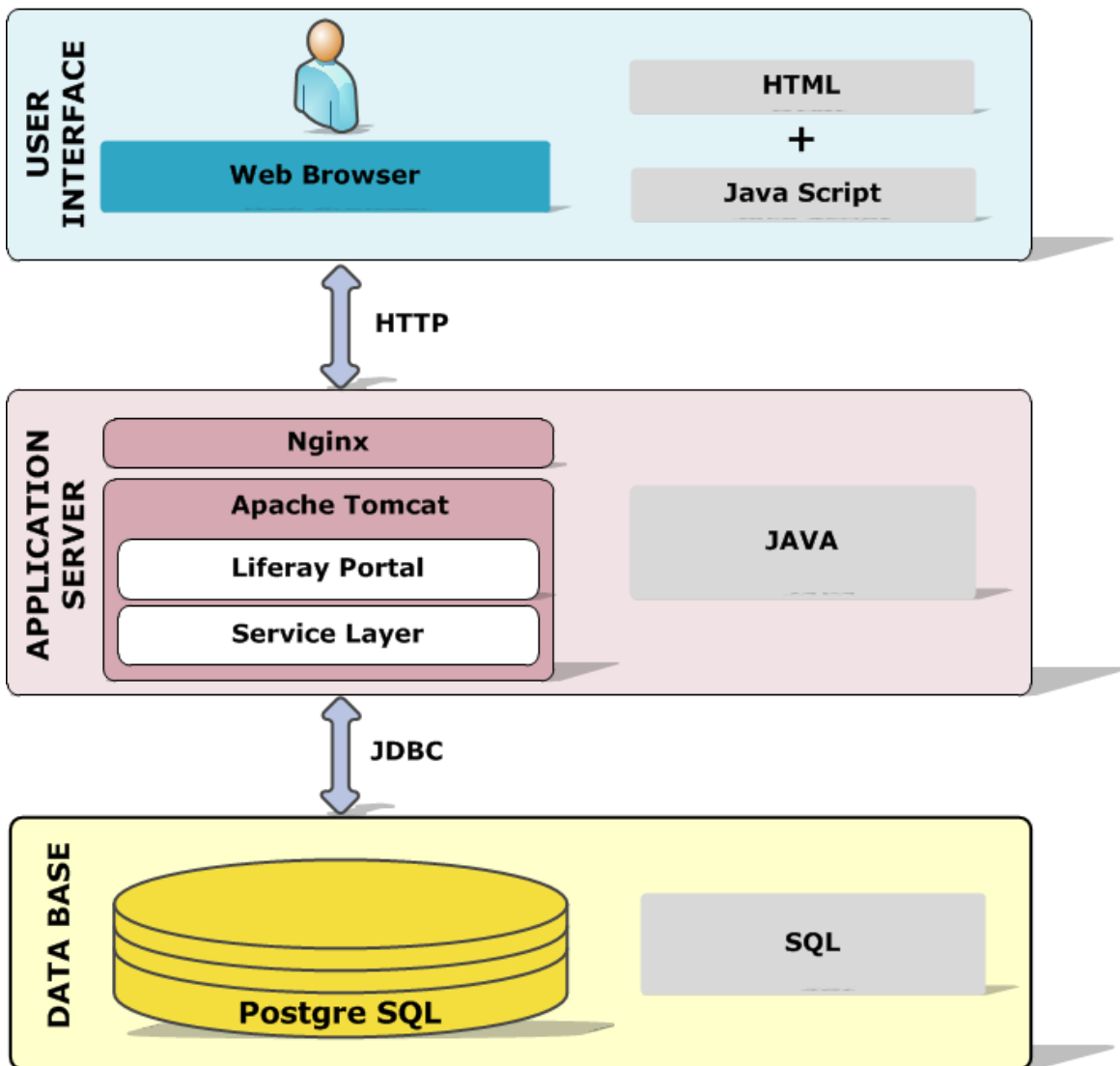Please contact publications@unido.org for further information concerning UNIDO publications.

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Energy management benchmarking system (EMBS)

Solution Architecture

USER INTERFACE

Web Browser

HTML + Java Script

HTTP

APPLICATION SERVER

Nginx

Apache Tomcat

Liferay Portal

Service Layer

JAVA

JDBC

DATA BASE

Postgre SQL

SQL

Key features:

1. Freeware
2. Open Source
3. The Best of Bread

Site Map

Contents

Topical Essay

Two main options were realized in EMBS:

1. The first system's option defines a possibility to use different instruments to assess the efficiency for any industrial company.

   Those instruments allow users to check the existing level of energy management in the company, to get business rationale for implementation of energy policy in the company, to view comparative analysis with such indicators as the specific energy consumption and the improving energy efficiency in the industry at the national, sectoral and international levels.

   Also users may develop an action plan for the implementation of the energy policy in the company, calculate the energy efficiency of the modernization of energy users.

2. The second possibility of the system allows users to use the different information services: to view thematic news, follow the necessary events and manage documents.

EMBS contains:

- Homepage.
- "Information services" section consists of the "News", "Events", "Documents" and "Useful links" pages.
- "Instruments" section consists of the "Self assessment", "Business case", "Benchmarking", "Action plan" and "Significant energy users" pages.
- "Feedback" section consists of the "Ask expert", "Forum", "Offers and remarks", "Contacts" and "Polls" pages.

Basic Business Needs

EMBS provides companies with the features that need to satisfy the following basic business needs. It will be able to address the following:

- Manage cost effective analysis
- Calculate of economic indicators in the implementation and success of energy policy for the enterprise
- Check the existing level of energy management in the company.

Major Features

Checking the existing level of energy management in the company

The feature's purpose is a possibility to identify the main priorities for any industrial organization regarding the implementation process.

Companies may check their existing level of energy management system. In order to get pre-self-assessment the company should answer on key questions and compare the current values with target values.

Getting business rationale for implementation of energy policy in the company

The feature's purpose is a possibility to study cost effective analysis and calculation of economic indicators in the implementation and success of energy policy for any industrial enterprise.

Companies may get business rationale for implementation of their energy policy. In order to get business rationale the company should enter the information about the company, the consumption of energy and the target value of Energy Costs Intensity and after that learn how to reduce energy consumption affects the performance of the company.

Viewing comparative analysis in the industry at the national, sectoral and international levels

The feature's purpose is a possibility to show an overall picture of values for energy efficiency in the industry at the national, sectoral and international levels.

Users may view the change of energy efficiency indicators at the sectoral, national and international level. Comparative analysis is defined for the following indicators: the specific energy consumption and the increase energy efficiency in the industry.

Development an action plan for the implementation of the energy policy in the company

The feature's purpose is a possibility to form an action plan for the implementation of energy management policy in the company.

In order to form an action plan necessary to formulate an organizational structure (team), responsible for the result, energy policy goals and tasks that are necessary to achieve the objectives. The tool provides the ability to graphically 'step by step' to form a plan of action.

Calculating the energy efficiency of the modernization of the main consumers of energy

The feature's purpose is a possibility to calculate the energy efficiency of the modernization of the main consumers of energy.

In order to calculate the energy efficiency of the modernization of SEUs necessary to identify the energy used by the company. Then enter SEUs, people and factors that influence the energy use. Afterall the company may calculate the energy efficiency of the modernization of SEUs.

The company may determine which process of the enterprise consumes more energy.

Using the information services

The feature's purpose is a possibility to inform users of the latest industrial news articles from RIA Novosti (chapter "Energetics"), events, documents and useful links.

Users may use the different information services like news, events, documents, polls, forum and etc.

The block "Information services" is a single point of user access to the latest topical info updates.

Definitions

SEU

Significant Energy Users

Form Descriptions

EMBS should include the following main sections:

1. Home Page

2. "Information services" section

3. "Instruments" section

4. "Feedback" section.

Home Page

Description

"Home Page" form is a start (home) page of the Effective Industry System.

http://energy.unido.ru/

Prerequisites

Before you can use "Home Page" form you must perform the following:

- Enter URL in the address bar

- Change language if it is necessary.

Security and visible

Displaying a content of Home Page depends on the segment of users (Russian or No-Russian) and of their authorization (authorized or unauthorized).

Structure

The Home Page should include the following components:

1. Navigation area

The navigation area (Figure 1) is located at the top of the start page. It is displayed on all portal pages the same and contains the following elements:

a) Title "Energy effective industry"
b) Logo is a link to the Home Page.
c) Menu that consists of "Information services", "Instruments" and "Feedback"items.
   "Information services" item consists of:
   - "News" is a link to the "News" page.
   - "Events" is a link to the "Events"page.
   - "Documents" is a link to the "Documents" page.
   - "Useful links" is a link to the "Useful links" page.
   "Instruments" item consists of:
   - "Self Assessment" is a link to the "Self Assessment" page.
   - "Business Case" is a link to the "Business Case"page.

- "Benchmarking" is a link to the "Benchmarking" page.
- "Action plan" is a link to the "Action plan" page.
- "Significant Energy Users" is a link to the "Significant Energy Users" page.

"Feedback" item consists of:

- "Ask Expert" is a link to the "Ask the expert" page.
- "Forum" is a link to the "Forum" page.
- "Offers and remarks" is a link to the "Offers and remarks" page.
- "Contacts" is a link to the "Contacts" page.
- "Polls" is a link to the "Polls" page.

d) The search string. The search is performed on all portal content:

- News;
- Events;
- Documents;
- Useful links;
- Polls.

e) Switch localization portal.

   The localization of the portal is implemented in two languages: English and Russian.

f) A link to the login page for authorized users.

   Link "Login" jumps to the login page for authorized users, which contains fields for entering a user name, password, and a link to reset your password.

   A link to the page in order to create a new account. Link "Create Account" jumps to the page to create a new user. The required fields for the new user registration are:

1. User name
2. Login
3. Password
4. E-mail.

Figure 1. Navigation area

2. Interactive menu

The Interactive menu is a visualization of the Shewhart-Deming cycle (Figure 2), as a model of the implementation of any management system: Plan-Do-Check-Act.

Figure 2. Interactive menu

All designed power tools are grouped in phases PDCA and marked the appropriate color. According to the Shewhart-Deming cycle displays information on a particular instrument:

- Name

- A brief description

- A link to go to the tools page.

To go to a specific phase of the PDCA it is necessary to click on the corresponding item in the lower right corner of the area.

To display information on a particular instrument, it is necessary to click on a rotating circle sectors.

3. *Area Widget*
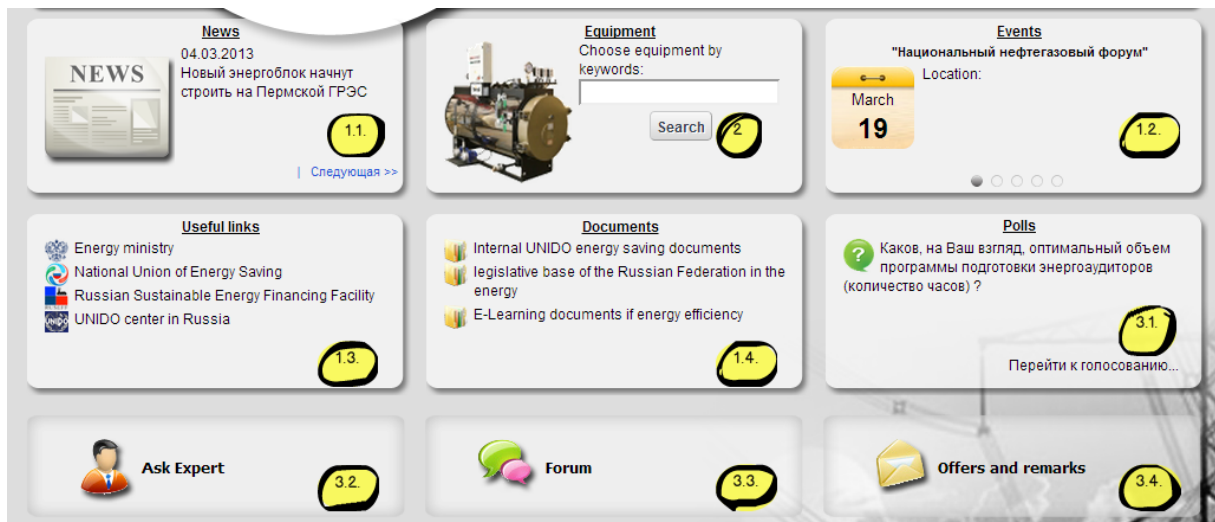
Figure 3. Area Widget

The Area Widget (Figure 3) contains various widgets grouped into three types:

1. Information Services that consists of:

1.1. **"News" widget** (Figure 4) consists of:
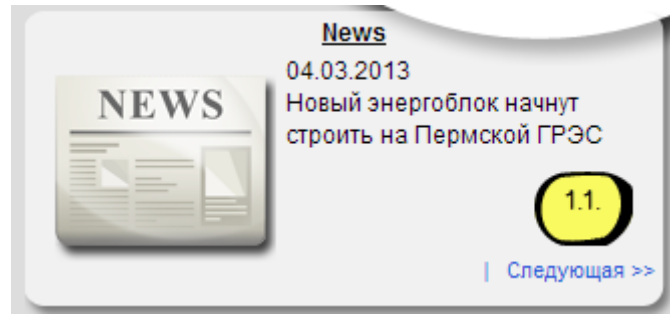
Figure 4. "News" widget

a) "News"title is a link to <u>the "News" page</u>. The string should be colored in a blue color by hovering on it.

b) The image is a link to the page of the appropriate post. If an image is not defined to the entry, the default image is displayed instead of it.

c) Data and text of entry is a link to the page of the appropriate post.

d) "Next >>" and "<< Previous" buttons. By clicking on "Next >>" button the next news should be displayed in the widget. By clicking on "<< Previous" button the previous news should be displayed in the widget. If there is no previos news button "Previous" should not be displayed. If there is no next news button "Next" should not be displayed.

1.2. **"Events" widget** (Figure 5) consists of:
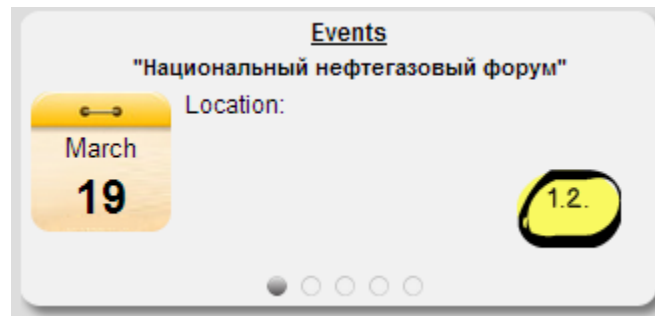
Figure 5. "Events" widget

a) "Events"title is a link to <u>the "Events"page</u>. The strings are colored in a blue color by hovering on it.

b) Date, description and venue of event are a link to the page of the full version of appropriate event. Date, venue and text should are colored in a blue color by hovering on it.

c) 5 switches. Users may view the following 4 events without leaving the home page portal with switches that are displayed underneath the description of event. By clicking on a switch the appropriate event is displayed in the widget.

1.3. **"Useful links" widget** (Figure 6) is a list of useful links. It is consists of:
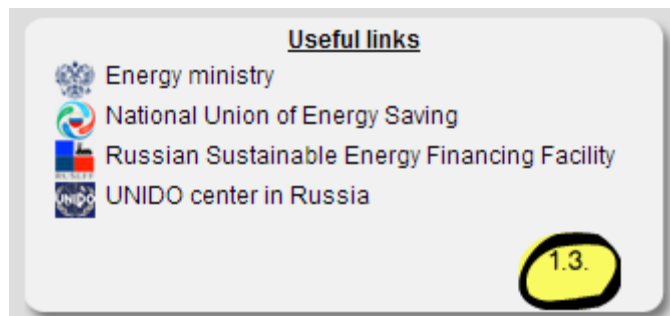
Figure 6. "Useful links" widget

a) "Useful links" title is a link to <u>the "Useful links" page</u>. The tittle is colored in a blue color by hovering on it.

b) A list of 4 links. Each link is an icon + a name of link. By clicking on it user is automatically moved to a new browser page with the site of appropriate state structure/organization/company/association. A name of link is colored in a blue color by hovering on it.

  By default, the widget displays the links to:
- Energy ministry
- National Union of Energy Saving
- Russian Sustainable Energy Financing Facility
- UNIDO center in Russia.

  1.4. **"Documents" widget** (Figure 7) consists of:
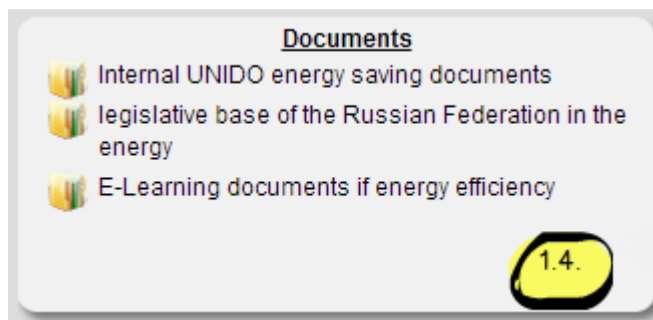
Figure 7. "Documents" widget

a) "Documents" title is a link to <u>the "Documents" page</u>. The tittle is colored in a blue color by hovering on it.

b) A list of 3 folders. Each folder is an icon of folder + a folder name. By clicking on it user is automatically moved to a page with appropriate folder. A name of folder is colored in a blue color by hovering on it.

  By default, the widget displays the links to the following folders:
- Internal UNIDO energy saving documents
- Legislative base of the Russian Federation in the energy
- E-Learning documents if energy efficiency.

  2. Instruments that consists of "Eequipment" tool. **"Eequipment" widget** (Figure 8) consists of:
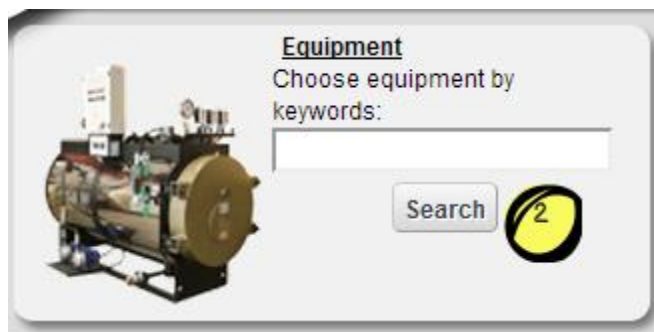
Figure 8. "Eequipment" widget

a) "Eequipment" title is a link to <u>the "Inventory selector" page</u>. The tittle is colored in a blue color by hovering on it.
b) A default image.
c) A text filed "Choose equipment by keywords:" and entry field. Iser may enter any equipment to find it.
d) Button "Search". By clicking on this button the user is automatically moved to the "Inventory selector" page. If the desired word is absent in a list of inventory, a full list of inventory is displayed by default on the "Inventrory selector" page.

3.   Feedback that consists of:

3.1.   **"Polls" widget** (Figure 9) consists of:
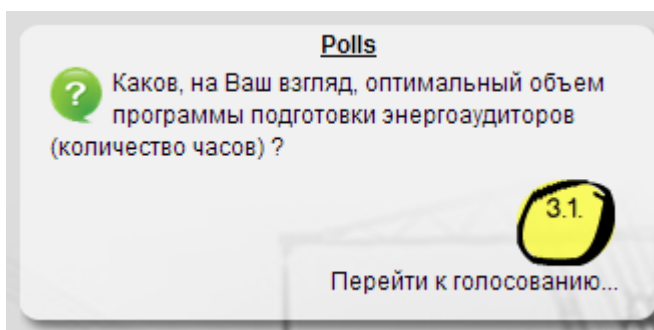
Figure 9. "Polls" widget

1. "Polls" title is a link to <u>the "Polls" page</u>. The tittle is colored in a blue color by hovering on it.
2. A text of a poll.
3. A link "To a poll..." is a link to the page of the appropriate poll. This text is colored in a blue color by hovering on it.

   3.2. **"Ask expert" widget** (Figure 10).
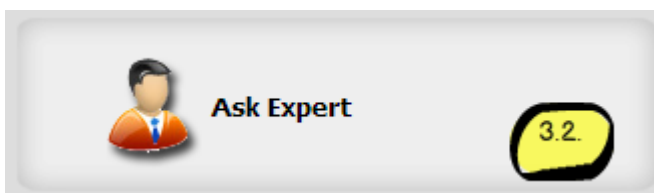
Figure 10. "Ask expert" widget

Order to go to <u>the "Ask the expert"page</u> it is necessary to click on the widget.

The widget is highlighted and the text is colored in a blue color by hovering on widget.

   3.3. **"Forum" widget** (Figure 11).
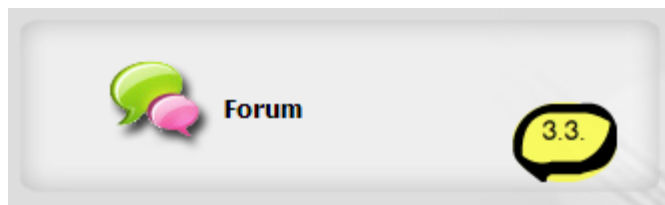
Figure 11. "Forum" widget

Order to go to the "Forum"page it is necessary to click on the widget.

The widget is highlighted and the text is colored in a blue color by hovering on widget.

3.4. **"Offers and remarks" widget** (Figure 12).
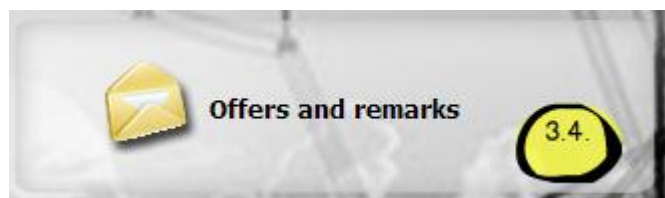
Figure 12. "Offers and remarks" widget

Order to go to the "Offers and remarks"page it is necessary to click on the widget.

The widget is highlighted and the text is colored in a blue color by hovering on widget.

4. Footer

The footer (Figure 13) is displayed at the bottom of page and contains the copyright:

"Copyright © 2012 UNIDO

All rights reserved and protected by the Law".

Figure 13. Footer

"Information services" section

Description

"Information services" section is a block that informs users of the latest industrial news, events, documents and useful links.

Prerequisites

Before you can use "Information services"section you must perform the following:

• Open "Energy Effective Industry"system

• Change language if it is necessary

• Hover on the "Information services" name that is displayed in the navigation area and choose the necessary service and click on it

Or:

- if user is on <u>Home Page</u> he may choose the necessary information service that is displayed in the Area Widget and click on the appropriate service's icon.

Security and visible

Displaying a content of "Information services" section depends on the segment of users (Russian or No-Russian) and of their authorization (authorized or unauthorized).

Only authorized users have a possibility to subscribe/ unsubscribe from comment.

Structure

"Information services" section should include the following components:

1. *Navigation area*

More detail information see <u>here</u>.

2. ***"Information services" area*** is different for the following pages:

1) <u>**News**</u>

News List

"News" form is intended to inform users of the latest industrial news articles from RIA Novosti (chapter "Energetics").
"News" form (Figure 14) contains the following elements:
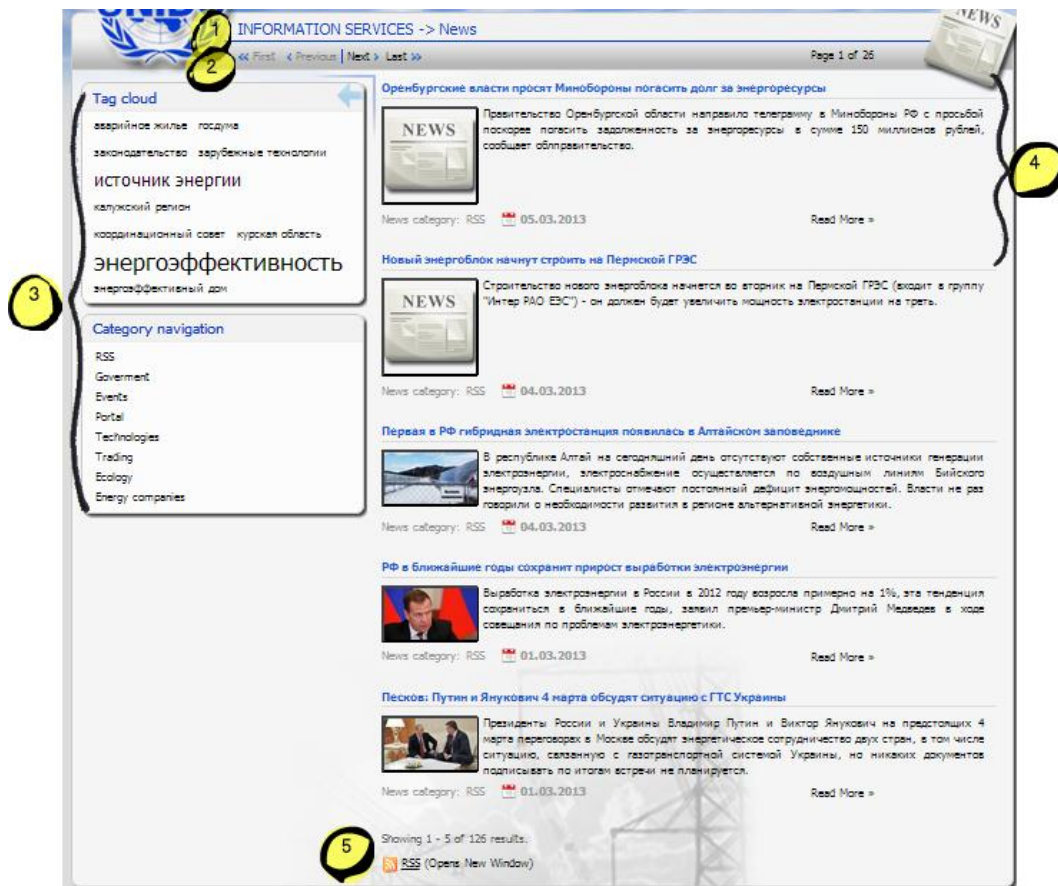
Figure 14. "News" page

1. Tittle "INFORMATION SERVICES -> News".
2. Buttons "First", "Previous", "Next" and "Last" and the image news.
   In order to move to the first post it is necessary to click on the "First" button (if it is available).
   In order to move to the previous post it is necessary to click on the "Previous" button (if it is available).
   In order to move to the next post it is necessary to click on the "Next" button (if it is available).
   In order to move to the last post it is necessary to click on the "Last" button (if it is available).
3. Filter Bar is an area of tags cloud and category navigation. It is intended to filter news by tags and categories.
   To filter the news list, user clicks on a particular category (tag), and category (tag) will be highlighted in blue.
   To disable the filter, again click on the selected category (tag).
   Also user may filter the list of news by one tag and one category at the same time. Selecting multiple categories or tags is impossible.

   To collapse the panel filter, user should click on the light blue arrow ⬅ in the upper right corner of the panel. To expand a collapsed panel filter, user also should click on the light blue arrow ➡ in the upper right corner of the folded panel.
4. A list of news' fragments.
   Each news' fragment (Figure 15) consists of the following attributes:

Первая в РФ гибридная электростанция появилась в Алтайском заповеднике

В республике Алтай на сегодняшний день отсутствуют собственные источники генерации электроэнергии, электроснабжение осуществляется по воздушным линиям Бийского энергоузла. Специалисты отмечают постоянный дефицит энергомощностей. Власти не раз говорили о необходимости развития в регионе альтернативной энергетики.

News category: RSS   04.03.2013   Read More »

Figure 15. News' fragment

- Title of a post. By clicking on the title of news the user is automatically moved to a separated page of the appropriate news (more detail information see below).
- Image.
- Short description.
- Category.
- Tags.
- Date of a post creation.
- Link "Read more». By hovering over it, this link is colored in a blue color. By clicking on the title of news the user is automatically moved to a separated page of the appropriate news (more detail information see below).

Page of the news

A page of the news contains (Figure 16) the following attributes:

INFORMATION SERVICES -> News
RSS

Оренбургские власти просят Минобороны погасить долг за энергоресурсы

Правительство Оренбургской области направило телеграмму в Минобороны РФ с просьбой поскорее погасить задолженность за энергоресурсы в сумме 150 миллионов рублей, сообщает облправительство.

Исчточник: РИА Новости. Энергетика, Читать полностью...

05.03.2013

No comments yet. Be the first.

Figure 17. A page of the news

1. Tittle "INFORMATION SERVICES -> News" and subtitle <News Category> like RSS, Technologies, Government, Events and etc.
2. An arrow to expand the Filter Bar. By default the Filter Bar is collapsed.
3. Fragment of news that consists of:
   - Title.
   - A short body of post.
   - RSS-source.
   - A link "Read more». Link "Read more" moves to the text of the news in RSS-source.
   - Events related with the post. Each event is clickable. By clicking on event user is automatically moved to a separate page of the appropriate event.
   - Comma-separated list of tags. Each tag is clickable. By clicking on any tag the user is automatically moved to a page with a full list of news filtered by the selected tag.
   - Date of the post creation.
4. Icon to print the news. By clicking on the "Print" button the standart browser form "Print" is appeared.
5. Button to add comments "Add comment" (if at least one comment is) or "Be the first" (if there are no comments). By clicking on the button a comment form (Figure 17) is appeared under this button (more detail information see below).
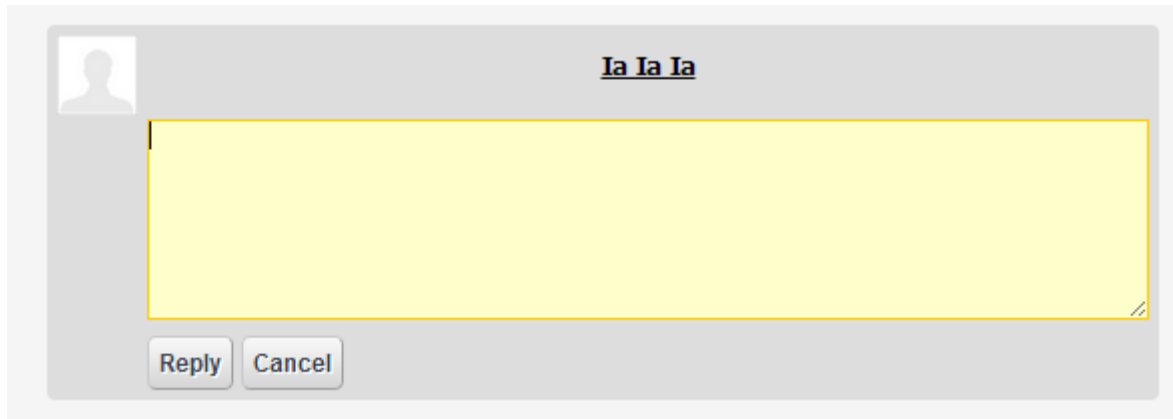
6. Button "Subscribe to Comments" /"Unsubscribe from Comments". Only authorized users have a possibility to subscribe/ unsubscribe from comment.
7. Comments.

Comment form
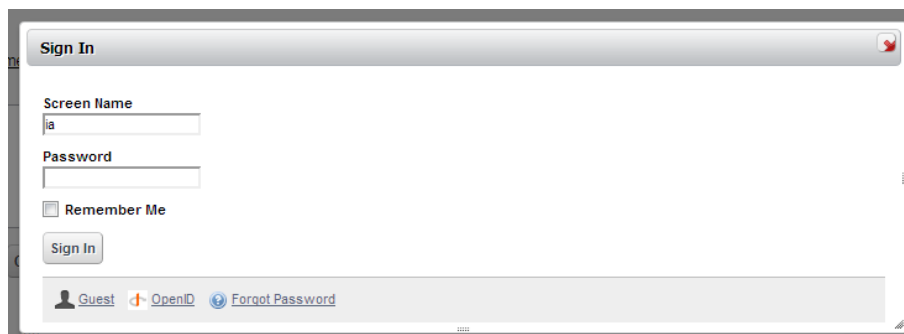
Only **authorized users** have a possibiliry to add a comment.
The comment form is appeared by clicking on the "Add comment" (if at least one comment is to the news) /"Be the first" (if there are no comments to the news) button to **the post** or on the "Post Reply".
The comment form consists of:

Figure 18. Comment form

1. Entry field is to enter a comment.
2. Button "Reply"/ "Reply as". "Reply as" is displayed if user is unauthorised.
   By clicking on the "Reply"button the comment is published. Published comment is appeared in the appropriate place (under the entry or under the appropriate comment) of the comment tree.
   By clicking on the "Reply as" button a pop-up "Sign In" is appeared in the center of window. In order to comment it is necessary to sign in.

Figure 19. Pop-up "Sign In"

3. Button "Cancel". By clicking on it the comment form is disappeared without any storage.

Comment Tree

The comment tree is a list of several comments. Comments are displayed with the older comments at the top of comment tree.
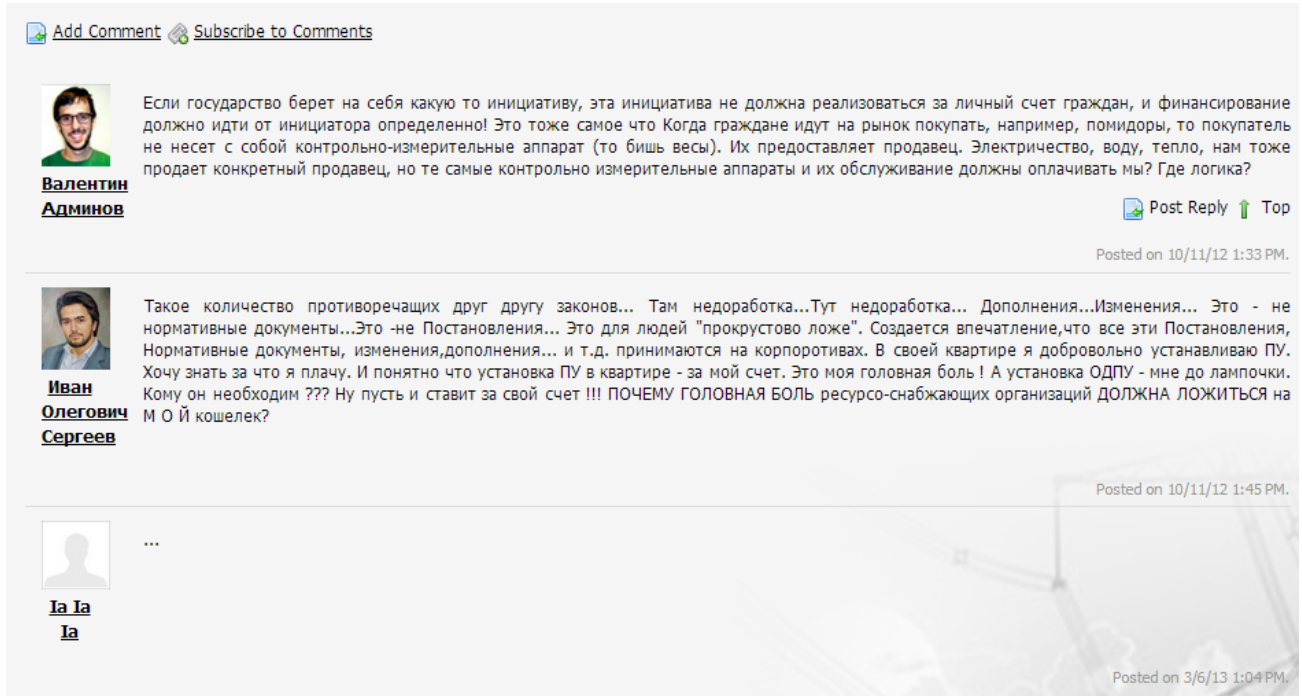
Figure 20. Comment Tree

By hovering over a comment, the "Post Reply" and "Top" buttons are displayed in the right part of the appropriate comment form.

By clicking on the "Post Reply" button the comment form is appeared under the appropriate comment.
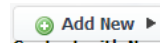
By clicking on the "Top" button the user is automatically moved to the newest comment.

News publishing

News Publishing tool is intended for manual creation of news (Figure 21).
Only the system administrator has an access to this News Publishing tool.
In order to create a new entry it is necessary to click on the "Create new" button
 that is displayed under subtitle on the News List page. By clicking on the "Add new" button the "Web Content" page is opened.
When creating news it is necessary to fill three tabs (Figure 20):
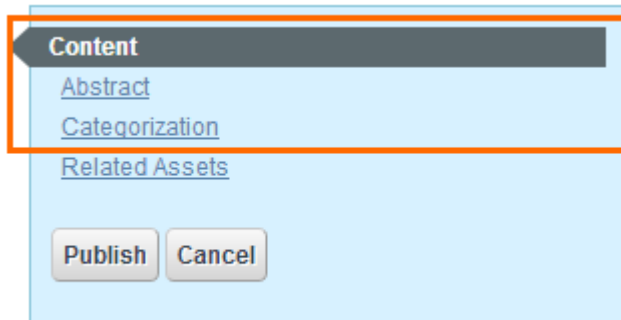
Figure 21. Tabs

1. **Content**. Under "Content" necessary to fill the Title field (Required), and Content. Content may be formatted font (size and color), inserted figure, references and etc. In addition to the tab "Content" it is a check-box "Searchable". If this check-box has selected the title and content news will participate in the search for the portal.

2. **Abstract**. In the "Abstract" it is necessary enter the fragment of news, this is the text that displays in the list of news. You can also use the opportunity to show icon news (also displayed in the list of news).
3. **Categorization**. In the "Categorization" must specify the category news (choose from existing) and tag news (you can choose from existing or add a new tag).
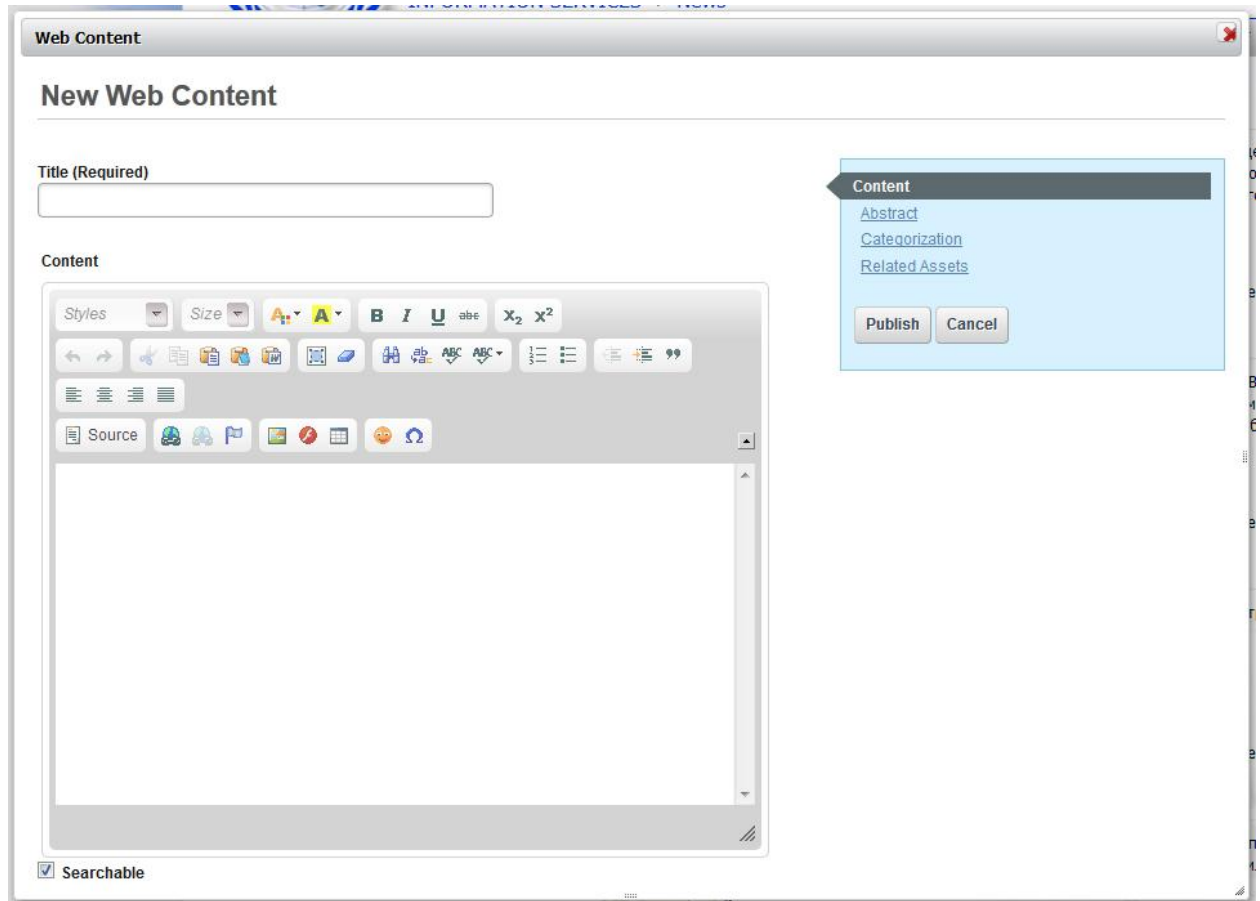
Figure 22. News Publishing tool

After filling in all the tabs, it is necessary to click on the button "Publish".

Configuring RSS-sources

This representation (Figure 22) is provided for setting RSS-sources.
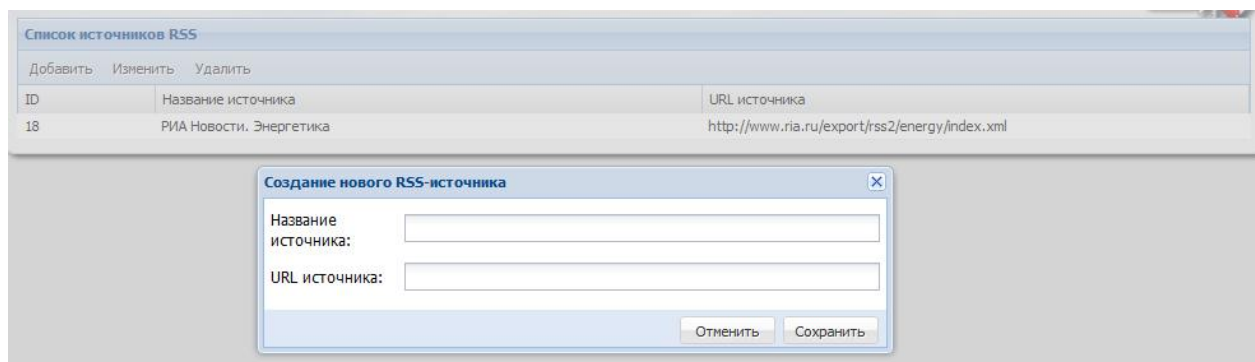
Figure 23. Creating RSS-sources

Configuring RSS-sources is available only for administrators of the system.
The user has a possibility to add, change or remove RSS-source.
To change or delete a RSS-source, user at first selects it in the list of RSS-sources.

For each RSS-source necessary to specify:
- The name of the source
- URL-source.

Source name is displayed while viewing the news.

2) **Events**

Events List

"Events" form is intended to inform users about events.
"Events" form (Figure 23) contains the following elements:

Figure 24. "Events" page

1. Tittle "INFORMATION SERVICES -> Events".
2. Buttons "First", "Previous", "Next" and "Last" and the image events.

In order to move to the first event it is necessary to click on the "First" button (if it is available).

In order to move to the previous event it is necessary to click on the "Previous" button (if it is available).

In order to move to the next event it is necessary to click on the "Next" button (if it is available).

In order to move to the last event it is necessary to click on the "Last" button (if it is available).

3. Filter Bar is an area of categories. It is intended to filter events by categories.

To filter the events list, user clicks on a particular category, the events are filtered by this category and this category will be highlighted in blue color.

To disable the filter, again click on the selected category.

User also may quickly switch from the filter bar to any of five next events. In addition, by selecting a date in the calendar of the event, user may go to any event in the selected date.

To collapse the panel filter, it is necessary to click on the light blue arrow [←] in the upper right corner of the panel. To expand a collapsed panel filter, it is necessary to click on the light blue arrow [→] in the upper right corner of the folded panels.

4. A list of events.

Button "New event" is displayed in a top of events' list. Only the system administrators view the "New event" button. By clicking on the "New event" button the "New Event page" is opened.

Each event (Figure 24) consists of the following attributes:

19.03.2013 "Национальный нефтегазовый форум"
Start date - 19.03.2013, end date - 21.03.2013

Events category: Federal
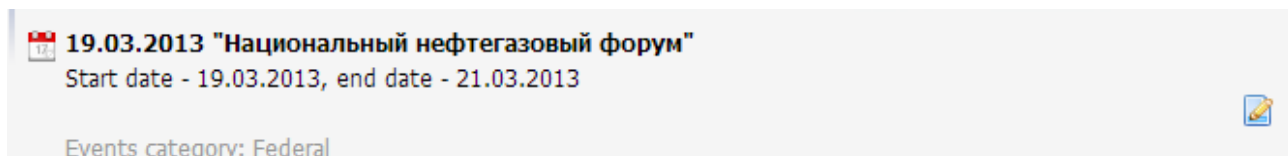
Figure 25. Event

- Start date and title of event is a link to a page with the full version of this event.
- Start and end date.
- Button "show on map…". By clicking on it Google Map is displayed under the "Events category" field.
- Events category.

5. "Edit" button is displayed only for the system administrator. By clicking on it user moved to a page of the event's editing.

Page of the event

A page of the event (Figure 25) contains the following attributes:

INFORMATION SERVICES -> Events
Federal

"Национальный нефтегазовый форум"

Start date: 19.03.2013
End date: 21.03.2013
Location: show on map...
Email oilforum@oilforum.ru
Веб Сайт Мероприятия http://oilandgasforum.ru/
Организатор(ы) Минэнерго РФ, ТПП РФ, СНГП России
Тел./факс 7 (495) 971-23-30

Три дня открытого
диалога о главном:

ДЕНЬ ПЕРВЫЙ
«Стратегия развития»

ДЕНЬ ВТОРОЙ
«Добыча и транспорт»

ДЕНЬ ТРЕТИЙ
«Переработка и сбыт»

br>

Print

Figure 26. A page of the event

1. Tittle "INFORMATION SERVICES -> Events" and subtitle <Events Category> like Federal, Internationsl or Local.
2. An arrow to expand the Filter Bar. By default the Filter Bar is collapsed.
3. Fragment of events that consists of:
   - Title.

- Start date in format dd.mm.yyyy.
- End date in format dd.mm.yyyy.
- Location and the button "show on map…". By clicking on it Google Map is displayed.
- E-mail.
- Web site of the event.
- Web site of the organizer.
- A description of the event.
- Contact Person.
- Venue.
- Holder (s).
- Tel. / Fax.
- Category of the event.
- A link to add comments is displayed only for authorized users.
- Comments.
- Icon to print event.

4. "Print" button ⎙ **Print** to print the event. By clicking on the "Print" button the standart browser form "Print" is appeared.

5. "Edit" button 🖉 is displayed only for the system administrator. By clicking on it the user moved to a page of the event's editing.

6. Button to add comments "Add comment" (if at least one comment is) or "Be the first" (if there are no comments). By clicking on the button a comment form (Figure 26) is appeared under this button (more detail information see below).

7. Button "Subscribe to Comments" /"Unsubscribe from Comments". Only authorized users have a possibility to subscribe/ unsubscribe from comment. Only authorized users view "Subscribe to Comments" /"Unsubscribe from Comments" buttons.

8. Comments.

Comment form

Only **authorized** users have a possibiliry to add a comment.
The comment form is appeared by clicking on the "Add comment" (if at least one comment is to the event) /"Be the first" (if there are no comments to the event) button to the event or on the "Post Reply".
The comment form consists of:

Figure 27. Comment form

1. Entry field is to enter a comment.
2. Button "Reply". By clicking on the "Reply"button the comment is published. Published comment is appeared in the appropriate place (under the event or under the appropriate comment) of the comment tree.

3. Button "Cancel". To cancel the addition of comment without any changes it is necessary to click on the "Cancel" button. By clicking on it the comment form is disappeared without any storage.

Comment Tree

The comment tree is a list of several comments. Comments are displayed with the older comments at the top of comment tree.
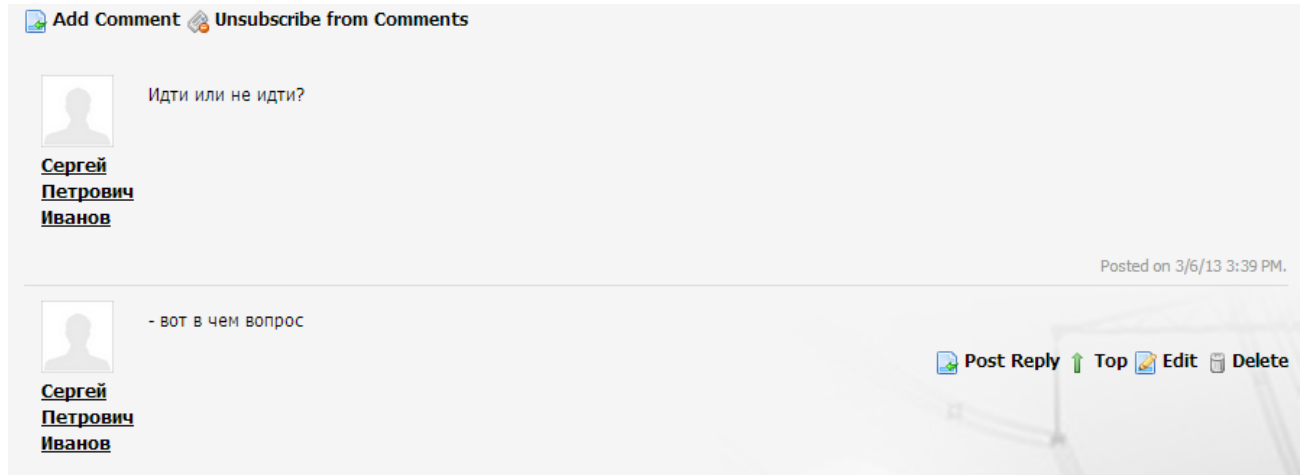
Figure 28. Comment Tree

By hovering over a comment, the "Post Reply", "Top", "Edit" and "Delete" buttons are displayed in the right part of the appropriate comment form.
By clicking on the "Post Reply" button the comment form is appeared under the appropriate comment.
By clicking on the "Top" button the user is automatically moved to the newest comment.
By clicking on the "Edit" button the editing's comment form is displayed. To save the changes in the comment it is necessary to click on the "Publish" button. To cancel the editing of comment it is necessary to click on the "Cancel" button.
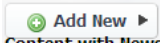
New Event page

Access to the establishment events (Figure 29) is present exclusively to administrators of the system.
In order to create a new event it is necessary to click on the "Create new" button
that is displayed under subtitle on the Events List page. By clicking on the "Add new" button the "New Event" page is opened.

Figure 29. "New Event" page

The field "Description" may be formatted font (size and color), inserted figure, references, etc.

In order to publish the event it is necessary to click on the "Save" button.

To cancel the creating of event without any changes it is necessary to click on the "Cancel" button.

3) Documents

"Documents" form is intended to increase the turnover of the exchange of documents and realize the fast and easy access to information.

List of documents (Figure 30) contains the following elements:
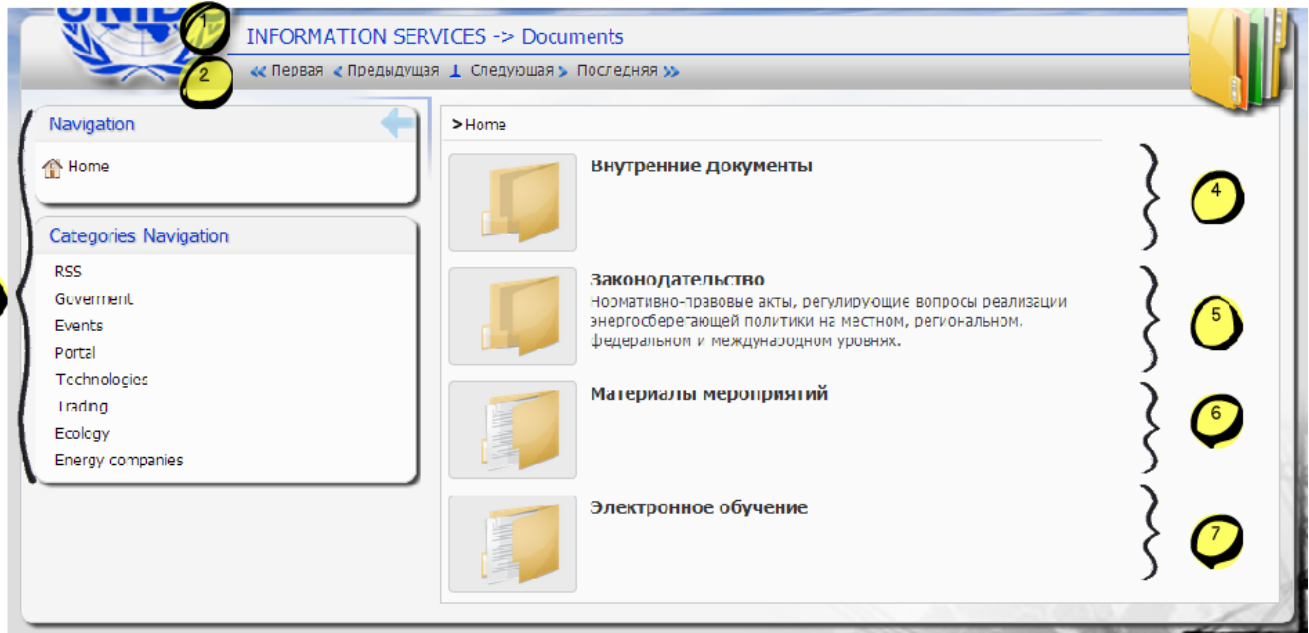
Figure 30. "Documents" page

1. Tittle "INFORMATION SERVICES -> Documents".
2. Buttons "First", "Previous", "Next" and "Last" and the image events.

In order to move to the first page of documents it is necessary to click on the "First" button (if it is available).

In order to move to the previous page of documents it is necessary to click on the "Previous" button (if it is available).

In order to move to the next page of documents it is necessary to click on the "Next" button (if it is available).

In order to move to the last page of documents it is necessary to click on the "Last" button (if it is available).

3. Filter Bar is an area of documents' categories. To filter the documents list, user clicks on a particular category, the documents are filtered by this category and this category will be highlighted in blue color.

To disable the filter, again click on the selected category.

Users can also quickly switch from the filter bar to other folders.

To collapse the panel filter, it is necessary to click on the light blue arrow ⬅ in the upper right corner of the panel. To expand a collapsed panel filter, it is necessary to

click on the light blue arrow ➡ in the upper right corner of the folded panels.

6. A list of documents.

The document name is a link to the preview of document.
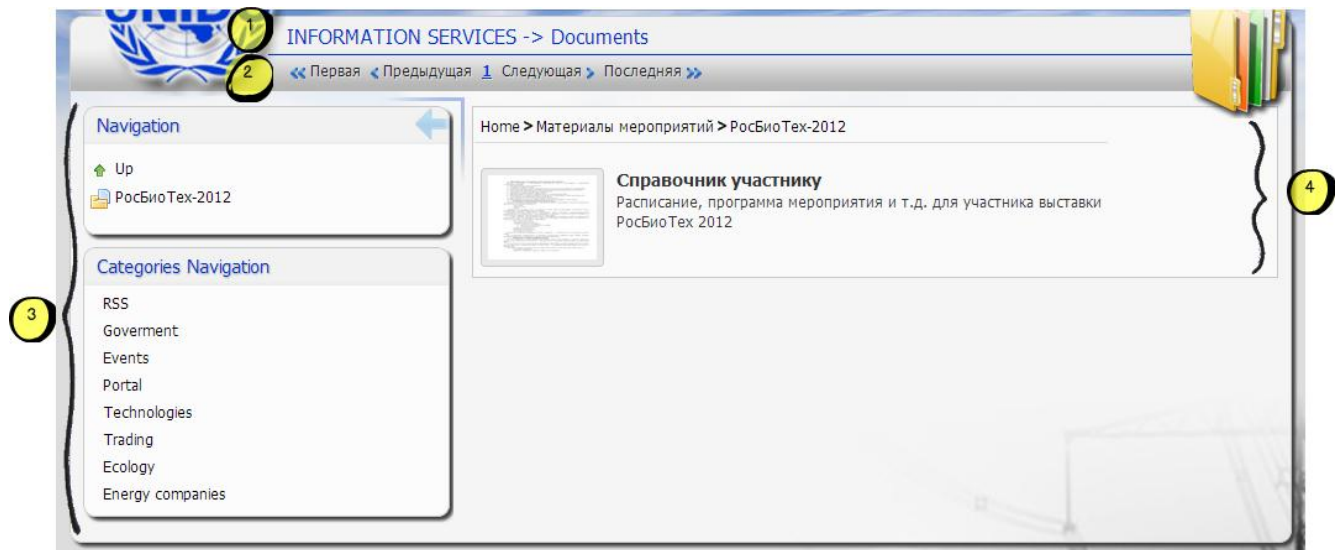
Figure 31. A page of the document ("Documents" chapter)

Page of the preview's document

Page of the preview's document consists of the following elements (Figure 32):
1. Titile "INFORMATION SERVICES -> Documents".
2. Navigation.
3. Document's preview
4. Information about the document:
   - Version of document
   - Author of document is a name of person who has added the document.
   - Date and time of last update.
   - Link to download the document. It is clickable.
   - Link to conversion document to doc-format, pdf-format, rtf-format and txt-format. It is clickable.
   - URL. It is clickable.
   - WebDAV URL. It is clickable.
5. Button to add comments "Add comment" (if at least one comment is) or "Be the first" (if there are no comments). By clicking on the button a comment form (Figure 33) is appeared under this button (more detail information see below). To add a comment the user should be authorized.
6. Button "Subscribe to Comments" /"Unsubscribe from Comments". Only authorized users have a possibility to subscribe/ unsubscribe from comment. Only authorized users view "Subscribe to Comments" /"Unsubscribe from Comments" buttons.
7. Comments.
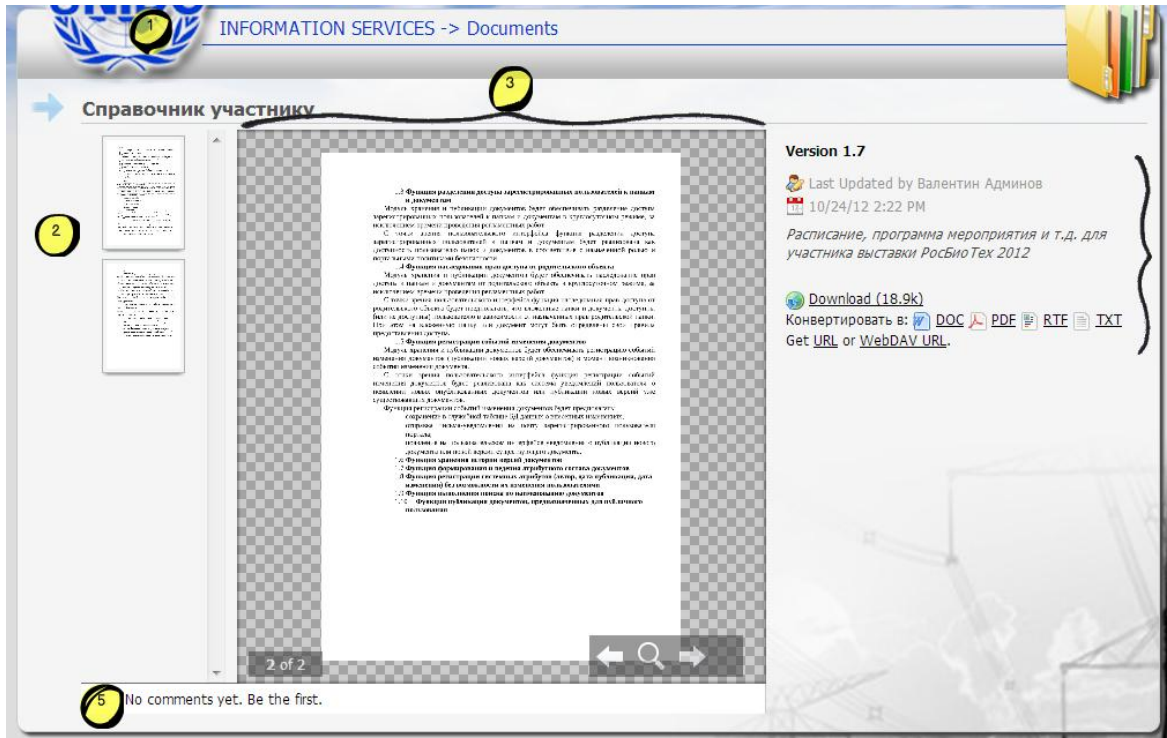
Figure 32. Document preview

Comment form

Only **authorized** users have a possibiliry to add a comment.
The comment form is appeared by clicking on the "Add comment" (if at least one comment is to the document) /"Be the first" (if there are no comments to the document) button to the event or on the "Post Reply".
The comment form consists of:
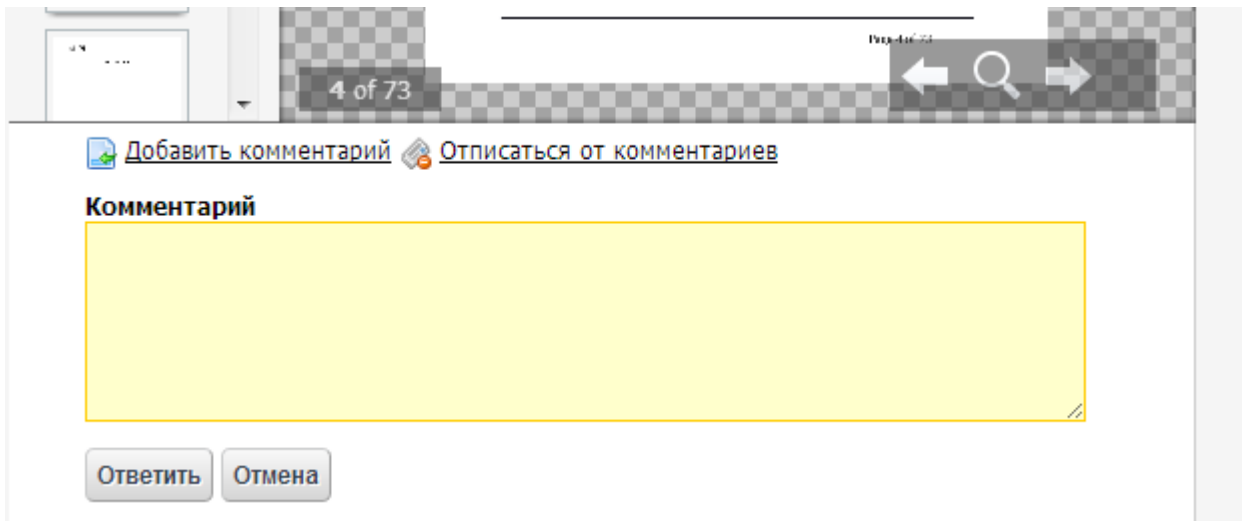
Figure 33. Comment form

1. Entry field is to enter a comment.
2. Button "Reply". By clicking on the "Reply"button the comment is published. Published comment is appeared in the appropriate place (under the document or under the appropriate comment) of the comment tree.
3. Button "Cancel". To cancel the addition of comment without any changes it is necessary to click on the "Cancel" button. By clicking on it the comment form is disappeared without any storage.

Comment Tree

The comment tree is a list of several comments. Comments are displayed with the older comments at the top of comment tree.
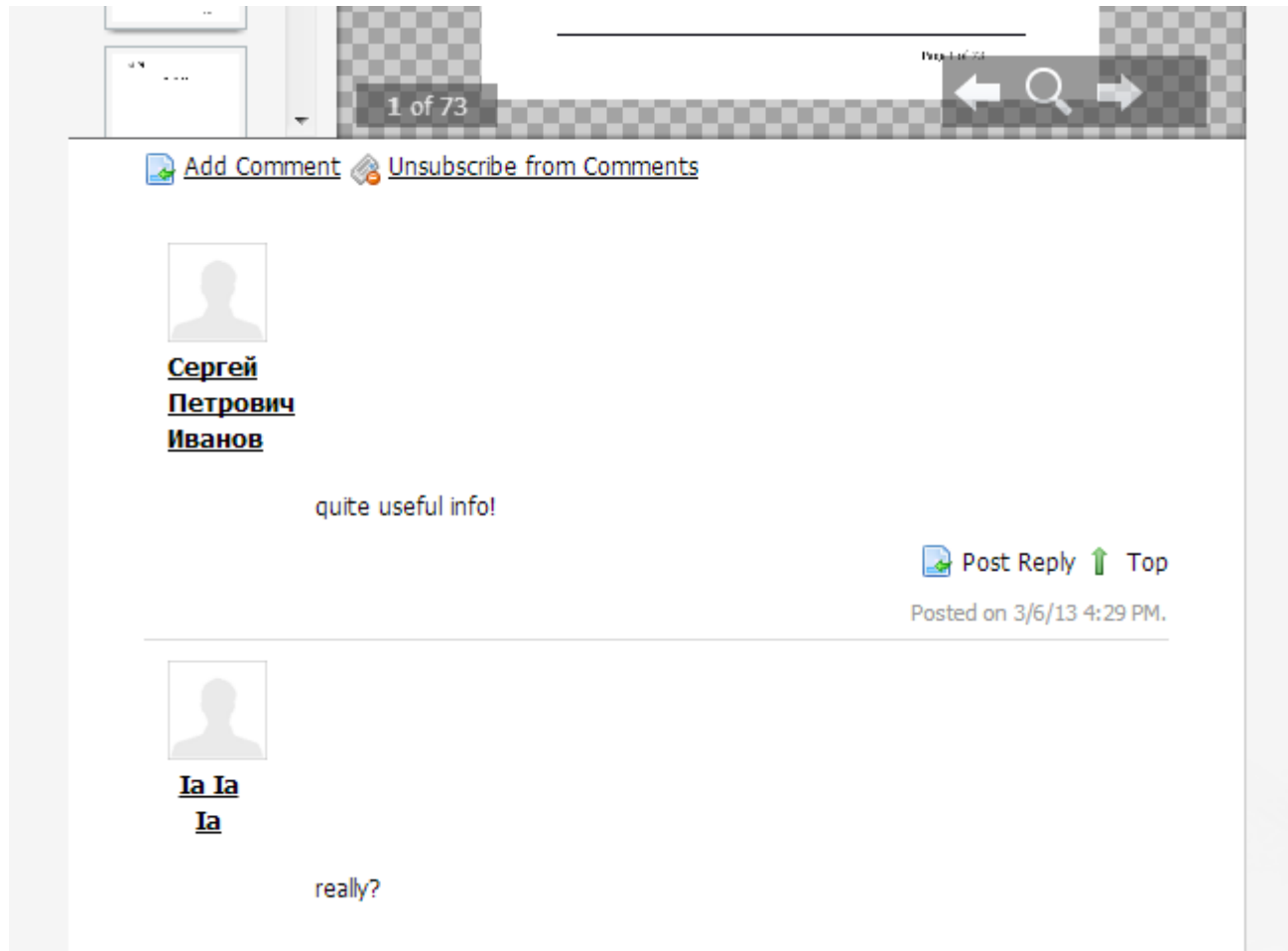
Figure 34. Comment Tree

By hovering over a comment, the "Post Reply" and "Top" buttons are displayed in the right part of the appropriate comment form.

By clicking on the "Post Reply" button the comment form for editing is appeared under the appropriate comment.

By clicking on the "Top" button the user is automatically moved to the newest comment.

4) Useful links

List of useful links (Figure 35) contains list of links grouped by category:
- State structures
- International organization
- Energy-profit companies
- Energy non-profit associations.
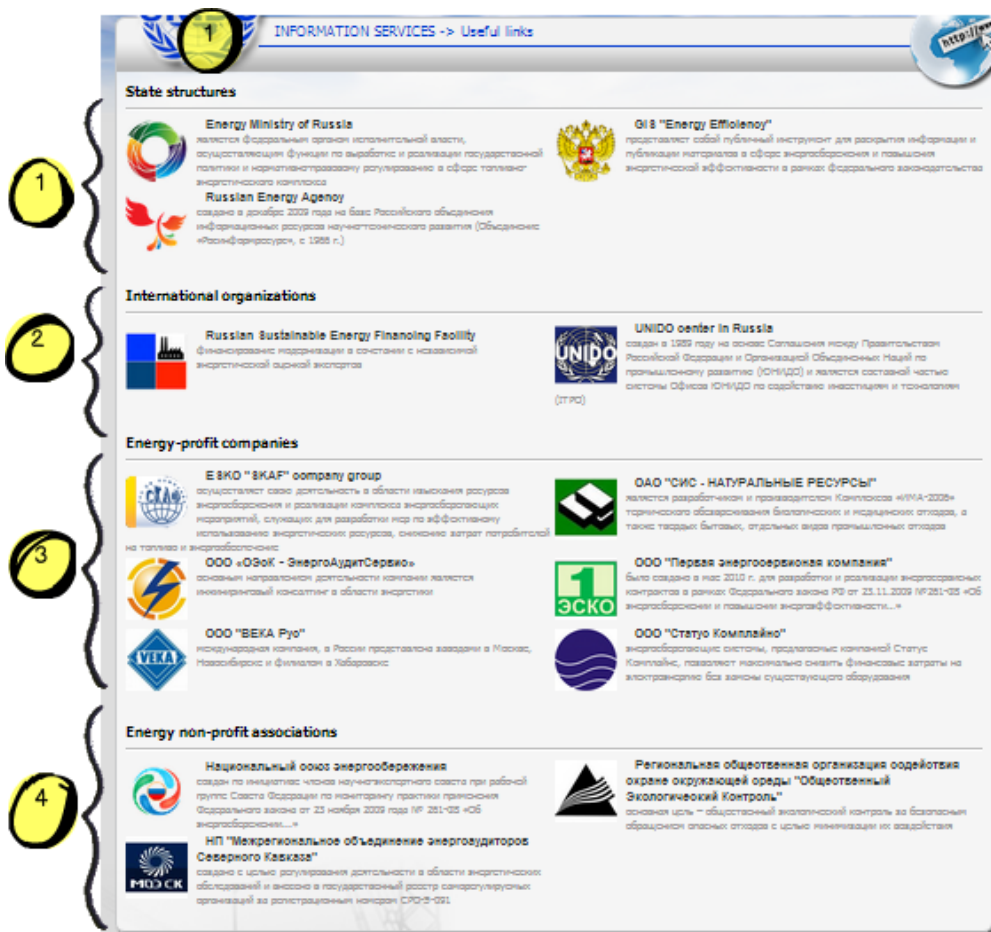
Figure 35. "Useful links" page

Each service's preview has the following elements:
- Name of the appropriate state structure/organization/company/association.
- An image to the appropriate state structure/organization/company/association.
- Description of the site that is referenced.

3. *Footer*

More detail information see here.

"Instruments" section

Description

"Instruments" section is a set of tools used for managing cost effective analysis, calculating of economic indicators in the implementation and success of energy policy for the enterprise and checking the existing level of energy management in the company.

Prerequisites

Before you can use "Instruments" section you must perform the following:

- Open "Energy Effective Industry" system

- Change language if it is necessary

- In the navigation area necessary hover on the "Instruments" item and choose the necessary service and click on it

Or:

- If user is on Home Page he may choose the instrument "Inventory selector" that is displayed in the Area Widget and click on this service's icon.

Security and visible

Displaying a content of "Instruments" section depends on the segment of users (Russian or No-Russian) and of their authorization (authorized or unauthorized).

Structure

"Instruments" section should include the following components:

1. *Navigation area*

    More detail information see here.

2. *"Instruments"area*

This area is different for the following pages:

1) Self Assessment

One of the first activities to be undertaken when implementing an energy management system within an organisation is to check the existing level of energy management in the company.
"Self Assessment" page (Figure 36) consists of the following elements:
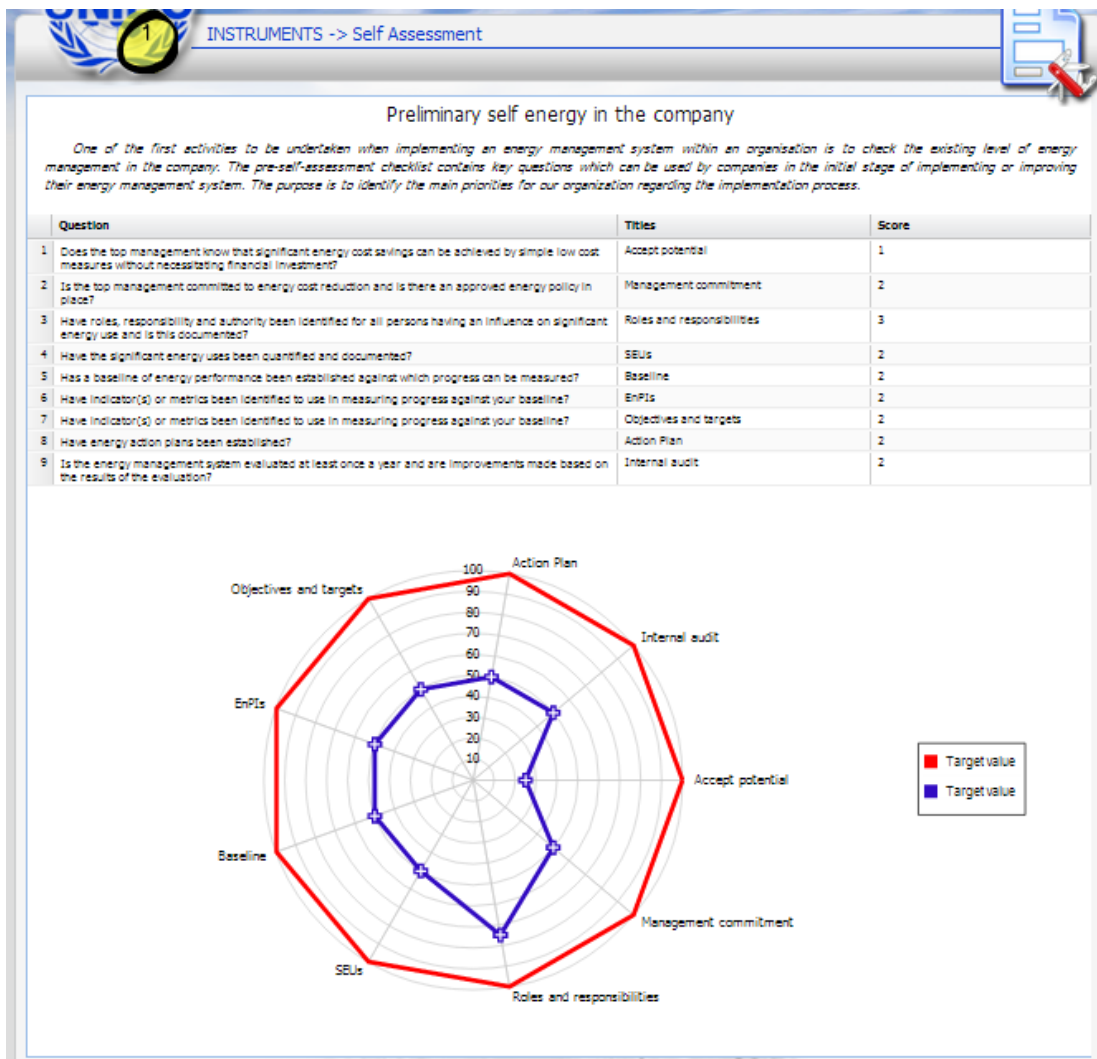
Figure 36. "Self Assessment" tool

1. Titile "INSTRUMENTS -> Self Assessment".
2. Description about "Self Assessment" tool.
3. A table that contains key questions which can be used by companies in the initial stage of implementing or improving their energy management system. The purpose is to identify the main priorities for our organization regarding the implementation process.
   Each parameter may be numeric value from 0 to 4.
4. Radar Chart. The results of key questions are displayed on the Radar Chart.

2) **Business Case**

 "Business Case" tool is in order to go systematically through the energy management tool, it is best to start filling out the business case. This is one of the first tasks that learns to understand any companies energy situation and to recognize the needs for implementation of energy management in the company.

The outcomes of the business case (Figure 37) result in an overview of essential basic company data and indicators and identification of other influences defining the company decisions. These can be used to present the top management the importance of energy management.

"Business Case" page consists of the following elements:

Figure 37. "Business Case " form

1. Title "INSTRUMENTS -> Business Case".
2. Subtitle "Business rationale for implementation of energy policy in the company".
3. Input fields in which it is necessary to enter the information about the company. Input fields are highlighted by yellow color.
4. Input fields in which it is necessary to enter the information on the consumption of energy in the company. Input fields are highlighted by yellow color.
   Energy resources in the table can be added, edited and removed.
   "Usage" and "Cost"dsiagramms (4) are changed according to the information on the consumption of energy in the company.
5. Diagramms of usage and cost.
6. Input fields in which it is necessary to enter the target value of Energy Costs Intensity. Input fields are highlighted by yellow color.
7. A table of the reducing energy consumption affects the performance of the company.
8. Conclusing.

3) **Benchmarking**

The tool (Figure 38) visualizes the change of energy efficiency indicators at the sectoral, national and international level. Dynamics of changes energy efficiency of Russia is implemented in time. Consider the following: specific energy consumption, increase energy efficiency in the industry.

"Benchmarking" tool consists of the following elements:
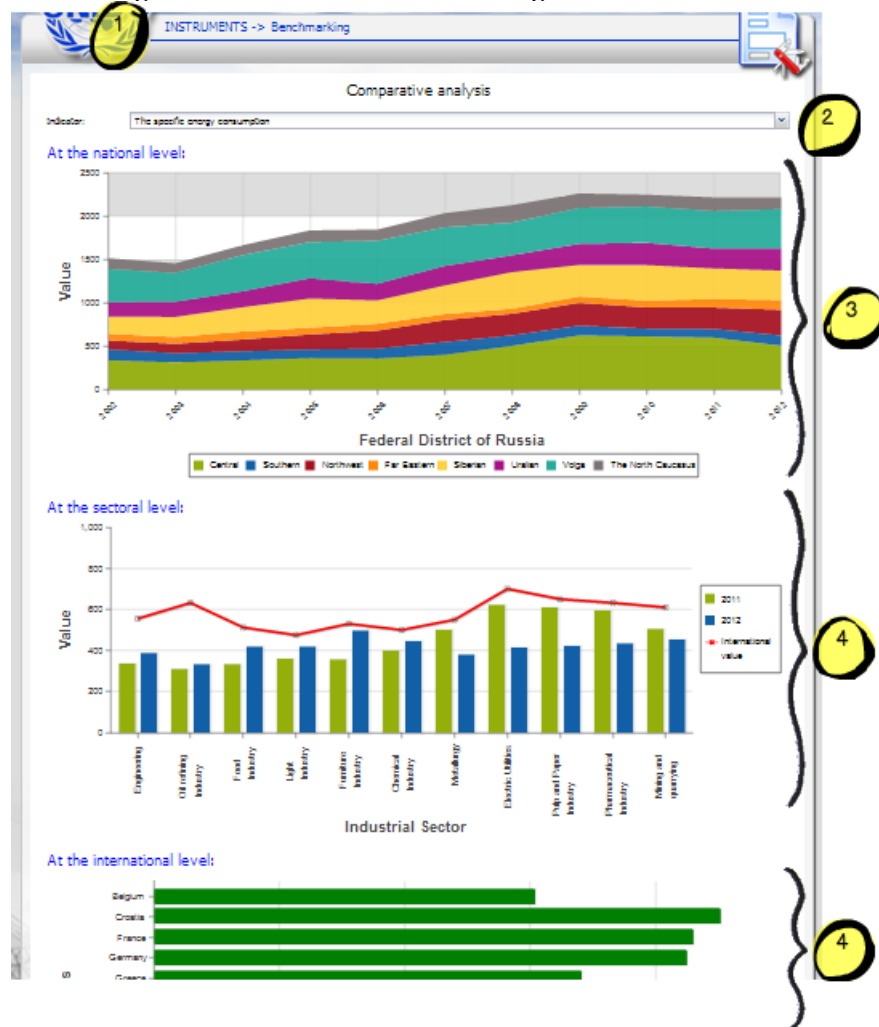
Figure 38. "Benchmarking" tool

9. Titile "INSTRUMENTS -> Benchmarking".
10. A drop down list with the following values:
    - The specific energy consumption
    - Improve energy efficiency in the industry.
      Diagramms of comparative analysis (3, 4 and 5) are changed according to the selected indicator.
11. Diagramm of energy efficiency indicator at the national level
12. Diagramm of energy efficiency indicator at the sectoral level
13. Diagramm of energy efficiency indicator at the international level.

4) **Action plan**

Energy action plan (Figure 39) is a proposal of how to develop such an action plan with objectives and actions to be taken in a certain period of time.
"4) Action plan" page consists of the following elements:
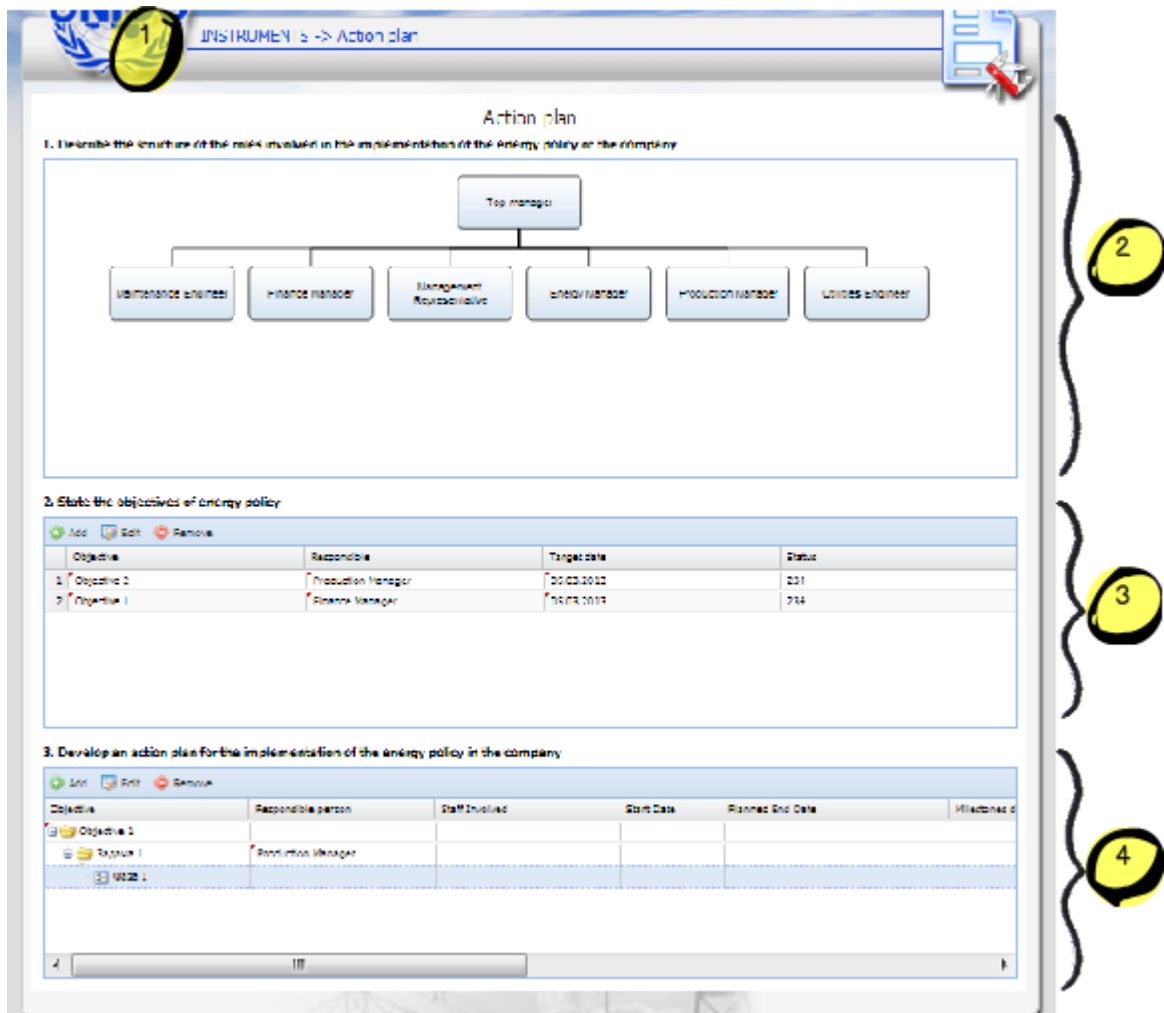
Figure 39. "Action plan" tool

1. Titile "INSTRUMENTS -> Action plan".
2. The structure of the roles. The description of the roles and responsibilities shows you the first steps of how to organize the staff who will work on the energy management.

By default the structure of the roles contains the following items:

1. Top manager
2. Maintenance Engineer
3. Finance Manager
4. Management Representative
5. Energy Manager
6. Production Manager
7. Utilities Engineer.

Roles can be added, edited and removed.

3. The introduction to an energy management implementation project plan (section 4) and the energy management implementation model will show you the way for a successful planning and running of the energy management implementation process.

The table Action Plan (section 4) contains the following columns:

- Objective / Activity / Detailed Phase Description;
- Responsible person;
- Staff Involved;
- Start Date;
- Planned End Date;
- Milestones dates;

- Implementing status;
- Planned Savings;
- Achieved Savings;
- Regular Activity Inspection;
- Status.

Each record in the tables (section 3, 4) can be added, edited and removed.

5) Significant Energy Users

For the formation of goals and objectives of the introduction of the energy policy of the company is necessary to identify areas of activity, which particularly in need of modernization.
Additionally, you must determine which processes of the enterprise consume more energy (Figure 40).
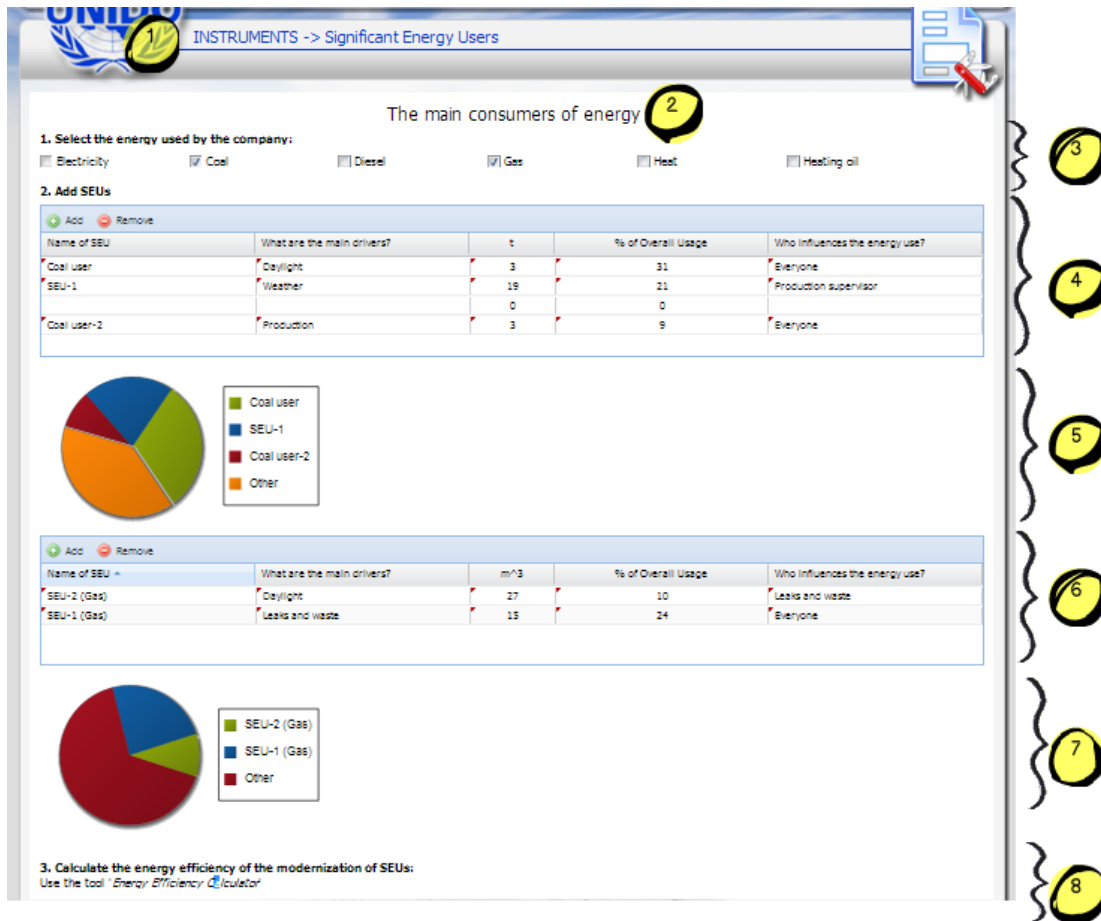
Figure 40. "Significant Energy Users" tool

You can fill the tables by following energy sources:
1. Electricity
2. Coal
3. Diesel
4. Gas
5. Heat
6. Heating oil.

Each table SEUs contains following columns:
- Name of SEU;
- Drivers;
- MWH;
- % of Overall Usage;
- Who influences the energy use?

Each record in the table SEUs can be added or removed.

6) <u>Inventory selector</u>

"Inventory selector" form (Figure 41) contains the following elements:

Figure 41. "Inventory selector" tool

14. Tittle "INFORMATION SERVICES -> Inventory selector".
15. A table of equipment is a list of equipment. The table consists of the following columns:
    - Country
    - Manufacturer
    - Name
    - Power
    - Efficiency
    - Price.
16. Filter Bar is an area of filters. It is intended to filter equipment by tags like category, name, price, country, manufacturer, efficiency and power of equipment. By default Filter Bar is collapsed.

    To expand a collapsed panel filter, user also should click on the blue arrow [»] or

    on the grey arrow ▸. To collapse the panel filter, user should click on the blue

    arrow [«] or on the grey arrow ◂.
17. Detail information about the equipment like category, country, manufacturer, power, price, efficiency and detail description about equipment.
    By default "Detail information" block is collapsed.

To collapse block, user should click on the blue arrow [»] or on the grey

arrow [▶]. To expand a collapsed block, user should click on the blue arrow [«] or

on the grey arrow [◀].

3. *Footer*

More detail information see [here](#).

"Feedback" section

Description

"Feedback" section is a service that allows asking an expert about system order to receive answers from them. Also users may communicate in forum, leave any offers and remarks about system, take a part in polls and see contacts.

Prerequisites

Before you can use "Feedback"section you must perform the following:

- Open "Energy Effective Industry"system

- Change language if it is necessary

- Hover on the "Feedback" name that is displayed in the navigation area and choose the necessary service and click on it

Or:

- if user is on [Home Page](#) he may choose the necessary feedback service ('Ask Expert", "Forum" or "Offers and remarks") that is displayed in the Area Widget and click on the appropriate icon.

Security and visible

Displaying a content of "Feedback" section depends on the segment of users (Russian or No-Russian) and of their authorization (authorized or unauthorized).

Structure

"Instruments" section should include the following components:

1. *Navigation area*

More detail information see [here](#).

2. *"Instruments"area*

This area is different for the following pages:

1) <u>Ask Expert</u>

The user may ask the professional experts anything. In order to ask expert it is necessary fill in all the fields and choose priority on the "Ask Expert" form. Then it is necessary to click on the "Send" button.
"Ask Expert" form (Figure 42) contains the following elements:

Figure 42. "Ask Expert" form

- Tittle "Feedback -> Ask Expert".
- Subtitle "Ask expert"and a short description "You can use this form to ask our professional experts anything. Fill in the form below and click "Send".
- A text entry field "Your name". It is necessary to enter the user's name in this field.
- A text entry field 'Your e-mail". It is necessary to enter the user's e-mail in this field.
- A text entry field "Theme of problem". It is necessary to enter a theme of problem in this field.
- A text entry field "Problem". It is necessary to describe a problem in this field.
- Drop-down list "Priority". It is necessary to choose the appropriate priority of the problem (high, normal or low).
- Button "Send". In order to send the message the user clicks on the "Click" button. If the fields are filled correctly the informative message is appeared under the subtitle (Figure 43).

Figure 43. Informative message on the "Ask Expert" form

2) <u>**Forum**</u>

"Forum" form (Figure 44) contains the following elements:

Figure 44. "Forum" form

1. Tittle "Feedback -> Forum".
2. The Search Bar in the top right corner of the form. In order to make searches it is necessary to enter something and click on the "Search" button.
3. "Categories" area is a table of the existing themes' categories. The table is consists of the following columns:
   - "Category".
   - "Categories".
   - "Threads".
   - "Posts".
   - A link to the appropriate RSS.
4. "Threads".

3) Offers and remarks

The user may leave any offers and remarks. In order to leave any offers and remarks it is necessary to fill in all the fields and choose the message type on the "Offers and remarks" form. Then it is necessary to click on the "Send" button.

"Offers and remarks" form (Figure 45) contains the following elements:

Figure 45. "Offers and remarks" form

- Tittle "Feedback -> Offers and remarks".
- Subtitle "Offers and remarks"and a short description "You can leave any offers and remarks here. Just fill in the form below and click "Send".
- A text entry field "Your name". It is necessary to enter the user's name in this field.
- A text entry field "Your e-mail". It is necessary to enter the user's e-mail in this field.
- Drop-down list "Message type". It is necessary to choose the message type (offer or remark).
- A text entry field "Message theme". It is necessary to write the message theme.
- A text entry field "Message body". It is necessary to describe the offer/remark.
- Button "Send". In order to send the message the user clicks on the "Click" button. If the fields are filled correctly the informative message is appeared under the subtitle (Figure 46).

Figure 46. Informative message on the "Offers and remarks" form

7) Contacts

"Contacts" form is the contact information about UNIDO.
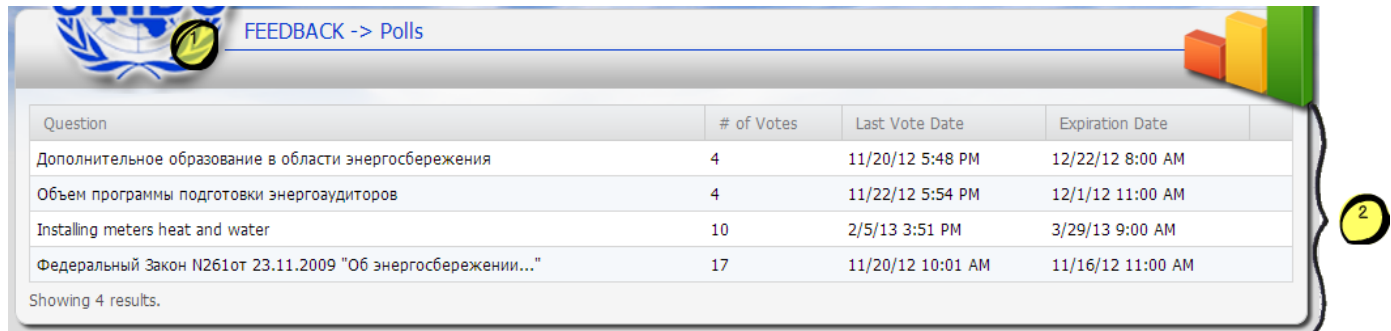"Contacts" form (Figure 47) contains the following elements:

Figure 47. "Contacts" form

1. Tittle "Feedback -> Contacts".
2. Location map. It is clickable. If the user wants to view a map at a zoom it is necessary to click on it.
3. The contact information is consists of address, telephone, fax and e-mail.

8) <u>Polls</u>

"Polls" form is intended to the participating in the polls and viewing the polls' results.

"Polls" form (Figure 48) contains the following elements:

Figure 48. "Polls" form

1. Tittle "Feedback -> Contacts".
2. Table of polls that consists of the following columns:
- "Question" is a name of poll's question. This field is clickable. By clicking on the question the user is automatically moved to a page of the appropriate question (Figure 49).
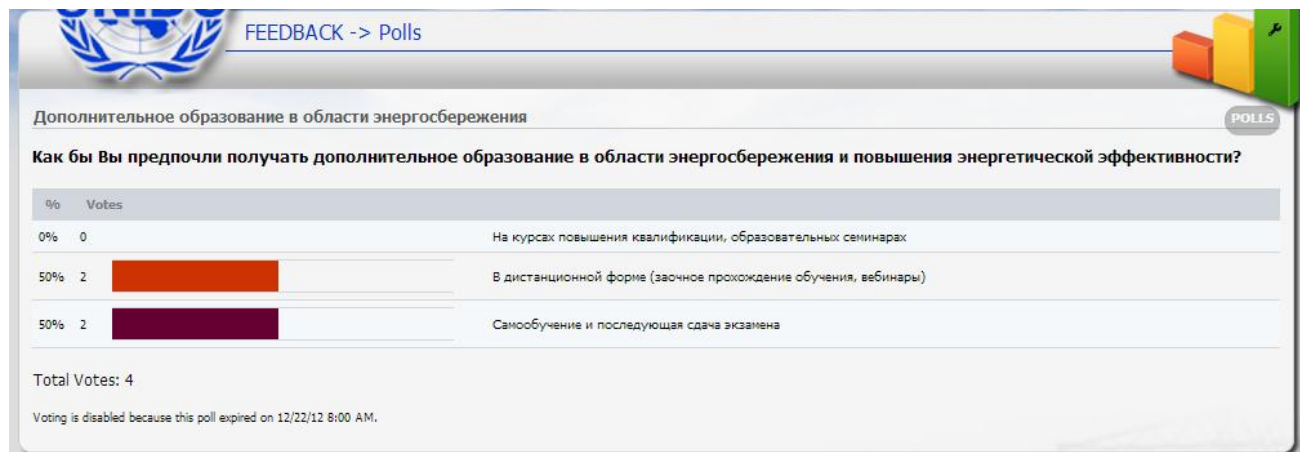

Figure 49. Page with the separate question

- "# of Votes" is a number if votes to the appropriate question. This field is clickable. By clicking on the number the user is automatically moved to a page of the appropriate question (Figure 49).
- "Last Vote Date" is a date of the latest vote to the appropriate question. This field is clickable. By clicking on the vote date the user is automatically moved to a page of the appropriate question (Figure 49).
- "Expiration Date" is the expiration date of the appropriate question. This field is clickable. By clicking on the expiration date the user is automatically moved to a page of the appropriate question (Figure 49).

4) *Footer*

More detail information see [here](#).