

Resum de Tesi Doctoral



UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH

Escola de Doctorat

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Nom i cognoms	DANIEL GARCIA-ALMIÑANA
Títol de la tesi	WTEA - Methodologic improvements for the development of energy audits
Unitat estructural	736 - PROJECTES D'ENGINYERIA
Programa	ENGINYERIA AMBIENTAL
Codis UNESCO	<input type="text" value="332200"/> <input type="text" value="330800"/> <input type="text" value="531205"/> <input type="text"/>

(Mínim 1 i màxim 4, podeu veure els codis a <http://doctorat.upc.edu/gestio-academica/impresos/tesi-matricula-i-diposit/codis-unesco>)

Resum de la tesi de 4000 caràcters màxim (si supera els 4000 es tallarà automàticament)

This PhD thesis shows the results of 10 years of energy audits for buildings as a proposal for a methodological improvement in the energy audit process itself. The main findings are referred to the three key points of any energy audit:

- Data collection: this thesis recommends a widespread use of energy meters as the basic tools for identifying energy efficiency in buildings.
- Data analysis: this thesis recommends both a correlation analysis between demand / consumption and demand / temperature as the basic procedure for the identification of the key elements for improving energy efficiency in buildings.
- Improvement proposals: this thesis recommends a new definition of the Energy Management Opportunities based on primary measures (actions on the building envelope and insulation systems), secondary measures (actions on the energy transformation systems) and tertiary measures (actions on the control and management systems of the building). The two main advantages of using these methodological changes are:
 - Reduced costs in the development of basic or detailed audits given the lower cost of the Walk-Through Energy Audits and its comparable results.
 - The tertiary measures improvements are easily identifiable by the WTEA whilst not so easily though basic or detailed energy audits.

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