



# Standard EPC documents

## VI. Financing

European Energy Service Initiative – EESI  
IEE/08/581/SI2.528408

July 2011

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## Financing

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### 1 Introduction

Availability of financial resources is one of the key success factors for the implementation of **EPC** projects. (Pre-) Financing for energy efficiency investments has become increasingly burdensome for ESCo's as well as their customers, because they reach their credit lines, credit liabilities and fixed assets burden balance sheets. Various international accounting guidelines (like Basel II, III, US GAP) cast their shadows to impede financing routines.

As a consequence financing is not a stand-alone-issue, but must be adjusted to the given project circumstances.

Therefore we advocate a comprehensive look at the sum of all business implications of any finance option. A sole look at direct financing cost as expressed in interest rates or fees will not deliver your optimal financing solution. The best finance package depends on the borrower's background, subsidies as well as the specific project cash flow. And it requires the integration of bookkeeping and tax consultancy into the financing decision.

This document about financing EPC is a very compressed version of the manual Financing Options for Energy-Contracting Projects – Comparison and Evaluation <sup>1</sup>– written within IEA DSM Task XVI by Jan Bleyl and Daniel Schinnerl. In the original document a much more comprehensive insight into the topic of financing can be taken, covering the items of direct financing cost, legal aspects, collateral, taxation, balance sheet and accounting issues, transaction costs and bringing best practice examples for all of the discussed financing tools.

### 2 Customer Demand Profile – A Systematic Approach

For the selection of the right financing tool a close look at a variety of categories concerning all players of a project and the project itself has to be taken. Only a comprehensive look at the sum of the financing implications will allow deciding for the best financing option.

The goal of any finance planning is to minimize overall capital cost, secure liquidity and to reduce transaction cost. But also legal aspects, tax implications and balance sheet issues have to be considered.

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<sup>1</sup> [http://www.grazer-ea.at/eesi/upload/download/diskussionspapiere/gea-eesi\\_finance\\_options\\_for\\_energy-contracting\\_080328.pdf](http://www.grazer-ea.at/eesi/upload/download/diskussionspapiere/gea-eesi_finance_options_for_energy-contracting_080328.pdf)

Of course, financing needs depend on the individual circumstances of the borrower. And they depend on the specific project. Nevertheless we aim at developing a **customizable methodology** for describing generic characteristics of financing needs for EE projects, which can be adapted to the specific situation. Here we are talking about properties such as financing cost and terms, legal implications, tax and balance sheet effects as well as management expenditure.

These financing characteristics should be put into a **demand profile**, which can be used to get a structured overview of the different implications of EE project financing issues. This profile can be applied to different financing options offered on the market in order to find the best suited fit, taking all aspects into account.

In order to structure financing implications, the **relevant categories** are:

1. Direct financing cost (financing conditions, interest rates, fees ...)
2. Legal aspects (Rights and duties, ownership, contract cancellation, end of term regulations ...)
3. Required collateral (securities) by financing institution
4. Taxation implications (VAT and purchase tax, corporate income tax, acquisition of land tax ...)
5. Balance sheet & accounting implications (who activates the investment (→ on or off balance?), balance sheet effects like credit lines, performance indicators Maastricht criteria ...)
6. Management expenditure (transaction cost, comprehensive consultancy ...)

These six categories have been analysed in detail for different financing tools (credit financing, leasing financing, cession and forfeiting of contracting rates) in the manual **Financing Options for Energy-Contracting Projects**<sup>2</sup>.

### 3 Credit Financing for Energy-Contracting

Credit (or loan) financing means that a **lender** (financing institution - FI) provides a **borrower** (customer) with capital for a defined purpose over a fixed period of time. Borrowers in our case can be real estate owners, enterprises or ESCos. A credit is settled over a fixed period of time, with a number of fixed instalments (debt service). These instalments have to cover the amount borrowed, plus interest rates, as well as other transaction costs such as administrative fees. Loans are disbursed against a proof of purchase in order to secure the earmarked use of the funds.

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<sup>2</sup> which can be downloaded under  
[http://www.grazer-ea.at/eesi/upload/download/diskussionspapiere/gea-eesi\\_finance\\_options\\_for\\_energy-contracting\\_080328.pdf](http://www.grazer-ea.at/eesi/upload/download/diskussionspapiere/gea-eesi_finance_options_for_energy-contracting_080328.pdf)

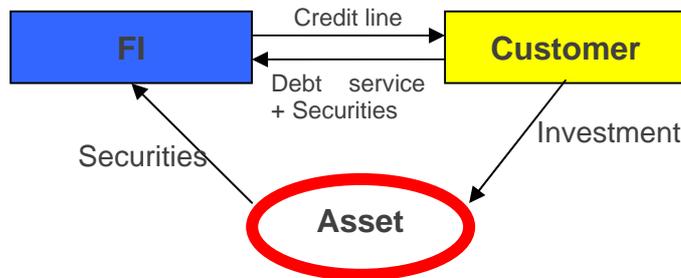


Figure 1: Credit financing - general scheme

A credit serves in fact as an extension of the total amount of capital that an enterprise can use to do its business, i.e. deliver services or produce goods. Credits are also referred to as **committed assets** or **loan capital**.

Credits require a creditworthy borrower. This means that a credit has to be backed by the ability of the borrower to perform the debt service. It is assumed that this ability is linked to a certain level of equity capital, typically 20-30 % of the loan. The creditworthiness of a borrower (together with the project chances and risks), will be reflected in the amount of securities needed to cover the lender's risks associated with handing out a credit. Where public entities are debtors or in cases where credits are backed by public entities, credit ratings are generally high.

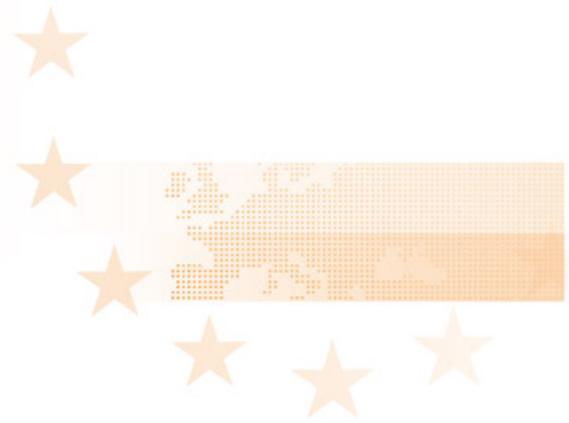
The borrower is both economic and legal owner of the investment made with a loan. Therefore the investment is capitalized on his balance sheet which, in return, downgrades his equity-to-assets ratio. A reduced share in equity means less capital to do business with and also results in a reduced ability to get further credits (credit line).

Another factor that influences the borrower's possibilities to receive a credit is connected to "BASEL II". It means that clients are evaluated by international uniform criteria and divided in classes, which declare the creditworthiness. It can be expected, that credits will be more difficult to obtain and that they will cost more, especially for small and medium enterprises due to raised risk surcharges .

The following graphs visualise the basic cash flow relationships for typical credit finance. The cash flows depend on whether the ESCo or the building owner is the lender for the credit. Figure 2: shows the former case, Figure 3: the latter.



Figure 2: Credit financing – cash flow in EC projects with ESCo financing



**Comments to Figure 2:**

- The ESCo is responsible for the energy efficiency measures and refinances the investments from a credit line.
- The customer pays a contracting rate which includes a finance share to the ESCo (subject to the performance of the ESCo’s savings guarantee).
- The ESCo uses the financing part of the contracting rate to perform the debt service.
- The ESCo can cede (the finance share of) the contracting rate to the FI, so the customer directly repays the ESCo’s debt (for more details on cession see chapter 5.2).

The previous is the “traditional” **ESCo-Third-Party-Financing** model, which is not always the optimal financing solution.

The next figure displays the customer as lender of the credit:

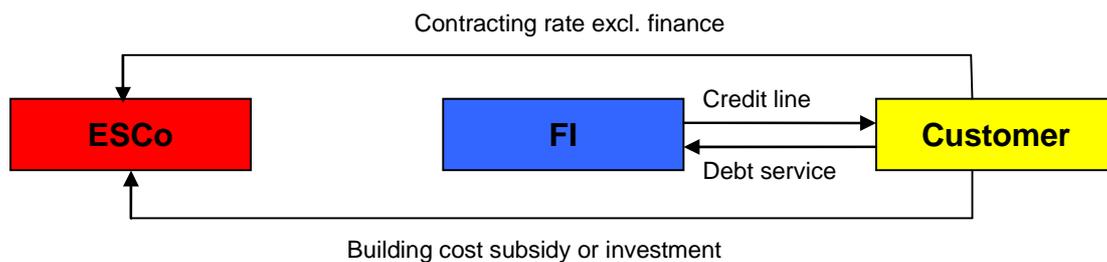


Figure 3: Credit financing – cash flow in EC project with customer finance

**Comments to the Figure 3:**

- The ESCo is responsible for the implementation of the energy efficiency measures (EE) and receives financing from the customer.
- The EE-investment is paid out of the customer’s credit line and respectively (in part) from subsidies or from maintenance reserve funds.
- The customer payments for the investment can be either a building cost subsidy or the remuneration of an equipment supply contract (in the latter case, VAT is due on the complete investment at once).
- This model can also be interpreted as an **Operation-management-EPC** model.
- The customer finance model is advisable, if the customer has better finance conditions than the ESCo.

In praxis, a synthesis between ESCo and customer finance is advisable. In many cases the customer contributes to the finance with subsidies, from maintenance reserve funds or with an equity capital share.



These and other implications of credit finance are reasoned in the manual **Financing Options for Energy-Contracting Projects**<sup>3</sup>.

#### 4 Leasing Financing for Energy-Contracting

Leasing is a way of obtaining the **right to use an asset – not the possession of this asset**. Assets in our case mean investments into energy conservation measures or into energy supply plants. When leasing an investment, you do not buy it. You only pay for the exclusive right to use it.

Leasing is a contract between the owner of the asset (**lessor**) and the user (**lessee**), wherein the former grants exclusive rights to use the assets for a certain period (basic lease term), in return for payment of a lease. The lease is typically paid in annuities to the leasing finance institute (**LFI**). The lessee can be either an ESCo or the client (building owner) as displayed in Figure 4: and Figure 5:

Basically, there are two types of leases, which are relevant for Energy-Contracting: **operate** and **finance leasing**. Specific characteristics of both are described in chapters 5.3 and 5.4 of the manual Financing Options for Energy-Contracting Projects – Comparison and Evaluation<sup>3</sup>. Overall leasing characteristics are mentioned in this introductory chapter.

The basics contract relationships of a leasing agreement are displayed in the following figure. On the left side the ESCo is lessee, on the right side the client is it:

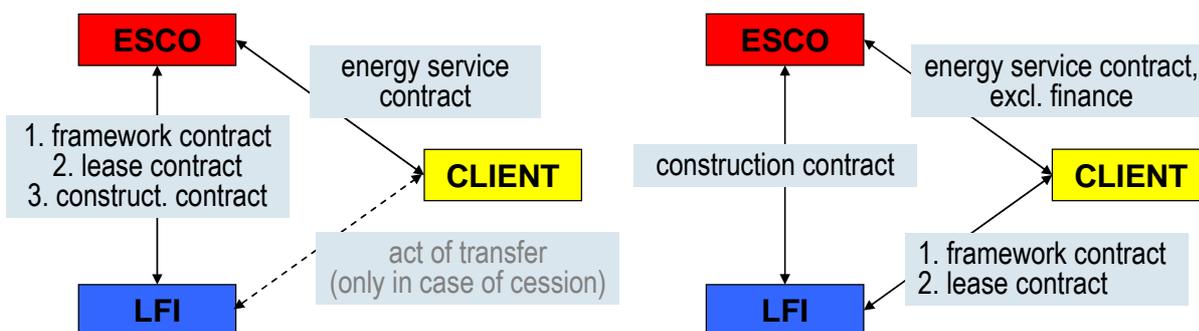


Figure 4: Contract relationships of a leasing agreement with ESCo (left) or Client (right)

#### Comments to the Figure 4:

- The ESCo implements the EE-measures and takes over technical, economical and organisational services and risks of the EC-contract and (in many cases) arranges for the financing.

<sup>3</sup> which can be downloaded under [http://www.grazer-ea.at/eesi/upload/download/diskussionspapiere/gea-eesi\\_finance\\_options\\_for\\_energy-contracting\\_080328.pdf](http://www.grazer-ea.at/eesi/upload/download/diskussionspapiere/gea-eesi_finance_options_for_energy-contracting_080328.pdf)

- The LFI takes over financial and administrative services and risks and concludes a framework and lease contract either with the ESCo (sometimes including a cession agreement for part of the contracting rate) or with the client.
- The LFI signs a construction contract for the energy efficiency investments with the ESCo.

Furthermore leasing models distinguish between **full-** and **part-amortisation (with residual value)** contracts as well as contracts including advance payments or not, all of which are applicable to EC financing.

**Sale-and-lease-back** contracts are mainly used to finance overall building refurbishment projects, not just EPC-measures. In many cases the purpose is to cash “hidden reserves” e.g. in public buildings. If a Sale-and-lease-back financing is used for a building project, it is strongly recommended to write minimum performance standards for thermal refurbishment and require guarantees like maximum energy consumption in the terms of reference.

The typical cash flow relationships of a leasing agreement are displayed in the following figure. Again, on the left the ESCo is lessee, on the right it is the client:

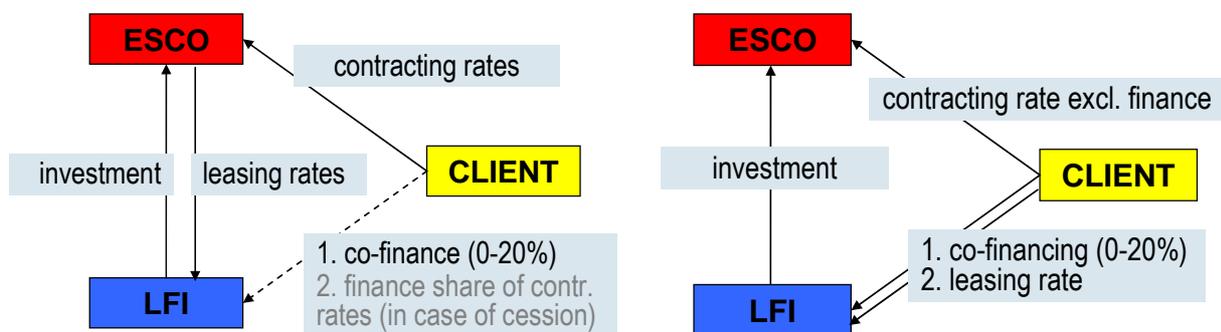
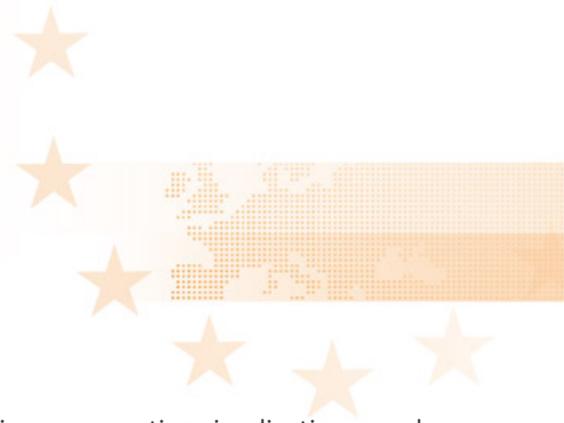


Figure 5: Cash flow relationships of a leasing agreement with ESCo (left) and Client (right)

**Comments to the Figure 5:**

- In both cases the LFI pays for and the ESCo builds the energy efficiency investments and arranges for the financing agreements
- The LFI should handle co-financing (e.g. subsidies)
- In case of ESCo finance, the finance part of the ESCo’s claims to the client can be ceded to the LFI to directly repay the ESCo’s debt (for more details on cession see chapter 5.2).
- In case of customer finance, the (financing share) of the contracting rate is paid directly to the LFI as leasing rate. The rest of the contracting rate (operation & maintenance, assets ...) share should go directly to the ESCo.



Details about financing cost, legal aspects, collateral, taxation, accounting implications and transaction costs and a variety of examples are elaborated in the manual **Financing Options for Energy-Contracting Projects**<sup>4</sup>.

## 5 Cession and Forfeiting of Contracting Rates

### 5.1 General

**Cession** is a transfer of future receivables (here contracting rates) from one party (the **cedent** or **cessionary** – in our case an ESCo) to another (the **buyer** - in our case a FI). The original creditor (the ESCo) cedes his claims and the new creditor (the FI) gains the right to claim future contracting rates from the debtor (the client).

Two basically varieties of cession are used:

1. **Cession:** A **cession** can be used **in addition to a credit or lease financing agreement**. The ceded contracting rates serve as (additional) security for the FI and the clients pays the rates (or parts of them) directly to the FI. (For more details see chapter 5.2). Sometimes this variety is being labelled as forfeiting. For clarification we propose to distinguish between Cession and forfeiting as stated here.
2. **Forfeiting:** If a cession is applied without an underlying financing agreement (credit or leasing), it is called **forfeiting**. The FI buys the future contracting rates and pays (one time) a discounted present value directly to the ESCo.

**Forfeiting** is common for export financing. Generally, the ceded receivables must be from investment-, goods- or service-deliveries with a mid-term duration of 6 months to 5 years or longer, which is applicable to contracting rates. A precondition is that the receivables are legal rightful and undisputed. This means the ESCo have performed successfully the implementation of the Energy-Contracting measures and the amount of the ceded contracting rates is fixed.

Forfeiting is economical advantageous for the client (better interest rates) and the ESCO (no additional credit volume), if the client's creditworthiness is better than the ESCo's.

A similar form of cession is called **Factoring**<sup>5</sup>, which is used for short term receivables and/or the cession of single invoices. Factoring mainly transfers the collection of payments and in the case of non recourse also of financial risks to a specialized FI. Factoring is not applicable for EC because of the shorter duration of its receivables.

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<sup>4</sup> which can be downloaded under [http://www.grazer-ea.at/eesi/upload/download/diskussionspapiere/gea-eesi\\_finance\\_options\\_for\\_energy-contracting\\_080328.pdf](http://www.grazer-ea.at/eesi/upload/download/diskussionspapiere/gea-eesi_finance_options_for_energy-contracting_080328.pdf)

<sup>5</sup> Factoring: cession of a bundle of receivables of goods and service-deliveries with a short-term payment target (6 months)

## 5.2 Cession of Contracting Rates as Security for Credit- or Lease-Finance

A cession of contracting rates in this sense is **not a stand alone financing option** but can serve as (additional) collateral for the FI. And it may simplify cash flows.

The ESCo's claims to the client are legally transferred to the FI (cession). The client pays the (finance share of the) contracting rates directly to the FI, which are used to amortize the ESCo's debt. This kind of cession is also known as a **garnishee agreement**<sup>6</sup>.

The following graph illustrates the cash flows:

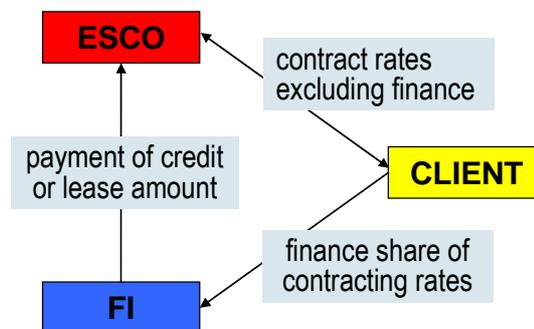


Figure 6: Cash flows in case of cession as security for credit- or leasing finance

The garnishee agreement is an (additional) security to the FI, especially if the ceded contracting rates must be settled by the client independently of the fulfilment of the Energy-Contracting contract (non recourse or waiver of objection).

Clients do not need to cede the complete contracting rate. A sensible limit could be the investment plus capital cost share of the contracting rate. The remaining share (for operation & maintenance, risk ...) is paid to the ESCo.

From the ESCo's perspective it is desirable, that the FI assumes certain risks with the garnishee agreement, such as the **financial performance risk** of the client. In this context "non-recourse" means, that FI waives the right to resort back to the ESCo, provided that the ESCo has fulfilled the contractual obligations including the savings guarantees of the EPC (**technical performance risks**).

The contract relationships of the three partners are displayed in the following graph:

<sup>6</sup> in Austria called "Drittschuldnererklärung"

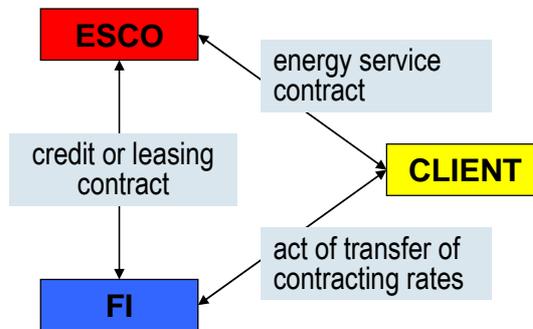


Figure 7: Contractual relationships in case of cession as security for credit- or leasing finance

Different types of cessions are the open, half open and hidden cession of the receivables, differentiating between a known and agreed cession of the client’s liabilities and a quiet agreement between ESCo and FI without the client’s accordance or knowledge.

### 5.3 Forfaiting – An Innovative Financing Option

A forfaiting contracting means, that - without an additional financing agreement - the ESCo sells the future contracting rates to a financial institution in return for a discounted one time payment. The contractual relationships of forfaiting are described by the following graphic:

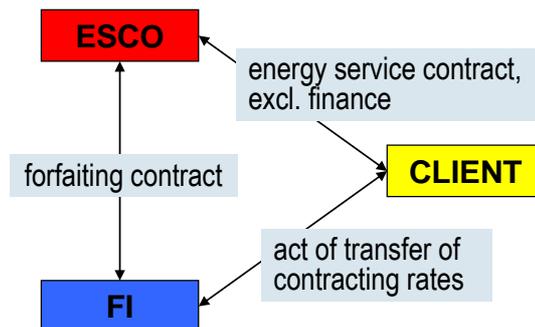
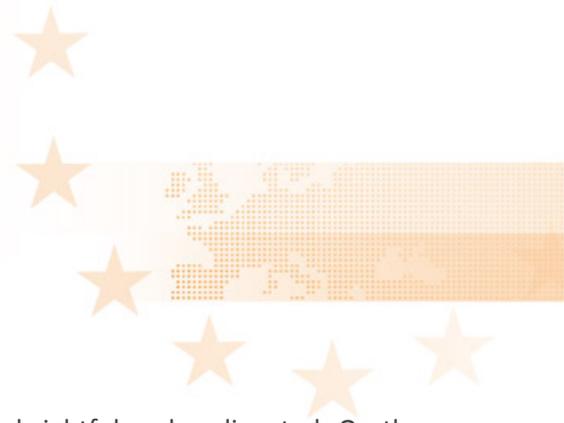


Figure 8: Forfaiting – contractual relationships

Client, ESCo and Financial Institution usually sign a **“Notice and Acknowledgment of Assignment”**. The client acknowledges herein the continued payment obligations to the financial institution regardless of any disputes between Client and ESCo. A hidden cession without an assignment between all partners is also possible within this model, but is not common.



The most important precondition is that the receivables are legal rightful and undisputed. On the basis of successfully implemented Energy-Contracting measures - like building insulation, boiler installation or energy monitoring establishment – the Client has to confirm the performance by different quality securing instruments so that the ceded share of the contracting rate is legal rightful. Additionally the ceded receivables must be undisputed, meaning that the payment of the ceded contracting rates must be settled independently from the further performance of the ESCO regarding operation & maintenance or EC-guarantees. These preconditions can be met through the models:

- Energy Supply Contracting with ceding of the Basic Service price of the rate,
- Energy Performance Contracting with ceding of the fixed/accepted part of the rate or
- Energy Performance Contracting with ceding of the total contracting rate in combination with a penalty or a bank guarantee in the case of an insufficient performance of the ESCO.

The integration of a bonus malus system as incentive for the performance of the ESCo is possible within all three models.

As mentioned before, the amount forfeited should be limited to the financing share of the contracting rate. A sensible limit could be the investment plus capital cost share of the contracting rate. The remaining share (for operation & maintenance, end energy supply, risk ...) is paid to the ESCo over the contract term.

## 6 Definitions and Links to Finance Glossaries

For definitions and information on general financing issues we recommend following these links to **web based financing glossaries** (in alphabetical order):

**Axone:** Glossary with over 5000 financial terms in English, German, French and Italian. Can be used free of charge for non-commercial use on a query-by-query basis:

[http://glossary.axone.ch/axone\\_index\\_test.cfm](http://glossary.axone.ch/axone_index_test.cfm)

**Deutsche Leasing:** Leasing-Glossary, Basics, literature, Basel II and ratings, ... :

<http://www.deutsche-leasing.de/glossar.html> (in German language)

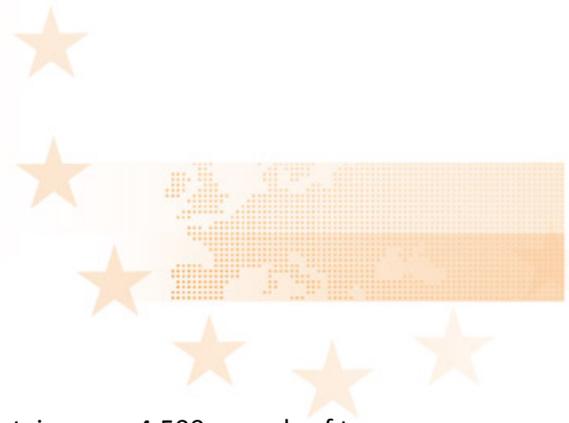
**IATE** (= "Inter-Active Terminology for Europe") is the EU inter-institutional terminology database. IATE has been used in the EU institutions and agencies since summer 2004 for the collection, dissemination and shared management of EU-specific terminology

<http://europa.eu.int/eurodicautom/>

**Förderland:** Leasing-Glossary, basics, ...: <http://www.foerderland.de/1072.0.html> (in German language)

**Kommunalkredit:** Finanzierungslexikon

<http://www.kommunalkredit.at/DE/finanzierungen/lexikon/lexikon.aspx> (in German only)



**International Monetary Fund:** (This terminology database contains over 4,500 records of terms useful to translators working with IMF material. It provides versions of terms in a number of languages, **without definitions**. The database includes words, phrases, and institutional titles commonly encountered in IMF documents in areas such as money and banking, public finance, balance of payments, and economic growth. A number of entries include a usage field within square brackets, denoting the origin of the term -- e.g., [OECD] -- or a context -- e.g., [trade]; others contain a cross reference to related records. Acronyms and currency units are also included:

[http://www.imf.org/external/np/term/index.asp?index=eng&index\\_langid=1](http://www.imf.org/external/np/term/index.asp?index=eng&index_langid=1)

**TU-Dresden:** German Listing of web-based glossaries: <http://www.iim.fh-koeln.de/dtp/termsamm/wirtschaft/finanzen.html#mehrspr>

**Wikipedia:** Definitions, discussions: <http://de.wikipedia.org/wiki/Leasing> (German),  
<http://en.wikipedia.org/wiki/Leasing> (English)