



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

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

For more information about UNIDO, please visit us at www.unido.org

22948

S.C. Rafinaria ASTRA ROMANA S.A. Ploiesti
in co-operation with
United Nations Industrial Development Organisation
and
INCD ECOIND – Bucharest

FINAL REPORT

on
Sustainable Enterprise Strategy (SES)
(Output 4)

developed within the Project

«Transfer of Environmentally Sound Technology (TEST)
in the
Danube River Basin»

Bucharest, October 2003

National SES consultant:
Ing. Cristian THEODORESCU

Date and place:
PLOIESTI – ROMANIA
October 29, 2003

CONTACTS:

- **S.C. ASTRA ROMANA S.A.** B-dul Petrolului 59. 2000-Ploiesti, ROMANIA
 - o Oil Refinery
 - o Size: 840 personnel; 30 in the Hydrorefining Module (2 engineers, 4 foremen)
 - o Turnover: 200M\$ in 2001
 - o Contact person: Dr. Ing. Duca Gheorghe, ing. Marin Gheorghe,
 - Address: S.C. ASTRA ROMANA S.A., B-dul Petrolului 59. 2000-Ploiesti, Romania
 - Tel: 00 40 (0) 244 116 512
 - Fax: 00 40 (0) 244 175 939
 - E-mail: ducag@astrarom.ro; maringh@astrarom.ro
- **S.C. ZECASIN S.A.** Splaiul Independentei 202. 77208-Bucharest, Romania
 - o Research and Development Institute in Catalysis, Zeolites, Organic Syntheses
 - o 80 employees; 200,000US\$/yr turnover (in 2001)
 - o Contact person: ing. Cristian Theodorescu – CP/EST/SES Consultant
 - Address: S.C. ZECASIN S.A., Splaiul Independentei 202. Sector 6; 77208-Bucharest, Romania
 - Tel: 00 40 (0) 21 638 33 15
 - Fax: 00 40 (0) 21 312 52 41
 - E-mail: zecasin@com.pcnet.ro

Acknowledgments

The ASTRA SES Team

*wishes to acknowledge and express its grateful appreciation for
the help, dedication, assistance and support of the TEST-UNIDO Management Unit
and assumes any responsibility connected with poor quality of its work during the
present Project*

Content

List of Annexes.....	5
1. SES Module Objectives.....	6
2. Mobilize change through executive leadership.....	7
2.1. Project ToR presented to the Executives.....	8
2.2. Getting the executive support.....	8
2.3. Appointing the ASTRA SP – SBSC Team.....	9
2.4. Establishing ground rules.....	11
2.5. Initial Assessment.....	13
2.5.1. Initial Interviews.....	14
2.5.2. The Baldrige Self-assessment questionnaire.....	15
2.5.3. SWOT Analysis.....	16
2.5.4. The UNIDO Triple-Bottom-Line Questionnaire.....	17
2.5.5. General Conclusion.....	17
3. Developing the Strategy.....	18
3.1. The Destination Statement.....	18
3.2. The Vision statement.....	19
3.3. The Mission Statement.....	19
3.4. Core values.....	21
4. Translate the strategy into operational terms - Introducing the SBSC.....	23
4.1. Three Generations Of Balanced Scorecards.....	23
4.2. Sustainability.....	23
4.3. Certant philosophi.....	25
4.4. Objectives.....	26
4.5. Strategy Maps.....	28
4.6. Metrics.....	32
4.7. Articulating the ASTRA Corporate Social Responsibility Policy.....	36
4.7.1. ASTRA should become a positive force in all it operational field.....	37
4.7.2. ASTRA Should Join Efforts toward New Sources of Fuel.....	38
4.7.2. Environment.....	38
4.7.3. Ethics.....	38
4.7.4. Working with communities.....	39
4.7.5. ASTRA employees.....	39
4.8. Action Plans.....	41
4.9. Reporting.....	42
5. Align the organization to the strategy. Cascading the SBSC.....	43
6. Present Status of the SES Module.....	44
7. Conclusions.....	45
8. References.....	47

List of Annexes

1	Initial Personal Interview
2	The Baldrige Self-Assessment Questionnaire
3	SWOT Evaluation (CONFIDENTIAL)
4	Collected Key Performance Indicators
5	Company Level KPI
6	Dow Jones Sustainability Index Scale
7	Customer Satisfaction Questionnaire
8	Financial Times Value Added Score
9	Operational SBSC for the Hydrorefining Unit
10	ASTRA Refinery Layout
11	Dissemination Brochure
12	Glossary of terms used

1. SES Module Objectives

The main objectives of the SES module are:

- a. To integrate all the elements of the TEST approach as well as other valuable initiatives of the Company (TQM, ABC, etc) into the enterprise strategy in order to sustain its benefits in the long run going beyond the initial period, that is based on an external assistance. Precondition for this integration is an experience from implementation of the TEST approach within the managerial and operational levels of the management pyramid
- b. to provide a platform for evaluation and communication of performance of enterprise processes and products to stakeholders (shareholders, employees, local authorities, civil society, customers, etc.) establishing a baseline for enhancing dialogue and providing feedbacks on company values and strategy

After a preliminary discussion at ASTRA and an initial presentation of what strategy and strategy focused organization mean, these overall objectives were refined and adapted to what, at that time, was thought to be the corporate thinking level of the Company.

The refined outcomes of the ASTRA SES module are:

- a. Building up a formalized strategy (developing strategic planning - SP skills) of the Company
- b. Starting the set up of a Sustainability Balanced Scorecard (SBSC) as the strategic management system of the Company and transform ASTRA in a Strategy focused Organization

This concept means, in very few words:

STRATEGY:	Make strategy the central organization agenda
FOCUSED:	Created powerful focus on the strategy
ORGANIZATION:	Mobilize employees to act in fundamentally different ways, guided by the strategy

There are five principles that describe the key elements of building an organization able to focus on strategy and deliver breakthrough results. They are:

1. *Mobilize change through executive leadership.* To drive change, executives must develop a case for change and a vision and strategy on where they want to drive the organization. They must create accountability and ensure the entire executive team is aligned.
2. *Translate the strategy into operational terms.* The Balanced Scorecard and Strategy Map (a one-page visual representation of the key objectives of the strategy outlined in a cause-and-effect diagram) take the corporate strategy and translate it into terms that the organization can understand and act upon.
3. *Align the organization to the strategy.* Once a Balanced Scorecard has been created at the top level of an organization, it can be "cascaded" down to operating and support units. This allows each area of the organization to understand how it contributes to the strategy.
4. *Motivate to make strategy everyone's job.* Communication and education is critical to executing strategy. Aligning incentives and personal objectives is also critical for success. Leading organizations are also developing personal Balanced Scorecards to further link the personal development process to the strategic management process.

5. *Govern to make strategy a continual process.* Linking business intelligence systems, the Balanced Scorecard to planning and budgeting systems, and best practice and knowledge management systems are critical to developing an organization that continually reviews strategy.

The Consultant believed that the SES training should include as many modern management techniques as possible:

- a. to continue a process started during early stages of the TEST Project, when such management tools (decision making procedures, statistical analysis) were used in implementing CP options;
- b. to make the top and mid-managers acquainted, familiar to such techniques as SWOT analysis, affinity diagrams, brainstorming sessions, last minute metrics trends;
- c. to practice, to rehearse such tools in the real life;
- d. to make them tools for everyday work;
- e. to put the management and decision making process on more rational basis.

These objectives will ensure, hopefully, to get the management and organization into the SBSC thinking mode and help the emergence of a powerful corporate culture.

The main phases of the Project, as they effectively emerged during its implementation up to now, are:

- Initial assessment of the existing ASTRA Co corporate thinking level, strategic planning and operational management system
- Development of the ASTRA Strategic Planning Activity
- Development of the SBSC as the managerial tool for day by day (tactical) decisions and evaluation in the mainframe established by the ASTRA strategy.

A by result is believed to be the training of the SP-SBSC team that could carry on strategic planning and SBSC development, in the future. Also, working together on some common grounds, to achieve consensus was an objective for the Module.

It is intended that the SES Module training remain an open-end process, a starting point, giving to the target Company all the tools and creating all the expertise possible (in the given time frame available) in order to continue and develop a comprehensive and articulated Strategic Management System. ASTRA Strategy, ASTRA SBSC (and Strategic Business Unit, SBU-SBSC) will form an integrate tool for Company leadership and employees to get clear cut ideas about what the Company wants to achieve and how the Company and its employees intend to achieve what they want.

The SES Module intends to develop a system, an organizational mainframe, relationship and skills rather than training people. People come and go, the system stands and it is the main catalyst for further developing the organization.

2. Mobilize change through executive leadership

This Project started with an *Initial Assessment Phase* is believed to be essential for the following reasons:

- a. It gives the Consultant a first detailed view of the Company;
- b. It is a good check of the Executives involvement and support of the Project – believed to essential for its success;
- c. It is a good start for the Company's employees in trying to express themselves, their views, their suggestions, their perspectives;
- d. It reveals existing strategic thinking/management system elements that could be incorporated in the Strategy and BSC;

- e. It constitutes a good reference for future progress. Later monitoring could refer to the initial situation in assessing how successful the Project was.

The initial assessment of the ASTRA Co included:

1. A presentation of the Project, its ToR to the Executives (some of them later included in the Strategic Planning and SBSC Team)
2. Evaluating and getting the executive support and convincing them to take part in the Project, not to relegate this activity to an appointed team of employees (even high-ranked)
3. Appointing the ASTRA SP – SBSC Team (Strategic Planning – Sustainability Balanced Scorecard Team)
4. Establishing rules of work
5. Carrying out initial interviews, distributing self-assessment check lists, developing the SWOT analysis of the Company, completing the Triple-Bottom-Line Questionnaire (UNIDO).

The results of this initial assessment enabled the facilitator and the SP-SBSC Team:

1. to evaluate the level of strategic planning and what is to be done to formalize ASTRA strategy
2. to assess the level of corporate culture and to focus and prioritize actions to improve the initial situation
3. to review the existing elements (TQM, EMS, CP, etc) that could be integrated in the SP-SBSC
4. to appraise the opportunities and constraints imposed to the Company by its internal situation and by the external business and legislative environment in which it operates (SWOT)
5. to exercise new and modern metrics used in assessing Companies and business development at the European and World level. In this way ASTRA could immediately see where it stands among its pairs and find out what should be done to improve its status. This metrics included Baldrige Questionnaire for excellence (self assessment), Financial Times Value Added Score, Dow Jones Sustainability Index, etc.

2.1. Project ToR presented to the Executives

The SES Module at ASTRA started with a "Portfolio Analysis" Training that was interrupted. Scarcity of Strategic Planning elements in the Company led to limited interest in the module and to poor results. It was then decided to start again, on a broader basis that will include SP, along with SBSC elements. It is believed that instead of presenting. "ex cathedra" what SES is and how it would aggregate the existing elements in a more focused and rational Management of the Company, it is better:

- a. to help the Company build up a strategy,
- b. to make it understand what are the advantages of implementing a modern management system,
- c. to train local people for future strategically and managerial analysis
- d. to present as many management tools as possible in order to put the decision process on fully rational basis.

Not only the ToR were accepted by the Executives but a secret hope was expressed that the results will input some original Romanian contributions to the SBSC thinking.

2.2. Getting the executive support

The Technical Director and the Department heads of ASTRA expressed their support and interest in the Project at the very start of the Module.

They were absolutely open to any initiative meant to modernize ASTRA and previous actions (ISO-certification, EMS, CP) were cited in support of that expressed openness.

It was understood that the strategic planning should be achieved only with the participation and supervising of the executives and department heads of the Company. They are the key people that know exactly the situation, the threats, the external connections, the functionalities, the responsible with a specific task, etc.

Free access was given to the external SP-SBSC trainer (facilitator) to all compartments of the Company and support from the departments' heads was granted.

Though the Technical Director could not participate at all SP-SBSC meetings, he was constantly briefed and gave his feedback to the team or directly to the Consultant, who had open access to him. His support and part in the achieved level of developing SP-SBSC is fully acknowledged.

A very tough question was if the SP-SBSC will be a top-down or a bottom-up affair. This was a rather long debate.

Advantages and disadvantages of both alternatives are summarized in Table 1.

As the Project included Strategy (long term) as well as SBSC (measuring performance and decision making on a tactical scale), a mixed system was adopted. It was suggested that with a limited number of subjects that should remain confidential to employees, any matter should be discussed both ways. The SP-SBSC Consultant has carried out extensive work digging in the history of the ASTRA Company, as the oldest oil refinery in Europe (1880). Important facts and figures in the ASTRA past were presented in order to substantiate the tradition of the Company, how it could be brought back to life (see *infra*, §4.7).

Strategic Planning	Other Planning
Top-down Creates future 5- to 20-year horizon Guides management behavior External customer focus Effectiveness Emphasizes the process Proactive	Bottom-up/Staff-generated Extends present 1 to 5-year horizon Little or no guidance for management behavior Internal customer focus Efficiency Emphasizes the plan Reactive

Executives expressed their interest in these facts and in knowing what people think about the Company, as part of developing the corporate culture.

The necessity of aggregating EMS, EST, CP, all Company certifications in a coordinating system was reiterated.

2.3. Appointing the ASTRA SP – SBSC Team

The ASTRA Strategic Planning – Sustainability Balanced Scorecard Team (SP-SBSC Team) included the specialists presented in Table 1. Their role in the team is also detailed.

In establishing the structure and size of the SP-SBSC Team, the following ideas were discussed and full consensus was obtained:

a. Size

What size should the SP-SBSC team be? Some literature recommends including all the department heads and mid-managers even when they number over 30 people. It is true that a large team maximizes

organizational input, but it is also much more difficult to reach consensus on the issues. Groups this large limit participation by the individual members and, therefore, encourage offline discussion of the issues. They almost always require that subgroups be formed to "work" the issues.

Smaller teams reach consensus much more easily because the whole team can work the issues together. The disadvantages are that they limit the amount of input and tend to be perceived by others as elitist. With proper deployment, however, these perceptions can be overcome.

ASTRA is a rather small Company (in the Oil & Gas Industry). A minimal SP-SBSC Team is considered optimal.

In order to address the main objectives of the SES Project, the structure included the departments' heads (technological, financial, commercial, etc). In this way all the perspectives of the SP-SBSC will be represented and could be addressed easily.

The presence of the heads of the 2 main production units in ASTRA (the "FUELS" unit and the "LUBRICANTS" unit) will enable future development of SBSC for each of those departments, as SBU. At the beginning of the Project it was accepted that, if need be, some extra people from specific ASTRA Departments could be added.

During the Project the Lubricants Department Head had a very valuable initiative. Ing Carasopol explained to its subordinates – heads of ASTRA modules and installations under her control, the idea of the Project and asked them if they wish to get involved. Participation was on a voluntary base. Surprisingly, many completed questionnaires and written contributions came from those lower management representatives. The trainer did not anything to force the other Department Head ("FUELS") to adopt the same policy. During the Project he finally did it without any constraint from the trainer or his colleagues.

b. Position in the Hierarchy

A person's place in the hierarchy of the organization is essential. The presence of the main decision factors in the Company is a must underlined by all SP-SBSC specialists. Occasionally, and for a variety of reasons, some Company Executives are tempted to include one or more *junior people*. Though it is well to remember that juniors often acquiesce to the real or perceived wishes of their seniors and that having junior members on the team tends to encourage senior members to delegate the work to them, thus diluting leadership responsibility, a junior member was included in the ASTRA SP-SBSC Team (ing Gh. Marin) as he was responsible for early modules of the UNIDO-Project, from ASTRA side (CP, EST). His 2 yrs experience in the Project was, as the matter of fact, important for the other Team members that knew little about those Project modules. His contribution was to try to aggregate all modern management ideas and modules (quality, EMS, CP) in the SP-SBSC framework.

c. Knowledge Level

Team members should cover all technological and organizational knowledge of the Company, as well as detailed knowledge of the perspectives to be included in the SBSC (financial, customer, operational, learning and growth, corporate social responsibility). During the Project, the team members fully proved their understanding of the organization functions as well as the value of system optimization. One important issue was if some of the shareholders should be on the team.

It was decided that they shouldn't. For the first cycle of planning, the team is learning to function as a team. The members may not, as yet, have reached consensus among themselves about what to do and what their strategies should be. There is the real question of whether the team would want its stakeholders to assist all the internal course of actions. In addition, many shareholders could not be probably available when the Seminars are held and may not be familiar with ASTRA internal organization and processes.

The SP-SBSC Team members will be fully interested, anyway, in any developments that will suit ASTRA stakeholders so their interests will be dutifully represented.

Table 1. The ASTRA SP-SBSC Team

№	Member	Function in ASTRA	Function in the Strategic Planning Team	SP-SBSC Team Responsibilities
1.	Ing. Tiberiu Gheorghita	Technical Director	Head of the Strategic Planning Team	Assess the ASTRA present and future development – all perspectives
2.	Dr. Ing. Gheorghe Duca	Head of the Quality and Environmental Management Unit	Liaison	Assess the ASTRA present and future development – Corp. Soc Resp. Liaise with the facilitator. Serves as consultant for ASTRA SPT between Seminars.
3.	Ing. Joița Gheorghita	Member - Quality and Environmental Management Unit	Secretary of the SP-SBSC Team	Assess the ASTRA present and future development – Corp. Soc Resp. Liaise with SPT members – gathers and dispatch written materials.
4.	Ing. Cecilia Carasopol	Head of the Lubricants Unit	Responsible of future SBU 1	Assess the ASTRA present and future development – SBU 1
5.	Ing. Ion Apostol	Head of the Fuels Unit	Responsible of future SBU 2	Assess the ASTRA present and future development SBU 2
6.	Ec. Const. Chiru	Commercial Director	Member	Assess the ASTRA present and future development Market Perspective
7.	Ec. Dana Dragomirescu	Financial Director	Member	Assess the ASTRA present and future development Financial Perspective
8.	Ing. Jercan	Head of the Technical&Production Department	Member	Assess the ASTRA present and future development Internal Processes Perspective
9.	Ing. Gheorghe Marin	Deputy Manager – Lubricants Section	Head of the ASTRA TEST Team	Aggregate Early TEST Project outcomes in the SES Module
10.	Ing Christian Theodorescu	ZECASIN	Consultant (Trainer, Facilitator)	Organizing the activities; Training sessions, gathering information, suggesting possible developments

2.4. Establishing ground rules

A first Meeting of the SP-SBSC Team was arranged and some ground rules were established. They are believed to be as strict as possible, in order to limit divagation and divert focus but as flexible as possible, in order to encourage idea generation, challenge specialists to find non-conventional solutions. The **"HEROES PACT"** Rules were adopted, though in Romanian they do not sound as a catching-eye&ear acronym:

- **H**ere and now—no "war stories" or "when I was young – tales"
- **E**xplore the possibilities—suspend disbelief
- **R**espect and responsibility for the group
- **O**penness—spirit of inquiry
- **E**nergy
- **S**trategic thinking and listening
- **P**articipation without side conversations
- **A**ttack challenges, not each other
- **C**onfidentiality
- **T**imeliness

Limited side conversations and anecdotes telling were enabled, these proving to be excellent lubricants for team building.

The two main alternatives of possible work in the SP-SBSC team:

- voting
- consensus

were examined.

Each method has its advantages and disadvantages.

Voting is a “cleaner” process. It allows the team to move forward much more quickly, but it sets up a perception of winners and losers (**this was NOT the slightest intention of the consultant!!! One of the main objectives was to foster communication and working on common grounds inside the Company**).

Many working teams fail to progress because they allow some Senior Executives members to exercise their veto power or because of caution and suspicion of lower rank members of the team to present openly their views. Even unanimity does not at all ensure that a decision chosen is the right one.

Says Alfred P. Sloan, former General Motors Chairman:

«Gentlemen, – we are all in complete agreement to the decision here. –

Then I propose we postpone further discussion of this matter until our next meeting, to give ourselves time to develop disagreement and perhaps gain some understanding of what the decision is all about»

Consensus (meaning that everyone on the team may not be in 100% agreement, but they can live with the decision of the group) is “messier.” Issues must be discussed, analyzed, and discussed again until the group finds a solution that everyone can live with. While it takes more time, it allows the whole team to find out what is it working together on common issues and what it takes to get a common decision.

Consensus was accepted. Its contribution to the building of the corporate culture is thought essential. The training should take 2 seminars/week, in principle. On a mutually agreed basis, this timeframe could be modified (eg., during summer holidays).

It was established that at least one meeting will take place Friday, immediately after the Executive Board Meeting, when and where all decision persons are gathered and where the SP-SBSC could come and make some important addresses or briefings.

Up to now, these conditions were fully observed.

The internal organization of the SP-SBSC Team included:

- a. the appointment of the Head of the Team (Technical Director)
- b. the appointment of a liaison member of the SP-SBSC Team (Dr DUCA). His role is to liaise with the Consultant, who is not a part of the Company, nor does he live in the same city.
- c. The appointment of a Secretary of the Team (Mrs Ing. Gheorghita) to help the facilitator getting the right information from the right person in ASTRA, to centralize all items to be discussed, to call together Team members to the Seminars, etc.

The idea of appointing a Liaison Person proved an excellent one. He was the representative of the Consultant, in ASTRA, between two seminars. All subjects for debate were discussed with him in advance and modifications were incorporated when needed, in order to include most relevant information for or from ASTRA Dr Duca was aware of.

In fact, using extensive e-mail services, the training process of each Seminar started with training the liaison person. He proved extremely helpful to the trainer, in finding the right ways to discuss matters in ASTRA, in creating and disseminating written materials, in collecting written materials from SP-SBSC Team members as well from other ASTRA employees. Between seminars, he served as a local ad-hoc consultant, explaining subjects less understood to other SP-SBSC Team members, conveying Seminar

results to some SP-SBSC Team members that couldn't attend the training session (eg, being on holidays) and presenting the status and progress of the SES module to the General Manager.

The Liaison Person has all the information and skills to carry out and replicate (with his colleagues support) future training and development of the strategic planning and balanced scorecarding processes in ASTRA, after the end of the present Project.

He will probably become head of the ASTRA Strategic Planning Unit, organizational improvement that already emerged as a possible outcome of the Project, up to now.

In conclusion, building the team and establishing some ground rules were done having in mind possible future developments of the Project:

- full autonomy of the team. The trainer comes and goes. The team will persist and will continue to work, as part of the corporate culture (hopefully).
- Personnel training
- updating strategy and SBSC
- establishing SBSC for the 2 SBU of the ASTRA Company

The Seminars consisted, generally of 2 parts:

- A general part – where all the team gathered, briefed the trainer and the trainer briefed the team, team work was carried out (brainstorm sessions, presentations, etc) and the Team received training, tasks and instructions for future work
- A specific part – especially in the SBSC part of the Project, where minute work was necessary with each responsible (financial, commercial, etc) in order for the Consultant to understand ASTRA organizations, to identify valuable elements to be included in the SBSC, to point out to needed modifications. At the specific part, only the trainer, the local liaison person, the Secretary and the responsible(s) of the analyzed department(s) took part. Conclusions of the specific parts of the seminars were presented during the next seminars so everyone got briefed.

2.5. Initial Assessment

The initial assessment of the strategic planning and management system of the Company was carried out using:

- a. initial interviews
- b. Baldrige self-assessment check lists
- c. developing the SWOT analysis of the Company
- d. UNIDO Triple-Bottom-Line Questionnaire

There are many other alternatives to appraise the existing and trends developing in an organization. Some of them can be easily included in those adopted here. For ex., the PEST (or STEP in some papers) analysis (Political, Economical, Social, Technological) refers mainly to the external situation of the organization. The PEST factors, combined with external business micro environmental factors can be classified as Opportunities and Threats in a SWOT analysis.

The SWOT analysis was already used in the Cleaner Production stage of the present UNIDO Project so the ASTRA specialists are somewhat familiar with this tool and it took less to explain what it is all about.

What was done with the information collected in this manner?

Two things.

First, the facilitator prepared a consolidated analysis that simply “dumped” the data, listing questions and all the answers to them from all the participants, without attribution. Consensus and divergence emerge from the answers, as people gave similar or different views of the same subject.

Second, the facilitator prepared an executive summary from the interview data that will be used in building a vision, mission, guiding principles, objectives and a set of planning assumptions. The result of the interview is NOT a vision/mission/objectives structure but helps building these items.

During seminars, the "gap analysis" procedure has been adopted, in order to:

- identify common ideas and suggestions
- point out what ideas are not shared by all participants
- Discuss in details, during the seminar, the advantages and the drawbacks of keeping the idea in the "Vision", "Mission" and/or "Core Values" mainframe. Only items adopted by consensus, after deliberation were maintained and are included in the final form of these documents.

2.5.1. Initial Interviews

The initial interview (See Annex 1) was supposed to be carried out, person-to-person (*tête-à-tête*). It is a recommendation made by some strategic planning authors. The idea behind this procedure is to encourage the interviewed person to be as open and honest as possible, as he is not talking to one of his bosses but to an outsider (the Consultant). The "Confidentiality" component of the "HEROES PACT" ground rules (see above) refers exactly to this procedure.

Anyway, during the first interviews, it was found out that the answers were specious, sometimes fallacious, misleading. The existing human relation climate is inherited from the Communist Era and it is very difficult to convert it. This is not true for ASTRA only, but for all Romanian Companies. Mutual trust is still a problem.

Interviewed persons strived to answer in a manner that put them and the Company in the best possible light and impress the Consultant (who made the interview) in the highest degree!

What was intended to be a thorough diagnostic work, a medicine man job, resulted, in a first stage, in a collection of meaningless slogans, with no use for the Project.

In agreement with all the SP-SBSC Team members the procedure was entirely changed.

All questionnaires were discussed in detail during the seminar. Explanations were given about the intent, the importance of some questions, what is the content and the use of information required, what shall be done with this information.

At the end of this briefing, each Team member had all the information to give his most relevant answer, in full confidentiality.

After each seminar, Dr Duca, the Liaison person, distributed the questionnaire to all people interested. As earlier mentioned, they were the SP-SBSC Team members and some other middle and lower management members.

The initiative to include lower and mid managers in the analysis was of Mrs Ing Carasopol and was adopted, in time, by Mr Ing. Apostol also. So now, practically, a good share of the mid and lower managers answered to these questionnaires, though they have not been included in the SP-SBSC Team. Answers to the questionnaires were put in closed sealed envelopes, with no names and ID on them. The liaison person collected them and handed them to the Consultant, during the next seminar.

This clean and transparent procedure was rigorously observed by all Team members and the confidentiality of information source was fully respected. In conclusion, the content of the "Confidentiality" component of the HEROES PACT Rules was adapted in order to get the most out from local organizations.

Conclusions:

- a. There is little explicit & precise ideas, from the part of the participants to the Initial Interview, about what ASTRA is and should be and what to do about it:
- b. The ideas remain foggy, limited to the plant in which the participant works ("*The reason to exist for ASTRA is to provide lubricants*" ; "*The Reason to exist for ASTRA is to provide car fuels for the Romanian market*"),
- c. the participants believe there is a Strategy of the Company but defer a more detailed answer to the Executives, as they know little about it
- d. Many answers are of the form: "*It is beyond my competence*" though the core idea of a modern Company Strategy is that it is to be shared by everyone.
- e. The main concern is for the Company future, unstable, unclear, and questionable. This perception is motivated by dramatic changes that took place in the last 18 months.
- f. There are no revolutionary ideas about what should be done to overcome these difficulties. Most believe that the target to follow is producing oil derivatives. No change suggested.

Though difficult- even impossible to quantify, it is believed that the information gathered in these confidential interviews was the most important for the future stages of the Project. It gives someone the "ASTRA feeling", the "ASTRA mood", the "ASTRA frame of mind", as an organization, as a community.

As for more exact figures, at this stage let's mention two possible excuses:

- 35-70% of the information required by auditing Companies (including banks) cannot be put in figures
- Not all that can be counted, counts – not all that counts, can be counted! (Albert Einstein)

2.5.2. The Baldrige Self-assessment questionnaire.

The Baldrige National Quality Program is characterized in these words: "*There is no better assessment of your organization's performance available than applying for the Baldrige Award. The Criteria for Performance excellence are unique in addressing all the critical elements of your performance system*" (Bruce Woolpert).

Applying for the award is not within the scope of the Present Project. Yet measuring, evaluating the ASTRA Company using the same rules, the same metrics, the same information as that used to appraise more efficient Companies will help the SP-SBSC:

- in finding out where the Company exactly is, on an recognized, accepted scale
- in identifying the Criteria and metrics used to measure performance and adopt them, if they are not yet used by the Company.
- In establishing priorities for future immediate actions, in order to improve the situation.

There are many affinities between the SBSC – as an universal accepted management system framework and the Baldrige Score. They both use several perspectives to evaluate the Company efficiency and social impact. The difference is that the Baldrige Score is a challenging competition – not a management system. It is a **lagging** score. At the end of one year, it enables comparison with other companies, even from different sectors of the economy. A fully implemented SBSC will hopefully lead to a high Baldrige score.

The Baldrige self-assessment questionnaire (**Annex 2**) was distributed with the following idea in mind. In the short term (2-3 yrs), ASTRA, as well as other Romanian Companies will have to compare themselves with similar Companies from abroad. Some reference coordinates should be established. There are no such coordinates adopted in Romania. The existing Baldrige scale is a good start.

The Baldrige questionnaire attached does not offer detailed information about the Company. It only checks if employees and managers has the right information at hand or know where to look to find it. It assess the participation, the corporate culture, the level of aggregation of employees and managers to common tasks and targets. Though the results are of the kind "I know", "I think I know" or "I really don't know", these apparently intangible phrases can be turned out in comparable figures. The attached results compares the proportion of ASTRA managers that gave a particular answer to the figure computed as average for the Oil Industry.

Conclusions

The attached file compares percentages of answers in the 3 categories included in the Baldrige self assessment questionnaire:

- questions "Easy to Answer"
- questions that "Could be Answered" with the information precisely located
- questions "Difficult to Answer" because of lack of information

to the same percentages calculated as average values for a large number of Companies similar to ASTRA (the average values of the industrial sector ASTRA is a part of).

Some answers show a surprising similarity between ASTRA and the sector average. These are mainly the questions implying knowledge about technology, products and processes.

The questions regarding the strategic view of the company in its business environment, the threats for its development indicate, on the opposite, a large discrepancy between ASTRA and sector average.

ASTRA answers are concentrated mainly on the "Difficult to answer" option.

Priorities

Again, the "gap analysis" procedure identified what is the task of the Executive Board and higher Management in the coming months: to identify such gaps between what ASTRA managers know – compared to the Oil & Gas Sector average and discuss in detail with the employees and managers each items, explain what is it important to know the Company position on the market, the risks, the enemies, the Executives ideas for improving things. An example of Action Plan form directed to fill such gaps as soon as possible is included in the annex (Annex 2).

2.5.3. SWOT Analysis

The SWOT (or TOWS, in some papers) analysis is mainly an internal and external scan of the organization environment and is a capital part of the strategic planning process.

The environmental factors internal to the Company are classified as Strengths and Weaknesses

The environmental factors external to the Company are classified as Opportunities and Threats.

SWOT provides helpful information in matching the firm's resources and capabilities to the competitive environment in which the organization operates.

From that point of view, it is instrumental in strategy formulation and selection.

Companies shouldn't rush to necessarily pursue most lucrative opportunities. As part of a Balanced process (The Balanced Scorecard), it could be better to develop a competitive advantage by identifying the delicate and intricate fit between Company's strengths and upcoming opportunities, whilst striving to correct and minimize weaknesses and bypass threats.

Developing strategies that take into accounts the Organizational SWOT profile, a matrix of these factors can be set up:

	Strengths, S	Weaknesses, W
Opportunities, O	S-O strategy: pursuing	W-O strategy: overcoming

	opportunities that fit well in company's strengths	weaknesses in order to pursue opportunities
Threats, T	S-T strategy: Identifying ways that the Organization can use its strengths to reduce its vulnerability to external threats	W-T strategy: establishing a well structured defensive plan to prevent Company's weaknesses from making it highly susceptible to external threats.

Table 2. The SWOT (TOWS) Matrix in strategic planning

The SWOT table (Annex 3) compiles all the idea that came from the SP-SBSC Team as well as from other mid-management professionals in ASTRA. Being an internal working document, little attention was paid to its "esthetic" look and content, as long as the information is correctly gathered and rendered. Even if some of the ideas overlap, the items in the table are presented as they came out from the ASTRA specialists. Some ideas emerged after the first distribution of the Table, when reading what their colleagues have suggested, some Team members came with extra contributions that have been included in the annexed compilation.

Conclusions

Due to its weaknesses (obsolete equipment, inadequate marketing, poor communication) and to the external business environment (mainly state controlled or, where not, corrupted and degraded in an unstable market, subject to continual changes in norms, rules, taxation, ASTRA should probably develop a surviving strategy, still paying attention to opportunities that can match its strengths, once the business environment becomes more stable and less tarnished by political and administrative corruption.

Enlarging the scope of ASTRA activities by including services, establishing profit centers in their Labs, Mechanical Workshops and taking advantages of the UNIDO TEST Project experience and offering consultancy for other refineries or chemical platforms in Cleaner Production Analysis, EMS, etc are valuable ideas that will be included in the SBSC.

The very poor performance and efficiency of the marketing department is a problem to deal with as soon as possible. Restructuring the Department, developing new capabilities, more aggressive approach, should improve the ASTRA image and profit.

Lacks of communication, motivation, employee's involvement in decision, are components to be corrected by the SBSC mainframe.

2.5.4. The UNIDO Triple-Bottom-Line Questionnaire

As ASTRA fully complies with Romanian regulations and as these regulations are compatible with EU ones, the information added to the Strategic Planning Process by this questionnaire was very little.

2.5.5. General Conclusion

As a general conclusion of the Initial Assessment Phase, it should be stated that ASTRA has very good professionals, dedicated to their work, eager to make things move faster and getting better.

The absence of an aggregative tool for their ideas, intentions and efforts is critical to the Company, because it operates in a very foggy and unstable business and legislative environment where market and competition are not fair but controlled by political & corrupted factors.

The lack of strategic perception and thinking, of a focused work come form:

- a. Sequels of the communist regime. 50 yrs management by slogans and wooden language has a tendency to disqualify any intent to improve things. Any such intent is not considered honest
- b. Top-down approach was the rule during the former regime. A mentality of wait and see, being precautionous and watchful with what could affect one's personal status led to extremely high barriers for open and honest communication.
- c. Employees are diffident, reticent, reserved in any direct approach but prove full of valuable ideas and energy when their identity is respected and strict confidentiality observed.
- d. The Polytechnic education of most of the ASTRA specialists does not include a solid economic training. Very good at their work, they are not familiar with the business environment in which the organization must operate and do not understand some of the threats.

3. Developing the Strategy

3.1. The Destination Statement

As the main objective of the SES module is to implement the Sustainability BSC as the strategic management system in ASTRA, the setting up of the basic ASTRA strategy elements was done along the lines of the BSC mainframe (see *infra*, Chapter 4).

The strategic planning process included:

- a. establishing the *Vision*
- b. building up the *Mission*
- c. identifying the *Core values* (Guiding principles)

These 3 components will constitute the "*Destination Statement*":

- how the ASTRA managers imagine their Company in 2008
- what business ethics principles do they intend to apply to get there
- what are the main strategic directions that should be followed to reach the Destination

The literature is conflicting about what should be set up first, the Vision or the Mission. The Consultant let the local people to decide. It ended in a mixed approach.

The Vision statement was established first, and then the Mission components of the ASTRA strategy were subject for thorough brainstorming meetings.

The SP-SBSC Team came back to the Vision Statement whenever new valuable refinement was available.

It is believed that establishing a Vision statement first:

- contributes to the necessary stretching of the Team members thinking,
- gets the Team members out of their routine
- makes them look ahead, as far as possible, scrutinizing the new horizons
- encourages them to be bold, daring, audacious
- makes them responsible for taking major decision for their own future
- is a good exercise in creative thinking.

By enabling comebacks to the Vision statement, the participants feel more secure because the decision they made is not ultimate and definitive and can be refined once they are in the possession of additional information, in the subsequent stages of the strategic planning process.

The "*Affinity Diagram*" Tool was used extensively during the SES Module in organizing and processing data and information. It was applied to identify issues agreed upon by most of participants, to group issues conveniently and wait for further comments and contributions from the SP-SBSC Team.

In addition, the Consultant believes that exercising such tools with the SP-SBSC team will encourage the Team to use Affinity Diagrams in further work, after the Project end, as a tool for generating ideas, communicating, cooperating and sharing views in solving ASTRA problems.

The Affinity Diagram is a instrument that gathers and sifts large amounts of language data (ideas, opinions, issues, suggestions, and value statements) and organizes them into groupings based on their natural relationships, in order to encourage new patterns of thinking

Creating an Affinity Diagram includes:

Step 1 - Generate ideas

Step 2 - Display ideas

Step 3 - Sort ideas into groups

Step 4 - Create header cards

Step 5 - Draw finished diagram

Step 6 – Refining the solution (revisit steps 1 – 5 whenever need be)

Step 1. Generate ideas – was achieved by using the already proven procedure: the Consultant explained the scope and objectives of establishing a Vision / Mission statement.

The SP-SBSC Team as well as other mid-managers provided their view in closed sealed envelopes.

Step 2 - Display ideas. The Consultant compiled the information gathered in this way and presented the compilation to the Team. Some new ideas and suggestions were added but no critical discussion was allowed in this stage.

Step 3 - Sort ideas into groups. Detailed discussion followed so that a kind of classification, of ordering can be set up.

Step 4 - Create headers. Some header phrases emerged (key words capturing the essential link among some ideas).

Step 5 - Draw finished diagram. A working table came out, grouping all ideas under corresponding headers.

Step 6 – Refining the solution (revisit steps 1 – 5 whenever need be). The working table is subject to permanent improvement and refining, as soon as feedback from other stages of the SP-SBSC process is available. Gap analysis was permanently used to produce consensus among ASTRA Strategic Planning Team members.

3.2. The Vision statement.

After the strategic planning process and the BSC build-up developed, this initial comprehensive but stuffy, formal, old-fashioned Vision statement was repeatedly refined and simplified.

The present (but probably not the ultimate – the refining process continues) Vision statement is:

ASTRA ROMANA is the cleanest and most efficient Romanian Refinery. As founder of the Romanian tradition of quality in Oil Refining, we were the first and we shall remain the best!

3.3. The Mission Statement

Table 3 includes the results of the Affinity Diagram processing of the ideas and suggestions emerging from the Team members.

The headers were identified when trying to order and classify these ideas and suggestions.

Table 3. Affinity Diagram for the Mission Statement. First issue.

№	Headers						
	Business Domain	Customer Satisfaction	Employees	Excelency	Flexibility	Serving the Community	Profit through Sustainability
1.	Oil Refinery products of the top quality	Satisfying customers beyond their expectations	Encourage them to suggest ideas	Implementing BAT	Many employees are skilled in a more than one domain	Improving the social impact of the ASTRA activities	Identify and implement sustainable raw material and utility sources
2.	Top technologies	Trying to identify customers' needs and interests	Motivation	Innovation and creativity	Turning employees skills and abilities into profit	Contributing to economical development of the neighboring community	Apply sustainable technologies
3.	Complying to environmental regulations	Correctness	Continual education and training	Effectiveness and efficiency	Expanding in offering services, consultancy, technical assistance	Helping communities solve environ. Problems	Develop new profitable businesses
4.	Services and consultancy	Punctuality	Better work condition and environment	Staying in line with most strict quality and environmental norms	Joint venture with Romanian and foreign Companies	Contributing to the education of skilled young people	Merging and acquisitions to increase profit and sustainability
5.	Non-profit activities	Promptness		ZERO wastes	Interest in any profitable business for which we have capability	Helping the disabled by hiring them	
6.	Cultivating our traditional customers	Reliability		High value-added product and services			
7.	Trying to keep the traditional markets	Presenting ASTRA capabilities to existing and possible customers		Change for the better			
8.	Identifying new extensions and opportunities for our capabilities	Integrated product & service packages					
9.		Bonuses for our most loyal clients					

During successive refining sessions, the Affinity Diagrams became simpler, more focused and directly coupled with the Balanced Scorecard (Table 4). In this way, establishing objectives and metrics for the Balanced Scorecard became easier.

Table 4. Affinity Diagram for the Mission Statement. Revised

№	HEADERS				
	Increase profit and improve financial record	Stakeholders	Internal processes	Employees	Serving the Community
1.	Interest in any profitable business for which we have capability	Satisfying customers beyond their expectations, trying to proactively identify customers' needs and interests	Oil Refinery products of the top quality and environmental record via effectiveness and efficiency, environmental compliance (EMS, CP, EST)	Motivating and encouraging employees to take steps in innovation and creativity	Helping communities and individuals solve social problems
2.	Partnerships, merging, acquisitions with Romanian and foreign Companies	Cultivating our traditional profitable customers and markets (Bonuses for our most loyal clients)	Retrofitting and Implementing BAT (CP, EST)	Turning employees skills and abilities into profit (offering services, consultancy, technical assistance)	Contributing to economical and social development of the neighboring community
3.	High value-added product and services	Correctness	Identify and implement sustainable raw material and utility sources (EST, CP)	Better work condition and environment (EMS)	ZERO wastes = Complying to environmental regulations, incl environ reconstruction (CP, EMS)
4.	Integrated product & service packages	Promptness		Continual education (EMS)	
5.	Accelerating the cash-to-cash cycle	Reliability		Communication	

Table 4 is the main source of objectives for the SBSC. Only minor modifications could come in the last phase of the SES Module. Connection to other TEST modules is indicated (EMS, CP, etc)

3.4. Core values

The present status of the core values that are currently guiding the ASTRA activity are presented in Table 5. They were established using the techniques described in the following paragraphs.

In order to identify and determine whether a value shared by the employees and managers is a core value is to ask if it would continue to be supported in circumstances changes and caused it to be seen as a liability. If the answer is "Yes, we will continue to observe that principle!" then it is a core value, a guiding principle, a part of the Organization ideology.

Core values remain the same and will be carried with the Organization even if the Organization moves into a totally different industry or business environment. If the industry or business environment change such that the shared core values are no more appreciated, then the Organization should seek new markets where its core values are viewed as an asset, before trying to change them.

For example, if innovation is considered a core value and 10 yrs down the road innovation is no longer considered a value by the current customers, rather than change its values, the Organization should identify new customers and markets where innovation is appreciated and advantageous.

Table 5. Core values.

№	Core value target	Content
1.	Business Ethics	Decision making in full integrity and business ethics compliance. ASTRA does not compromise Keeping the word and promises You can count on ASTRA!
2.	Strategy & Management	Expecting and valuing employee's contribution Simple, clear cut perspectives, understood by all Innovation and creativity Flexibility Taking the most out of ASTRA assets (human, technological, corporate) Change for the better
3.	Employees	Treated with dignity and respect Cultivating the spirit of tradition Transparency Motivation
4.	Business partners	Our customer is our master Reliability, mutual respect, cooperation Proactively searching to solve our partners problems
5.	Communication	Establishing a policy and a framework to encourage and value communication (horizontal, vertical). Expecting honest feedback We accept that some others could be better than us but we strive to overpass them
6.	Work conditions	Better work equipment, condition Safety and minimized risk Encouraging employees initiative to transform their working place and conditions We work as a winning team
7.	Investors	Striving to not disappoint them Assuming calculated risks, shared also by our investors and shareholders
8.	Authorities	Trying to mutually understand concerns and problems Cooperating in full openness and trust in identifying mutually advantageous solutions
9.	Community	To become the respected and trusted leader of the Community Everyone is representing ASTRA, be him inside or outside the Company Listening to our neighbours and helping them with their problems Asking the Community support to consolidate the ASTRA success.

In conclusion, the Vision statement, the Mission issues (Table 4) and the Core values (Table 5) constitutes the ASTRA strategy basement.

On that basis, the SBSC is set up, identifying appropriate objectives, metrics, targets and adopting suitable Action Plans to translate the intention expressed in the strategy, into actions and responsibilities.

4. Translate the strategy into operational terms - Introducing the SBSC

4.1. Three Generations Of Balanced Scorecards.

Since 1992, the Balanced Scorecard proposed by Kaplan and Norton has evolved from a basic measurement system to an integrated strategic management tool that combines and balance different perspectives of the company. Characteristics of each generation BSC are presented in Fig. 1.

3rd Generation Balanced Scorecard Best practice Balanced Scorecard has evolved

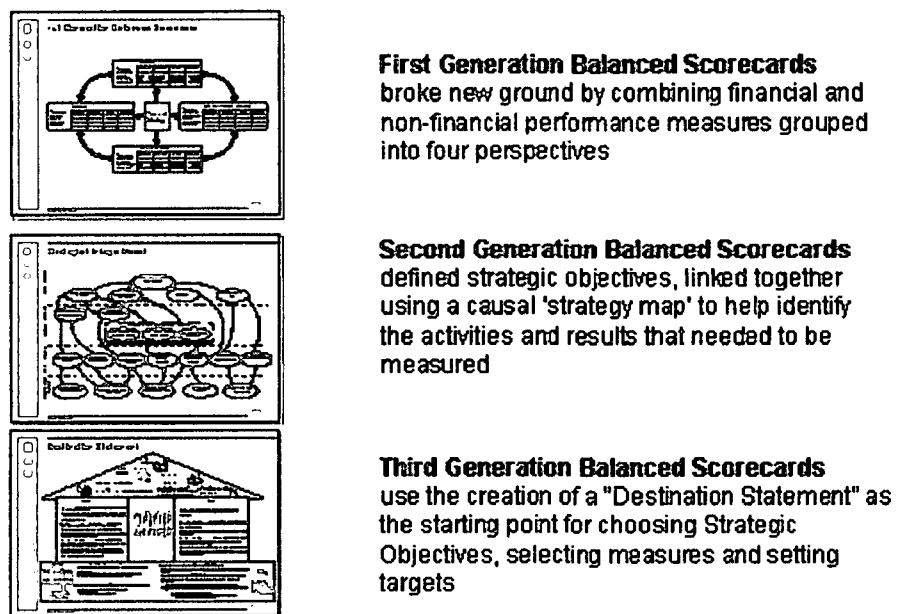


Fig. 1. Three generations of BSC

The pre-existence of a "Destination Statement" links directly the BSC with the Company Strategy, making them inseparable. In the SES module at ASTRA, the BSC was not used as a simple measurement tool but as a strategic approach. The structuring of the Company strategy was done having in mind the needs and characteristics of the BSC (see Table 4). Vice-versa, the BSC contributed to a more balanced Company strategy, integrating, along with the specific business issues, all human, social, environmental factors that could make ASTRA a good corporate citizen.

4.2. Sustainability

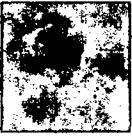
To move toward sustainable development, businesses – as well as other human actions – must fundamentally rethink their behaviour. In the last 20 years, the principle of sustainable development has evolved together with the corporate culture and experience acquired.

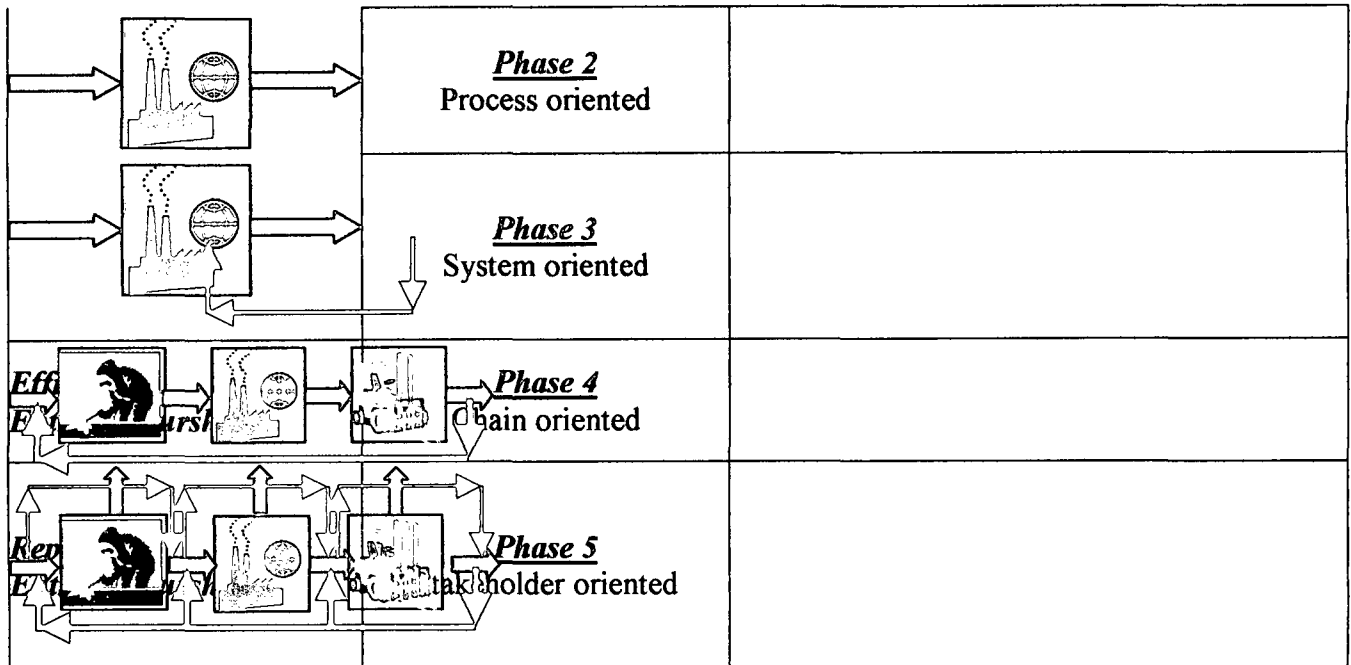
Its development follows the development of environmental concern and adopting, little by little, of the triple bottom line principle of industrial activities (Table 6).

- **Phase 1** addressed the nature of products, by removing from market those considered to harm obviously and excessively the human health or environmental stability (S in fuels, DDT in agriculture, etc) Emphasis is on outputs only. Errors are noticeable after they have been made upstream in the technology or product design. The process is a black box. The situation is similar with the end-of pipe approach of environmental issues. Companies in this phase could be labeled "*reactive*" with respect of environmental and sustainability issues.
- **Phase 2** included the analysis of process itself. Technologies and management issues started to be evaluated and their impact upon man and nature, measured. New raw materials and recycling of valuable waste lead to improved sustainability of companies (recycled paper, no asbestos in industrial processes, etc). Errors can be corrected via detailed measurements and knowledge of the processes.
- **Phase 3** completed the system loop. The entire organization, basic + support processes and their management are the focus of performance evaluation and improvement measures. Information from products and market served as basis for rethinking processes. Preventive, proactive measures start to be implemented. Phase 2 and 3 are similar to the "recycling" and "cleaner production" issues of the environmental protection approach
- **Phase 4** integrated all the industrial chain in the analysis. In contrast to the previous phases, which are focused *internally*, now the emphasis is on a larger, comprehensive, industrial chain. Preventive actions are taken upstream, long before a certain material or product has reached the company (e.g., environmental friendly chemicals for fabrication of detergents, dyes, etc). Life cycle analysis indicated how to adapt the processes and the products in order to minimize their impact upon man and nature, long before they entered and long after they left the market. A phase 4 corresponds to an integrated "Cleaner Production" approach of environmental issues. Companies co-operate in a win-win situation of the entire chain. It becomes obviously, in this phase, that the optimum of a system is not the optimum of each component.
- **In Phase 5** (stakeholder oriented), that develops nowadays, information flows back and forward inside the industry. In addition, the industry accepts to open its secrets and Environmental, NGO, Communities a.s.o., have the right to check and force business activities to comply to stricter regulations. Vision and objectives of individual companies align and comply to stakeholder expectation, demonstrating a sense of responsibility toward Society. This phase corresponds to the triple bottom line of today's approach of human activities.

The historical development of BSC, of the sustainability concepts and their aggregation in a Sustainability BSC was presented in detail during Seminars, in order for the ASTRA Team to evaluate and choose what is the right approach. In implementing the sustainability concern in the ASTRA business mainframe, there is no reason to start with Phase 1. It would be like starting the environmental revamping by implementing an end-of pipe system. The Strategic Planning Team has engaged itself in the Phase 5 approach, based on the results of previous TEST modules (EST, CP, EMS).

Table 6. Five stages in developing sustainability concerns

<p><i>Green Entrepreneur</i></p> 	<p><u><i>Phase 1</i></u> Output oriented</p>	
--	--	--



4.3. Certain philosophi

What kind of Sustainability BSC? How to structure it, how to integrate the sustainability issues in the classical BSC? These are critical questions.

There is no agreement among the main authors in the field and the literature is developing at a terrifying pace.

Everybody can imagine a different chart type, with different connections and implications.

The kinds of sustainability Balanced Scorecards suggested by the huge amount of available literature will not be presented here. There are many ways to attach the sustainability component to the classical BSC.

Some of the results were presented by the Consultant to the SP-SBSC Team in ASTRA during the seminars.

Fig 2 presents a sample of sustainability BSC as suggested by some of the more authoritative specialists in the fields.

When compared with the classical, eye-catching, simple setup of Kaplan and Norton, the difference is immense. Though well structured and comprehensive, such a BSC will be of no use for a company that starts thinking in a BSC strategic mood and just establish the elements for a BSC. No employee will ever understand, nor even venture to scrutinize such a diagram. Probably of great use for advanced and skilled managers, the SBSC in Fig 2 is not a starter for ASTRA.

In agreement with the TEST Coordinator (Miss Roberta de Palma), a *Partial SBSC Approach* should be established but the ASTRA team adopted a pragmatic view at the very start.

The team would not stick to any prejudice, narrow-mindedness or any pre-fabricated pattern.

The type of SBSC adopted will constitute only a guide and will not be respected if the Team members will feel that altering or completing it is in the benefice of the Company.

Though such a Partial SBSC include should address mainly cost reduction and eco-efficiency via better processes, the "Learning & Growth" and "Financial" perspectives being of somewhat secondary importance, the Team tried to identify as many sustainability aspects that could be integrated in all the SBSC perspectives.

As a good start, the 5th perspective "Corporate Social Responsibility" components will be included in all the other 4 perspective of the classical BSC. The BSC will become a "**Transversal SBSC**" (Fig 3). Once experience is gathered, adding the 5th perspective as a separate one, to the existing four and converting the SBSC in a more complex 5-perspective one will be very easy to be done.

The 5 perspective SBSC is the ultimate objective of the ASTRA strategic planning team but for the time being, the Strategic Planning Team decided to build up a 3rd generation, Transversal (4-perspective) Sustainability Balanced Scorecard in order to revise and complete the existing Company Strategy.

4.4. Objectives

On the basis of the adopted ASTRA strategy, it was very easy to infer objectives from it. Establishing the objectives led back the SP-SBSC Team to correct, adapt and simplify the Strategy.

Table 7 summarizes the Objectives attached to each of the 5 perspectives, as they were produced via a brainstorming session, affinity diagram and gap analysis. Only the items in **bold** fonts have been retained for further analysis. Some others will be aggregated to the ones retained, are believed to be of less importance, are relegated to SBU Balanced Scorecards or will become measures.

Table 7. Objectives for the SBSC

	Classical BSC objectives	Objectives added by Perspective 5: Corporate Social Responsibility
The Financial Perspective	Increased shareholder value Increase profit Increased Value Added Reducing Cash-to-cash Cycle Reducing indirect costs Reducing stocks Revising cost structure Optimizing use of financial resources New & diversified income sources Increase productivity Increase selling costs High value-added products	Non profit spending Spending for the benefit of the community Supporting non profit actions (public safety, environmental reconstruction, etc): EMS EST CP Capitalizing on Company image, tradition, record
The Market (Stakeholders) Perspective	Market leader for the products we excel in Increased Market share Meet and exceed expectations Proactively deliver value Flexibility (EST) Integrated product & service packages Customer profitability Customer satisfaction Reliability Promptness 24/24; 7/7 availability Transparency Identifying customer needs Ratio price/quality Ratio price/value added Friendliness ZERO returns and complaints Compensating customers for possible losses due to poor product quality or delayed delivery	New Environmental products & packaging Improve the Company image by advertising incorporating EMS, TQM, CP, etc references Building client awareness for social / environmental / sustainability responsibility (eg., "for 100€ you give us, we invest 1€ in social projects") One step in front of future EU regulations Cooperate with providers for sustainable development Green Brand
The Internal Processes	Highest quality TQM	BAT and ECO-efficient technologies Cleaner Production and ZERO wastes policy

Perspective	Integrated control (system computers) Reduce specific consumptions (CP,EST) Profit centers Production cycles reduced Flexible processes Services	EMS, CP ISO certifications, conformity & compliance Preserving resources ZERO hazardous incidents
The Learning & Growth Perspective	Putting the right men at the right job (training, included) Communication Team spirit - Better organization Value (motivate) and further train employees Knowledge management Integrated IT solutions Better work environment & tools	Sustainable development policy Awareness, Motivation, Empowerment EMA, EMS Encourage innovation and creativity Supporting individuals and communities to solve their problems Cooperation with local/central authorities Training in Sustainability issues

Connection to other TEST Project Modules is indicated specifically.

Table 8 includes the objectives kept in analysis and explains how other objectives still remains in the attention of the SP-SBSC.

It is stressed that Table 8 and 4 were repeatedly modified in order to align and integrate their content to the basic strategy ideas adopted by the ASTRA SB-SBSC Team.

Table 8. Objectives for SBSC. Revised (Information in parantheses indicate how other initial objectives were aggregated)

	Classical BSC objectives	Objectives added by Perspective 5: Corporate Social Responsibility
The Financial Perspective	Increased shareholder value (ultimate goal) Increased Value Added (increase profit, productivity, reduce & optimize costs, stocks, cash-to-cash cycle) New & diversified income sources (high value added products, new products, services)	Non profit spending (Spending for the benefit of the community, Supporting non profit actions - public safety, environmental reconstruction, etc) Capitalizing on Company image (tradition, record, social actions, green image)
The Market (Stakeholders) Perspective	Increased Market share (Market leader for the products we excel in, new market, internal, abroad) Proactively deliver value (Meet and exceed expectations; Flexibility; Identifying customer needs) Customer satisfaction (Reliability; Promptness; 24/24; 7/7 availability; Friendliness; ZERO returns and complaints; Compensating customers for possible losses due to poor product quality or delayed delivery; Transparency; Customer profitability; Ratio price/quality; Ratio price / value added) Integrated product & service packages	Green Brand (New and/or improved Environmental products and services, Improve the Company image by advertising incorporating EMS, TQM, CP, EMA, etc references Building client awareness for social / environmental / sustainability responsibility (eg., "for 100€ you give us, we invest 1€ in social projects") One step in front of future EU regulations Cooperate with providers for sustainable development)
The Internal Processes Perspective	Highest quality (TQM, Integrated control by system computers) Reduce specific consumptions (Preserving resources Production cycles reduced, Autonomous utility generation) Profit centers (services, Flexible processes, distribution networks)	Cleaner Production and ZERO wastes policy (reengineering, aligning to BAT and ECO-efficient technologies, implementing procedures in EMS, ISO 9001 certifications, conformity and compliance) ZERO hazardous incidents
The Learning & Growth	Management Skills (Communication, Empowerment motivation, Team spirit - Better	Sustainable development policy (awareness, EMA, careful investing, train in sustainability

Perspective	organization, ISO 16949) Value and further train employees (Putting the right men at the right job) Better work environment & tools (Integrated IT solutions)	issues, Encourage innovation and creativity, ISO (OHSAS) 18001 (security),) Cooperation with public and local/central authorities (Supporting individuals and communities to solve their problems)
--------------------	---	--

It can be noticed the effort of the Strategic Planning Team to structure the Table in a way that will enable, in the future, the addition of the 5th independent perspective to the classical 4 perspective scorecard.

4.5. Strategy Maps

A possible Strategy Map (Cause-and Effect Diagram) for the 5 perspectives and the chosen objectives is displayed in Fig. 4.

The concept of such maps developed during the 2nd generation BSC and had major impact upon internal communication system, upon focusing and aligning companies to their strategies.

The destination, the directions and the actions to be taken can be easily inferred from such strategy maps. They are used to disseminate the Executive Management view about the Company's future and to collect remarks from lower management and employees. With such strategy maps in hand, strategy itself is everybody's business. Transparency and openness serve to identify critical issues, to share concerns and ideas for improvement, to create and maintain the momentum necessary for the management of change in today's companies.

The number of objectives is kept to a minimum, so that any ASTRA employee:

- can understand the logic of the diagram
- rapidly identify his place in the frame
- deduce what are the consequences of his good or bad contribution to the general effort
- understand why he is or he is not receiving bonuses.
- Take action accordingly.

The literature recommends a maximum of 20-25 objectives per chart (some Reports mention 7-15 objectives per chart and the BSC software available include a maximum of 9 objectives per screen). The chart in Fig. 4 includes 20 objectives.

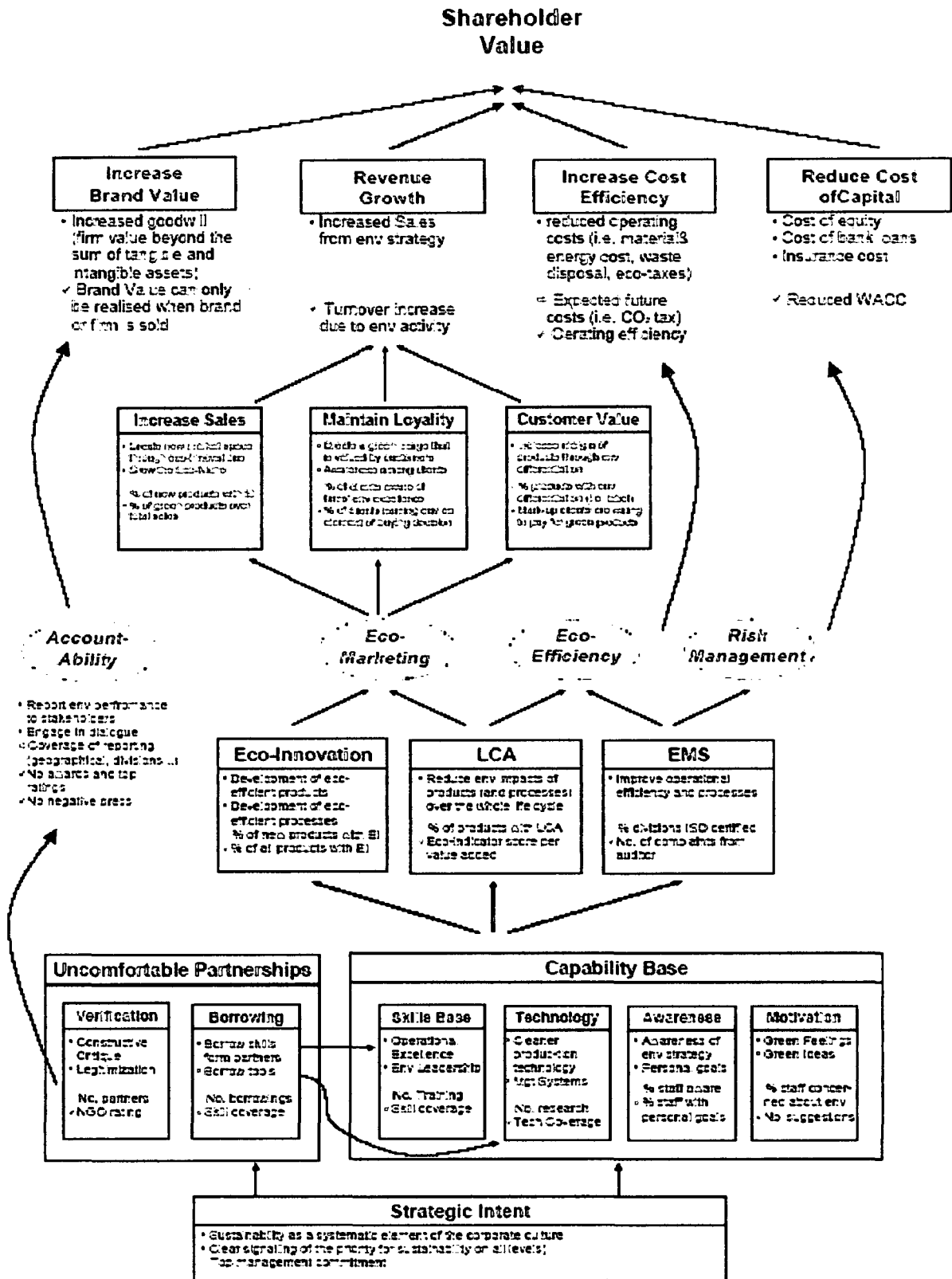


Fig. 2. Sustainability Balanced Scorecard. Too complicated to be a starter.

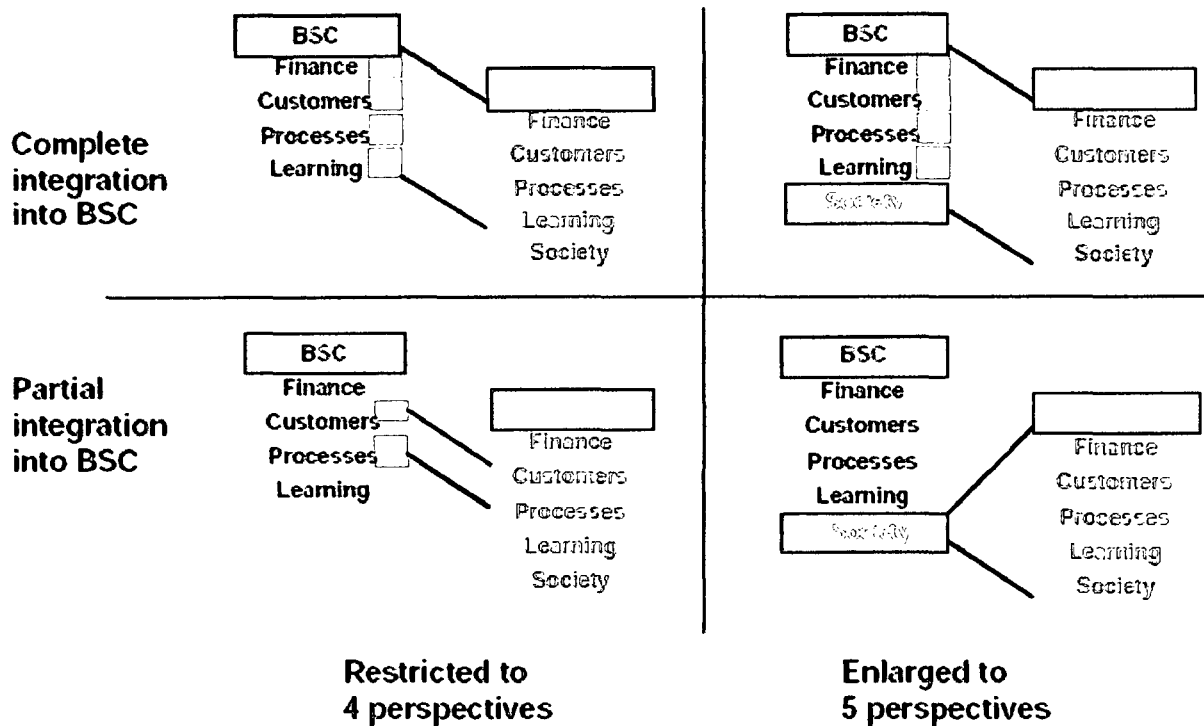
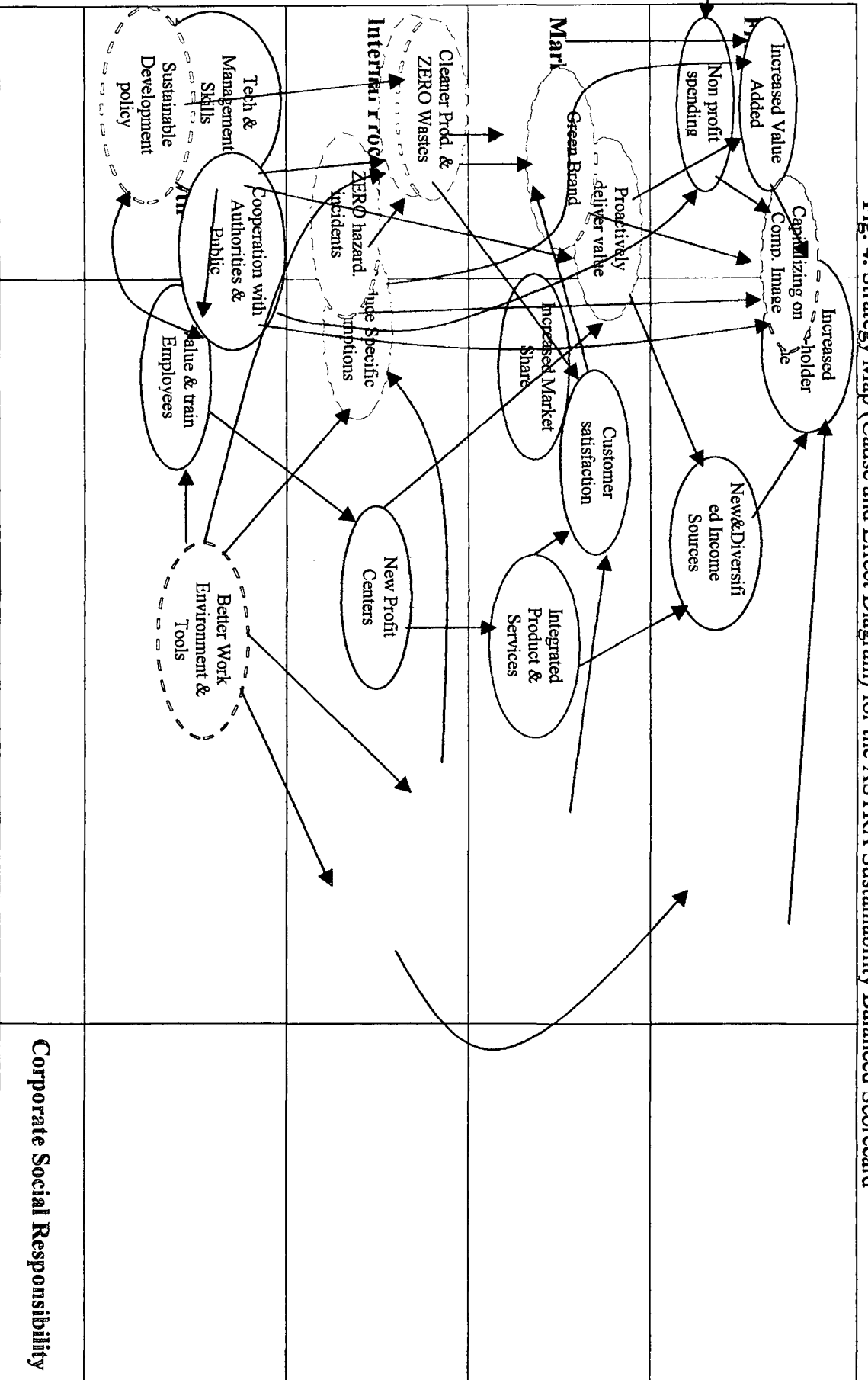


Fig. 3. Possible structures for a SBSC.

Bullets with red dotted lines around indicate connections with other TEST Project modules. It is obvious that the preexistence of EST, EMS, CP module lead to a better articulated strategy map. Mine out of 20 objectives have direct or indirect linkage with TEST modules. Even the "Capitalizing on Company Image" is connected with TEST modules since it is expected that by intelligent marketing and advertising, ASTRA should notify the implementation of CP, EMS policies, its experience in sustainable strategy, in the way that this expertise helps the company get improved credibility and standing, better conditions from the banks, better terms for its future contracts, a larger market share for its green products, etc. The Internal Processes Perspectives is constituted almost entirely from new objectives derived from the TEST Project. Through a dedicated EMS CP policy, ASTRA should reach higher efficiencies, reduce environmental impact, improve the product quality, reduce specific consumptions of materials and resources, eliminate hazardous incidents. The objectives connected to the 5th Perspective have been grouped apart so that expanding the 4 perspective SBSC to a 5 Perspective one becomes easier, once the Company can prove that it can achieve its Corporate Social Responsibility tasks integrated in the classic perspectives.

Fig. 4. Strategy Map (Cause and Effect Diagram) for the ASTRA Sustainability Balanced Scorecard



As it can be seen, a Transversal SBSC resulted, as a first step towards a total integration of sustainability in all ASTRA profile.

4.6. Metrics

Up to now, the building and/or adapting of a metrics for the BSC proved to be, by far, the most difficult part of the Project because of the following reasons:

- a. The Team and the Consultant had to identify the existing measurement procedures and indicators that ASTRA is using in its day-by-day work
- b. Once identified, as many as possible of the existing relevant indicators should be used in the SBSC so that the modifications and changes to the existing work patterns in ASTRA is kept to a minimum. People are conservative; they wish change but do not like it when their situation is concerned.
- c. Try to identify the minimum changes to be done in the existing metrics and obtain these modifications from ASTRA specialists themselves. People believe most in their own ideas.
- d. Integrate a limited number of new and trendy indicators, used in Europe or at the world scale for assessing Companies' performances and efficiencies. This will help ASTRA compare immediately to any other company, on a common scale.

The main problem is that, in principle, any indicator can be measured and evaluated using Data Warehouses existing in ASTRA departments.

But currently there are very few indicators that are effectively calculated. They are mainly those requested by the special ASTRA status as a member of the First Group of Companies on the Bucharest Stock Exchange and their nature is mainly financial.

The Data Warehouses in ASTRA is not in a single department that collect, record and retrieve when necessary, requested information. Every ASTRA Department keeps its own records and provides data when asked.

The absence of a Strategic Planning Department or Office leads to situation like the one (of many!) the Consultant was confronted.

For example, in order to compute the Financial Times Value Added Score, the following data are necessary:

- Sales – figure obtained from the Commercial Department
- Raw materials needed – figure obtained form the Production office
- Other input materials – figure obtained form the Production office
- Depreciation – figure obtained from the Financial Office
- Number of employees – figure obtained form the HR Office

So gathering data is an extremely cumbersome procedure (5 figures provided by 4 separate departments).

Before 1989, some indicators like the specific consumptions used to be posted on special boards along ASTRA alleys, so that every employee could note them. The problem, at that time, not only in ASTRA but in every other Romanian plant was that most of the time the figures could be false, fictitious, in order to inoculate the idea of permanent progress and ever-increased efficiency when no such progress and efficiency existed.

After 1989, posting of such indicators was interrupted. No one believed in them anymore. Trying to resume this policy – disseminating the efficiency indicators – will be treated with circumspection and even suspicion by employees.

As a not-so-encouraging conclusion one can imagine that apart of adopting some new procedures, along the BSC philosophy, there are severe psychological barriers to be overcome.

Therefore, the educational part of a BSC (motivation, empowerment, training, communication, managers' openness etc) will be an essential part of the SBSC success.

Concerning the data gathering and metrics implementation, the appointment of a Strategic Planning Department (by restructuring and reorganizing some technical and economical support departments in ASTRA) is a must.

Up to now, the Strategic Planning Unit analyzed in detail different aspects of establishing a relevant metrics for the SBSC.

Establishing a consolidated ASTRA Data Warehouse (ADW). Knowing that operational data (consumptions, operating parameters, costs, raw material and product quality, detailed closing-down/starting up information, environmental records, customer dissatisfaction, financial data etc) are available at each ASTRA plant or department it is essential to gather them and appoint a compartment (The Would-Be Strategic Planning Unit?) to administrate them (collect, organize, create and manage Computer Data Banks, extract and compute any indicators required). Special attributions of reporting such data will be given to lower management. This will not add much to their daily work. They will be only asked to hand out the information they already gather, to the appointed ADW Management Team. A computer system will be implemented to ease management of ADW. This computer system will be connected with the process computers (envisaged to be put into operation in the years to come – see EST Report) so that data collection becomes an automatic and flaw-less job.

In a first stage, all possible indicators were collected from the ASTRA SP-SBSC Team and from detailed discussions with Department Heads in the Company. Annex 04 contains all gathered Key Performance Indicators retained for analysis up to now.

Use of *lagging* and *leading* indicators for each perspective is essential for the set-up of a motivating BSC.

Examples of such indicators follow:

The Financial Perspective (To succeed financially, how should we appear to our shareholders?):

Lagging KPI (outcomes):

- Share value
- FT-VA Score
- Profit & Revenue Growth
- ROCE

Leading KPI (enablers, performance drivers)

- Capitalizing on Company “green” image

The Customer Perspective (To achieve our vision, how should we appear to our customers?):

Lagging KPI:

- Market share
- Customer satisfaction (intangible)

Leading KPI

- Product attributes
- Stakeholder relationship (intangible)
- Customer profitability

Internal Process Perspective (To satisfy our stakeholders, what business processes must we excel at?)

Lagging KPI

- Specific Consumptions
- Innovation process(intangible)

Leading KPI

- Product Quality
- Product cycle
- BAT alignment

The Corporate Social Responsibility Perspective (How must we act to become a respected corporate citizen?)

Lagging KPI

- Legality & Conformity Score
- Social Responsibility Rating (intangible)

Leading KPI

- Environmental Reconstruction
- Lobbying for better regulations

Each indicator in Annex 4 is specified together with the characteristics below:

- *Unit of Measure*
- *Lower possible value for KPI*
- *Lower Intermediate value for KPI*
- *Upper Intermediate Value for KPI*
- *Upper possible value for Kpi*

The Reporting Period for each indicator could be:

- *D = Daily*
- *W = Weekly*
- *M = Monthly*
- *Q = Quarterly*
- *H = Half a Year*
- *Y = Yearly*

The indicators collected include many of the existing indicators that ASTRA knows already how to evaluate, some new ones as well. The idea is to intervene as little as possible in the existing decision chain and metrics system of ASTRA. Disturbing such a system is difficult to digest for lower managers and will contribute to a lower interest in the BSC Project.

It is obvious that an operational system simply will not work once there are tens of indicators to follow and report. Some organization of the collected indicators had to be carried out.

The second stage was to structure those KPI in the following way:

- keep a minimum but relevant number of KPI for the Company level.
- relegate many of them to the operational/diagnostic stage of analysis.

Annex 5 contains the indicators retained for the Company level as well as examples of indicators used to back up, to diagnostic the situation, once the Company level KPI go wrong.

In this way, the Executives, as well as middle management and even employee will have an integrated view of the Company performance. A powerful diagnostic tool will also be available. It is suggested that all the metrics built up in this way should become the day-by-day of a new

As mentioned in Annex 5, some of KPI are still under scrutiny. The hardest question is how to devise composite indicators that could say at a glance where ASTRA stands, enabling at the same time comparison with similar companies. The complete list of adopted KPI for the Company level follows with remarks about how to calculate and report them. The presence of "?" indicate that the methodology is not yet established and remains subject to further scrutiny of the ASTRA SP-SBSC Team.

Table 9. Comments on Company Level KPI

№	KPI	Remarks
1.	Share value	Established daily by Bucharest Stock Exchange
2.	Financial Times Value Added Score (FTVAS)	Annex 8
3.	Composite Index of Income Sources	Weighted average of income from different sources???
4.	Non profit spending	% of Profit
5.	Composite Company Image Index	Apply for auditing to a specialized Organization (Ernst & Young, Baldrige?). Check if ERNST & Young Romania could provide such auditing and how much does it cost.
6.	Market share	Evaluated from Government Oil & Gas Industrial Sector figures
7.	Flexibility & diversification index	Weighted average of turnover in different business areas (basic fuel, lubricants, services, special chemicals, integrated services???) Alternative: Weighted average of No of Contracts in different business areas???
8.	Customer Composite Index	Annex 7
9.	Income from integrated product and service packages	Absolute value or as ratio, to overall income
10.	Green Brand Index	Evaluate Company credibility, Company image in the Banking system, in the market environment, how easy ASTRA gets financing, favourable payment conditions, lower interest rates, (Questionnaire, Interviews, Auditing?). This easiness could be measured in days spared and in money capitalized, and compared to similar records in the ASTRA past.
11.	№ of products complying to norms as % of total No of products	Evaluated internally by comparison to BAT Documents and EU/Romanian standards available. Strictest figures will be used, only!
12.	Composite Specific Consumption Index (CSCI) (Still deliberated)	Establish Δ_k = differences among ASTRA and BAT specific consumptions. Ignore $\Delta_k \geq 0$ (indicating ASTRA is in line or better than BAT) and retain only negative values (indicating ASTRA still has action to take to align its performance to BAT). Compute $CSCI = \frac{1}{\frac{1}{k}}$
13.	Length of Product cycle	To be provided by the Financial Department
14.	Income from special processes & services	Absolute value or as ratio, to overall income. These special processes or services include any business
15.	Environmental Indexes (still upon analysis)	See Eco-Efficiency Indicators established during CP Module of the Project and already calculated for the HRFU Module: ♦ Core Energy Intensity Indicator ♦ Core Waste Intensity Indicator ♦ Core Water Intensity Indicator

№	KPI	Remarks
16.	Composite BAT Alignment Index (still upon analysis)	No. of processes aligned to BAT vs total No pf ASTRA processes Or, Value obtained from BAT aligned processes vs Over all Value obtained from all processes
17.	Incident rate	To be provided by the Enviro and Quality Department
18.	Communication Index	No of hours spent by top/middle management in direct contact with employees? Or, the same index converted in ROLei using hourly rate of managers? Or, special questionnaire to check Employee and Manager assessment of the Communication status in ASTRA?
19.	Empowerment Index	No of attribution distributed to lower management?
20.	Employee satisfaction and participation Index (still to be analyzed)	Questionnaire to check Employee and Manager assessment of their satisfaction with ASTRA?
21.	№ of plants computer controlled	-
22.	Training Index	No of man hours training
23.	% of plant modules under EMA, OHSAS, EMS	See methodology set up during EMS Module for assessing level of Compliance
24.	Company Sustainability Rating (Dow Jones Sustainability Index) (Dow Jones index under scrutiny)	See Annex 6. Since Romanian Companies are not listes by Dow Jones, ASTRA shoud start a self assessment waiting for independent organization to carry out this auditing

4.7. Articulating the ASTRA Corporate Social Responsibility Policy

In this paragraph the 5th Perspective is addressed since is newer for ASTRA strategy. The core ASTRA business relies on oil, a primary resource showing signs of stress and depletion. Therefore, sustainability is a must. This goes for ASTRA itself as well as for the entire Oil & Gas industry. In this paragraph we summarize the results of all discussions and debate of the ASTRA Strategic Planning Team on what the *Corporate Social Responsibility (CSR)* could be.

The basic assumptions were:

- a. For the moment, there is no question that ASTRA has the means to support important non-financial investment – the essence of Corporate Social Responsibility.
- b. Yet ASTRA and its managers are determined to establish a policy of Corporate Social Responsibility and to make ASTRA a good corporate citizen.
- c. Solving out small specific problems (helping individuals or communities in the need, with limited funds) could be a good start. All such actions should be included in the Company marketing & advertising policy.
- d. Though Social Corporate Responsibility could be measured in funds spent, the ASTRA Strategic Planning Team believes that CSR is more than money, first of all a matter of attitude, of behaviour and respect of social partners. Results can come faster, with little or no money, but with a change in the approach of specific, local environmental and social problems.

- e. Digging in the history of the ASTRA Company, we found out that before WWII (data available for 1940), ASTRA has established a superb record of dedication and detailed concern toward social matters that only need to be revisited and revived in the present conditions.
- f. Establishing challenging triple-bottom-line objectives for a future CSR policy could only serve the corporate culture. These objectives, though impossible to be achieved with the present means, should be followed with commitment and perseverance in order to put ASTRA at its right place – in the first line of Romanian companies with a good tradition.
- g. ASTRA should stick to five business policies guiding its actions. Each individual in the company should be aware of these policies and to comply with them. ASTRA partners, suppliers and contractors should be notified about them and should be encouraged to adopt them. We believe that by doing business in a responsible manner we can influence positive change in the society and community in which we operate. The 5 business policies serving the Corporate Social Responsibility are:
 - ◆ health, safety and environment
 - ◆ ethical conduct
 - ◆ treatment of its own employees
 - ◆ external relationships
 - ◆ finance and control.

A synopsis of the ideas collected by the ASTRA Strategic Planning Team about the structuring of CSR follows.

4.7.1. ASTRA should become a positive force in all its operational field.

ASTRA wants to help the community meet its needs for energy and fuel at the same time as minimizing the environmental impact of fossil fuel consumption and maximizing the social and economic benefits of ASTRA activities.

In the mainframe of 'sustainable development' - defined by the 1987 Brundtland Commission as development that "meets the needs of the present without compromising the ability of future generation to meet their own needs", fuel and energy plays a critical role. Coal, oil, gas - and the electricity they can generate - are central to the development of Romania. But they also create emissions and aggressive impact which affect air/water/soil quality and may create long term risks to the environment.

ASTRA believes that the scientific evidence for the environmental impact of 'greenhouse gases' produced by hydrocarbons cannot be ignored. But this is not the only issue – for example, the conservation of fresh water, pollution of land water and air and minimization of waste are others that also need to be addressed.

The challenge of sustainable development in the 21st century is to strike a balance - to sustain economic growth and reduce the income gap between rich and poor, while preserving the resource base and avoiding damage to the environment.

This challenge is a complex one, requiring action in several areas:

- a. assisting our country to grow, with minimum environmental impact
- b. minimizing emissions of greenhouse gases through efficiency and technology
- c. shifting the balance of fossil fuel consumption towards cleaner, lower carbon energy, including gas and renewables

- d. working towards stable and diverse societies, composed of well-informed individuals – and thereby increasing their sensitivity to the need to balance economic growth, social development and environmental protection

4.7.2. ASTRA Should Join Efforts toward New Sources of Fuel

ASTRA should immediately detect and participate in joint Projects aimed at finding alternative sources for oil and petrochemical products (preferably in Projects financed by EU Agencies):

- a. R&D in coal gasification to hydrocarbons
- b. Investing in power and fuels from renewables: Carbon containing agricultural and industrial waste could be converted in products similar or identical to those obtained from oil.
- c. Diversification. Not only carbon based products should be the interest of ASTRA. The Company is located in a place of Romania where sun shines more than 200 days/yr and the annual average temperature is 10-11°C. Demonstrative solar power sources should be sponsored by ASTRA in the neighbouring community or in the Prahova Valley, a traditional tourist destination. Houses solar-powered built and serviced by ASTRA in a spa could contribute to the Company image. Solar powered water wells could also be built by ASTRA for the surrounding villages.
- d. Lower carbon containing fuels.
- e. Hydrogen. ASTRA is a major hydrogen producer, therefore it has an experience that could be used in joined Projects aimed at introducing and promoting hydrogen as a source of energy.

4.7.2. Environment

- a. ASTRA should set the target of ZERO waste and health incidents. Even residues generated from the Corlatesti wastewater treatment facility should find their place back in technology (mixing it with freshly extracted oil and submitting the mixture to distillation, using the residues as fuel in the refinery - and sparing natural gas or fuel oil, etc.)
- b. Cleaner fuels (low or no-sulphur). This measure has already become operational. ASTRA produces fuel and lubricants in line with the most stringent regulations in EU.
- c. Tackling the greenhouse gas. Measures identified during the CP Module (retrofitting the Ovens, minimizing the ratio H₂/oil, reducing the catalyst burning out during regeneration, reducing gas flaring, etc) should be immediately implemented and extended to the entire Refinery in order to minimize fuel burnt. The financial outcome of these measures is obviously beneficial. Targets:
 - A 10% less greenhouse gas emissions/1 ton processed oil until 2005 is a realistic target.
 - Maintaining the present level of emissions despite expected future growth in production could be another challenging target
- d. Environment reconstruction. Identification of Projects having this aim and joining them should be one of ASTRA priorities in the CSR policy. This is particularly important since many Projects are funded by EU, WB and other international organizations. Participating in the Project should improve Company's green image

4.7.3. Ethics

- a. ASTRA had to take steps to ensure that the benefits of its work should not be damaged by corruption, the main concern of EU representatives when they address the state of Romanian economy. ASTRA should restrain to make political donations, to observe banning all ethically unmotivated facilitation payments and to encourage transparency – openness about payments made. ASTRA should fully co-operate with all independent institutions (domestic or foreign) that monitor business ethics and corruption reduction.
- b. Personal merit should be the only criterion to promote and fire employees.

4.7.4. Working with communities

We believe that the biggest social investment ASTRA can bring to an area is a profitable, successful and sustainable business. This brings employment, business for local suppliers, taxes for governments, as well as many opportunities to share information and best practices. A comprehensive review of ASTRA social investment and other reputational activity should accompany the usual financial and commercial analysis of the Company.

- a. As the ASTRA own network of distribution is set up, it should be used to collect data about local communities and convey them to the mother company. Assisting people in need, in distant places should become a permanent policy.
- b. The wastewater facility at Corlatesti could be turned in a drinking water production station, for local villages. If this is not possible yet, because of the cost of equipment, the water discharged from the Corlatesti treatment facility should be used in irrigation (the Ploiesti zone is in the plains and during the last decade it has experienced severe drought). Such Projects could be joined by local authorities.
- c. Second hand equipment (pumps, reservoirs, compressors) repaired and serviced by a specially appointed ASTRA team could be used by neighbouring schools, hospitals and the like.
- d. Assisting communities with ASTRA know-how (technical, financial, banking relations, setting up Projects to be submitted to funding agencies)

4.7.5. ASTRA employees

We believe that the targets should be the reviving of the ASTRA tradition in this direction, as found out in the Company history (year 1940):

- a. Houses for employees
- b. Retirement bonuses
- c. Own Insurance system
- d. Own medical care facilities
- e. Clubs for young & old ASTRA employees
- f. Resting facilities (4 pools; Bucharest=1)
- g. Own hotels in SPAs
- h. Own chain for food supply
- i. Sponsorships (schools, churches, communities, skilled individuals)

Some comments about the fast international trends that change the way ASTRA should manage employee's talent follows:

- a. A staggering number of people who work for organizations are no longer *traditional* employees of these organizations;
- b. A growing number of businesses have outsourced employee relations; they no longer manage major aspects of their relationships with the people who are their formal employees. External specialized companies take care of that.
- c. Attenuation of relationship between people and the organizations they are working for constitutes an important threat to business. Development skills and cultivating talent of employees is business's most important task. By off-loading employee relations, organizations also mislay their capacity to develop people, as a crucial part of Company's culture and tradition.
- d. Trade Unions are particularly potent in Romania and, which is even more hazardous, they are openly connected to political forces (actual and former Union Leaders become Ministers, Party Leaders)
- e. There is a definite trend toward using temporary workers as it gives Companies much more flexibility. This is in fatal contrast to what Romanian workers have been used to: stay with the same Company for dozens of years, waiting patiently for promotion that inevitably came, after the prescribed number of years with the firm, regardless of their skills and dedication. The usual pattern is that once unpopular measures are taken by Company's executives, the employees stop the traffic on the nearest highway or railway until their demands are satisfied. This goes dangerously up to the sacking up the executives indiscriminately or even changing the status of the Company (from "private", back to "state-owned"; It already happened with most important metallurgic plants in the country).
- f. The cost of new and stricter rules and regulations connected to personnel rose dramatically to up to US\$5000 per person, in one year. This figure adds up 25% to wages costs, insurance & health taxes paid, retirement contributions, already paid by organizations. Though Romania has not yet implemented those regulations, admission to EU in 2007 will lead to comparative figures – unbearable to most of domestic companies struggling to survive. Using temporary workers reduces these costs. Outsourcing employee relations is another alternative (let a specialized company do the paper stuff for you). Companies, in particular small and medium size complain bitterly that they have no more time to take care of their basic work, customers, product and services, quality and distribution – in a word, no time to work on results and value added – because they have to sort out problems and regulation compliance. Care for environment combined to care for employees leads to less efficiencies
- g. Having all these facts in mind, the old Marxist mantra that *"people are Company's greatest asset"* becomes inevitably *"people are Company's greatest liability"*. In these conditions Companies should fully exert their rights, along with their duties concerning employees.

In conclusion, ASTRA top managers should develop immediately actions directed to:

- ◆ Carefully select and promote employees on a merit basis.
- ◆ Ask for more participation, involvement, ideas and innovative spirit from their employees. If the Company is to pay a lot more to manage its personnel, it is entitled to require all their work and creative capacity to be put in the service of the Company.
- ◆ Openly judge and categorize employees on their dedication and innovative work. This could include attributing ranks, "blue-ribbon" etc., to most dedicated employees.
- ◆ Try to implement stricter regulations in force in EU and USA before they are adopted and compulsory in Romania. The expertise acquired in this way will make easier transition to new employee status.

- ◆ Train employees on a contractual basis – they will stay in the Company a number of years after the training is completed or they will have to pay their training fees. ASTRA is not in a position to train people that leave the Company and use their training in the benefit of other organizations.
- ◆ Empower trained employees and give them jobs in line with their training in order that the Company to benefit most of their training. Once they don't do their given job in a convenient way, legal action should be taken as stipulated in the mutual Contract.

4.8. Action Plans

Simply measuring an organization's performance, how detailed and intricate the metrics be, does not at all by itself ensure that the organization will begin to perform, as either it should do or could do. The metrics is necessary - not sufficient.

With a Destination Statement in hand (Vision/Mission/Core Values) and a bunch of objectives inferred from it, measured with an effective metrics, managers are challenged by the following questions:

- a. How to decide what to do?
- b. How to balance the actions required over time?
- c. How to effectively communicate what is needed to the wider organization
- d. How to make our decisions relevant to the whole organization?
- e. How to confirm that the necessary actions are actually being taken and produce their expected effect?

This section will detail only the incipient elements of Action Plans since this Stage of the SES Module is not completed.

Once objectives and measures are adopted, to each objective will be attached a detailed Action Plan (*Who Does What By When*), including timetable, responsibilities, resources, reporting, monitoring procedures.

Some of the objectives can be achieved quite straightforward (Customer Satisfaction needs only a more accurate service, a procedure for customer evaluation that can be easily developed in some simple questionnaire attached to each delivery – Annex 7)

Some other needs further analysis (Profit Centers: turning the ASTRA analysis Labs or mechanical workshops in profit centers open to public will need some initial investment and organization.

Developing an own distribution networks will need even more initial investment so further feasibility studies are needed before deciding). It is stressed that ASTRA has already started formalities to expand its own distribution network in early September 2003.

The Strategic Planning – SBSC Team has suggested a challenging approach to completing objectives that calls for employees creativeness and dedication and hopefully reduces the financial effort of the Company. The following example illustrates *how compliance to CP objective* is intended to be sorted out:

- ◆ ASTRA to issue an internal "Call For Tender" + reward attached
- ◆ Top Management to transparently appoint a "Responsible Engineer"
- ◆ Give him power & resources
- ◆ Wait for a CP compliance plan
- ◆ sorting Options & establishing priorities
- ◆ evaluating funds needed

- ◊ appraising solutions
- ◊ Reporting to Executive Board
- ◊ Approve investment
- ◊ Monitor KPI, Progress. Feedback
- ◊ Assessing the work and rewarding the workers.

Instead of calling for external consultants or organizations, ASTRA intend to take advantage of the training of its own employees, during the TEST Project.

The trained employees are required to put in practice all they have learned, to exercise the procedures of setting up action plan, evaluate resources, setting targets and suggest solutions.

This procedure is still to be evaluated by the Executive Board.

4.9. Reporting

As early mentioned, there are essentially 2 categories of KPI:

- a. The Leading KPI (or Performance Drivers)
- b. The Lagging KPI (or Outcome Measures)

A Leading KPI could become the ultimate target for a Lagging KPI. Leading or Lagging KPI may change their status for objectives up or down the Cause and Effect Diagram

In order to get a unitary view of the metrics adopted and in order to ease the Reporting activity, as early mentioned, to each KPI was given *four threshold figures*:

- the Lower possible value
- the Lower Intermediate value
- The Upper Intermediate value
- The Upper Possible value

All these values are subject to modification and serve to check the current situation against targets.

Once the targets are achieved or the actual KPI value nears the target, this target could be modified to a more challenging one.

Those thresholds define *3 intervals (fields)*:

- a green field (the target, the performance Driving value for KPI)
- a yellow field (intermediate)
- a red field (unacceptable)

If the green domain corresponds to the upper or to the lower interval, depends on a specific KPI. For example, the Financial Times value added Index should be as large as possible so the green interval corresponds to the upper interval.

The specific consumptions or the cash to cash cycle should be minimal so they corresponds to the lower interval

Table 10 illustrates these ideas in different modes, in the case of the share value KPI:

- Bar, indicating the relative position of the KPI present value along the 3 domains (lower domain = unacceptable, higher domain = target)
- Chart including the actual values in a given time interval (eg., 3rd quarter 2003) as well their trend line, helping Managers detecting future developments

Both modes include all the 3 fields (unacceptable, intermediate, target) with the corresponding color code.

The actual value of the index is the lagging value of the KPI, the outcome of recent developments in the Company.

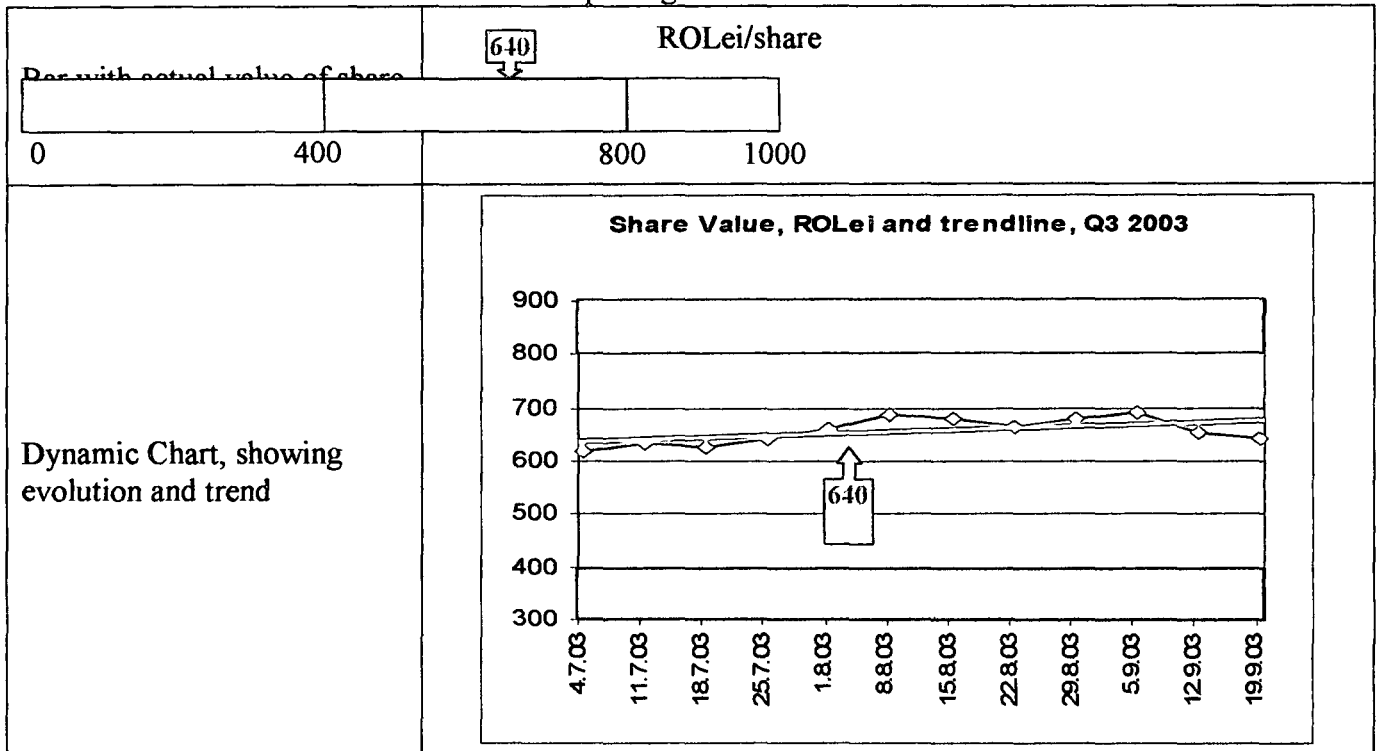
The green field represents the leading value of the KPI.

It is clear that the second reporting mode is more complete and more tale-telling.

Simple EXCEL programming enables such reports without ASTRA investing in a special BSC software.

Own-devised, not-so-elaborated software is preferred since it can be tailored to the exact needs of the Company.

Table10. Reporting the Share Value KPI.



Such bars and/or charts could be posted across ASTRA premises, enabling all employees a direct contact with the result of their work, how is it perceived by the business community, how far are the targets, is the trend favourable or should they take actions to correct it.

5. Align the organization to the strategy. Cascading the SBSC

One of the most important advantages of the BSC is that it can be replicated at various levels in the Company (subsidiaries, branches, departments, plants).

Cascading becomes a powerful tool contributing to:

- alignment of all compartments of the Company to the basic strategic ideas
- communication of actions and intentions, horizontally, vertically, thus integrating all remarks and suggestions in the Company to a single mainframe.

ASTRA is a small size refinery. As it can be seen from its general structure (Annex 10) it consists of many interconnected modules. Though there are 2 main directions of valuing oil in ASTRA (I. Fuels and II. Lubricants) the two production lines are not at all separated. They are merely designed to ease the day-by day operational management. Distillation (fuel department) produces all the raw materials for the lubricant department. Recycles and fractions from the lubricant department go back to the fuel

line. The 2 lines have not separated financial, commercial, marketing, distribution offices. In this way, separating and treating them as two separated strategic business units (SBU) is impossible. The Company SBSC is therefore replicated to the operational level of each plant in ASTRA. Operational SBSC are set-up in this way.

The operational SBSC for the Hydrorefining Unit (focal point of the CP EST Module is presented in ANNEX 9).

Best Practice Design & Deployment Use multiple Scorecards to align the organisation

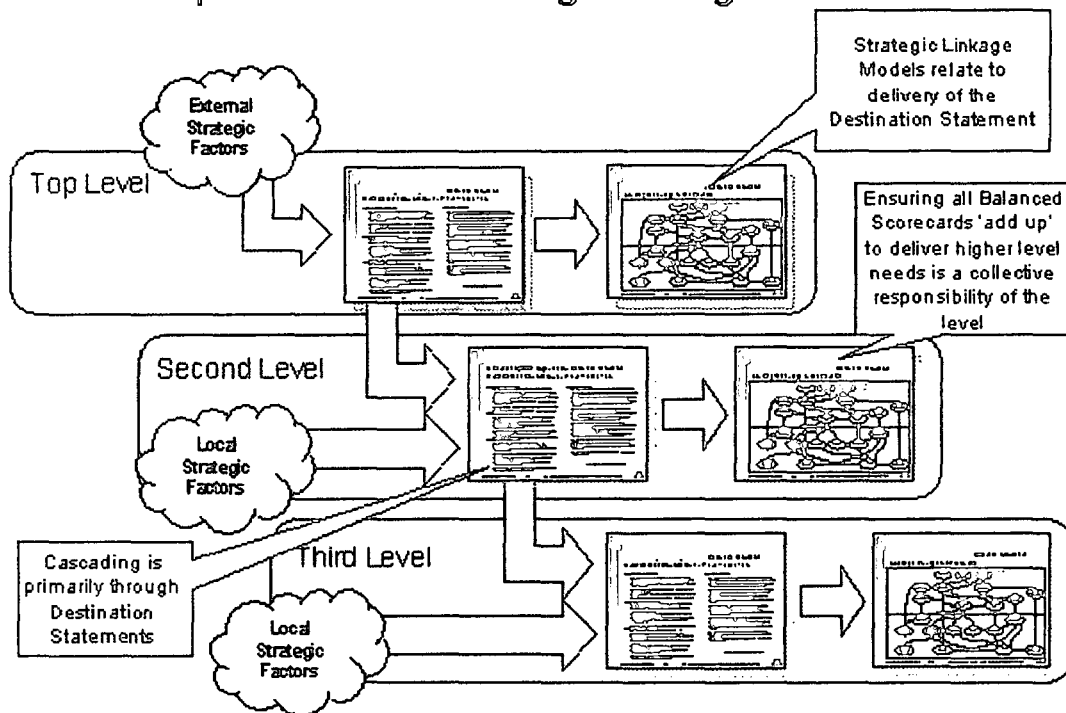


Fig. 5. Principle of cascading balanced scorecards

As it can be seen, the operational SBSC is more internally oriented, leaving threats and opportunities offered by the outside world, to the Company's SBSC.

The process of fully articulating the operational SBSCs is still under way.

6. Present Status of the SES Module

From the 5 principles that supports the Strategy Oriented Organization, there are 2 more remains to be articulated:

- Principle 4: Motivate to make strategy everyone's job.
- Principle 5: Govern to make strategy a continual process.

Those two tasks are conditioned by the approval, by ASTRA Shareholders Convention of the measures and actions suggested during the development of the first 3 principles.

In particular, Principle 5 will be carried out on a day by day action – once the Strategy and the SBSC are operational. It refers to the continual improvement and adjustment of the Company Strategy to any new threats and opportunities.

Fig. 6 present an estimate of the present status of the ASTRA SES Module (end of October 2003). Most of the phases are completed or under way to full completion.

Though the Consultant does not exclude the possibility that some minor modification of the Vision/Mission/Objectives could take place in the near future, it is considered a normal procedure – all Companies should improve their strategy on a permanent basis.

The Company metrics is still under debate and decision is awaited about appointing a Strategic Planning Compartment and transferring data management, measuring and reporting capabilities to it. Approval by higher organisms in ASTRA Company (shareholder Convention) is needed to end the SBSC design and to implement it along the possible remarks of the Shareholder Convention. Integration of CP, EMS, EST results in the Company SBSC is completed and the results of CP, EMS, EST were of great help to the strategy building.

The over all implementation level is estimated to be 60- 70% which might be a good figure, taking into consideration that the module started from scratch 6 months ago and that the literature indicates up to 2 years for a fully development BSC..

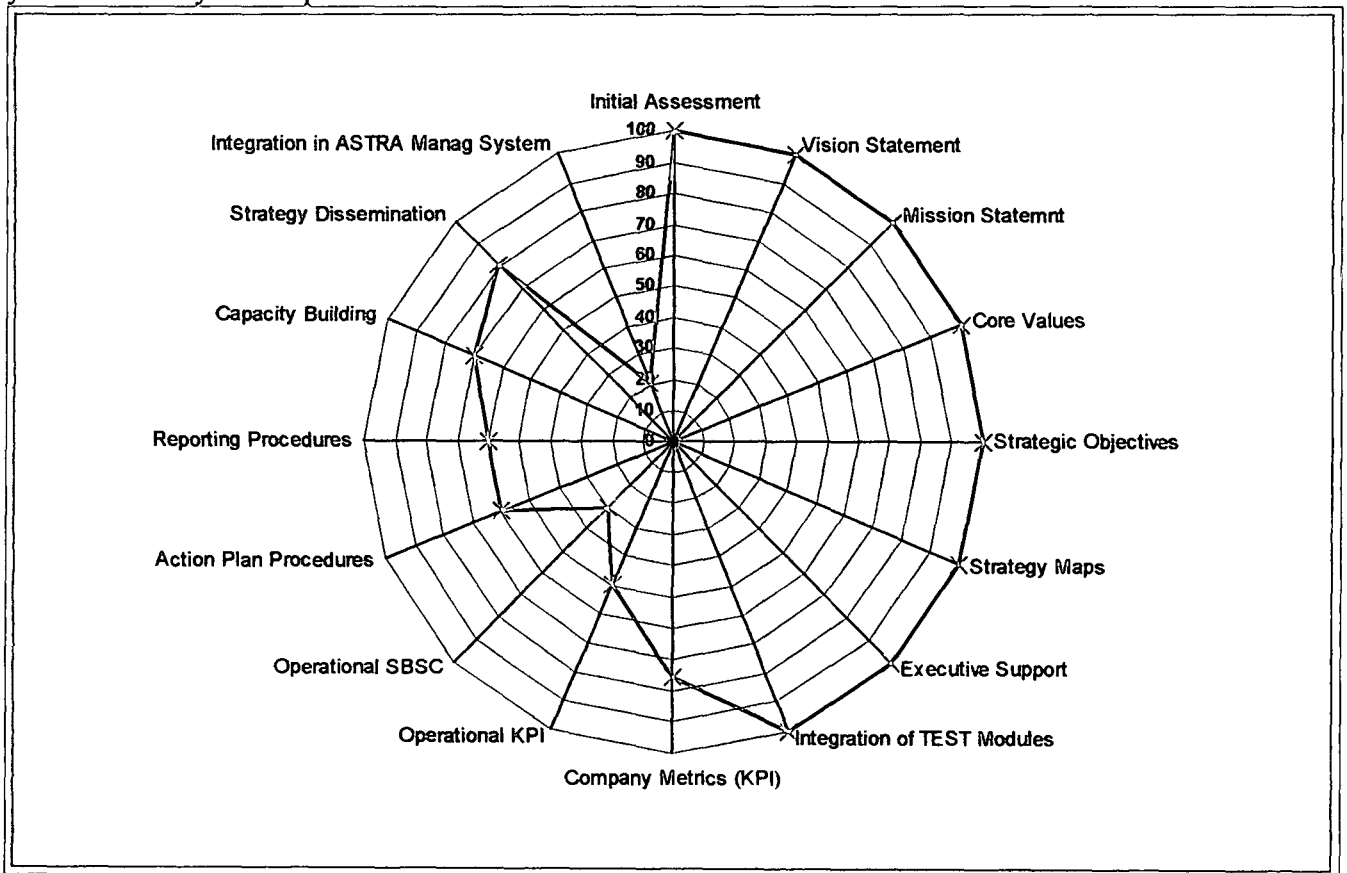


Fig. 6. Completion of ASTRA SES Module, Oct. 2003.

7. Conclusions

The SES Module of the ASTRA TEST Project tried a new approach for improving company's strategy by inserting components dedicated to environmental and social concern, without jeopardizing business success – in fact trying to increase the profitability of the Company and its market image by paying attention to new trends in global business (key words addressed: sustainability, triple bottom line, cleaner production, employee empowerment, balanced scorecard)

Company Executives supported the conversion of the Company Strategy along the lines of SBSC. The specially appointed Strategic Planning Team acquired skills and experience that will ease the further development and adapting of the Company Strategy.

In setting up a thorough assessment of the Company, modern instruments were used so that ASTRA performance could be easily compared to its pairs (Baldrige score, FT Value Added Index, SWOT Analysis)

Brainstorming, Gap Analysis and consensus were the instruments used to develop the ASTRA sustainable strategy.

As the timeframe was extremely tight, several modules have been started simultaneously (Company and Plant KPI metrics, SBSC development and dissemination to employees, Action Plans and Reporting Procedures, etc). Overlapping such actions did not impede the logical framework of the strategy thinking. It contributed to a wider view and a better alignment of different components of the Company Strategy and Management System to the focal point set up by the Destination Statement.

It is estimated that the coming 6 months are critical for the success of the SES module. Follows a list of what the Team awaits to Happen in th coming 6 months, indicating the role of the Consultant and possible outcomes for UNIDO:

- the rest of the strategy and SBSC will have to be completed to the 100% level, by involving the Consultant
- adjustment and fine tuning of all components of the ASTRA strategy and the adjoining SBSC will have to be made probably with the help of the Consultant
- during this period of time, crucial changes in the Management System will take place (the consultant to assist):
 - officially appointing a Strategic Planning Department
 - structuring it with attributes and connections in the ASTRA hierarchy
 - reorganizing the Executive Meetings along the new lines of communication and reporting
 - employee motivation will have to be implemented
- the metrics proposed will show its strengths and weaknesses (role of Consultant = important)
- the intangibles (human relations, creativeness, motivation) will start to emerge (role of Consultant = important)
- new relations with customers and stakeholders will be established (interesting for future UNIDO similar Projects)
- the new communication mechanisms inside ASTRA will prove its viability.
- The new Strategy Meetings of the Top Management and the new informational system (reporting procedures) will also show their advantages (the Consultant to take part)
- Empowerment of lower managers will have to demonstrate that those managers have the capabilities of decision making and action taking and will spare lots of Top Managers time and efforts (Consultant+Team to suggest motivation policy by negotiations with top Executives and with employees' representatives).
- Gear up of the SBSC will have to prove that it is a simpler, direct, effective and efficient management system (to be monitored by the Consultant and reported to UNIDO).

Though reaching the sustainability strategy via EST, CP EMS modules is not, probably the only way, during the SES module it became clear that the preexistence of expertise in these modules helped the Strategy building and align it to the triple bottom line requirements.

Only now the participants have a broader view and understanding of the logic of the entire Project. This is not necessarily a good point. As the SBSC proclaims, setting and communicating explicit targets at the start should help reaching them. At the beginning of the Project, the explicit objective of a revised Company Sustainable Strategy should be mentioned and reminded to the participants permanently, during all modules in order to get them focused on the big picture whilst working on details.

8. References

1. *** *"The Baldrige Principles and the Self Assessment System"*, The North Carolina Commission on Work Force Development, 1999.
2. *** *"The Baldrige Examiner Application"*, Baldrige National Quality Program, NIST, USA, 2003
3. Niven, P.R., *"How to transform your strategy into decisive results"*, Primerus Consulting, October 2003.
4. Tumeay, P., Armitage, H., *"Strategy Mapping"*, Better Management, August 2003.
5. Sorensen D., *"The Future of Activity Based Management, Balanced Scorecard and Budgeting"*, Better Management, Oct. 2003
6. Lawrie, G., *"3rd Generation Balanced Scorecard"*, Better Mangement, Oct 2003.
7. Moshonas, J,m *"Balanced Scorecards – Lessons Learned"*, Better Management Sep 2003
8. Chocqueel-Mangan, J., *"Balanced Scorecard in Europe"*, Balanced Scorecard Coll., Jan 2001
9. Drucker, P.F., "They are not Employees, they are People?", Harvard Business Review, Feb 2002.
10. Rigby, D.K. et al., *"Avoid the four perils of customer relationship management"*, Harvard Business Review, Feb 2002.
11. Von Geibler, J., Kuhndt M., *"Helping SME improving their triple bottom line performance"*, UNEP Industry and Environment, July-Dec 2002.
12. Gary, L., *"Strategy: Separating the Essential from the Expendable"*, Harvard Manag. Update, July 2002
13. Kaplan R.S., and Norton, David P., *"The Balanced Scorecard – Translating Strategy Into Action"*, Harvard Business School Press, 1997
14. Kaplan, R.S., *"The BSC for nonprofit Organization"*, The Balanced Scorecard 4(6), Nov-Dec 2002
15. Norton, D.P., *"Strategic Alignment Surveys Show Misalignment of Intangible Assets"*, The Balanced Scorecard, 4(6), Nov-Dec 2002.
16. Kornevall, C., *"Sustainability is everybody's business"*, UNEP Industry and Environment, July-Dec 2002.
17. Kanniah, R., *"Cleaner Production In the Context Of Sustainable Development"*, UNEP Industry and Environment, July-Dec 2002.
18. *** *"Making It Happen: Investing in Sustainability"*. UNEP Industry and Environment, July-Dec 2002.
19. Fussler, C., *"Eco-Efficiency and Beyond"*, UNEP Industry and Environment, July-Dec 2002.
20. Bieker, T. et al., *"Toward a sustainability balanced scorecard – Linking environmental and social sustainability to business strategy"* – INSEAD Paper, 2002
21. Norton, David P., *"Managing Strategy is Managing Change"*, The Balanced Scorecard 4(1), Jan-Feb 2002
22. Bieker, T and Gminder C-U., *"Towards a sustainability balanced scorecard"*, OIKOS Summer Academy, 2001
23. Bieker, T., "Managing corporate sustainability with the BSC", OIKOS Summer Academy, 2001
24. Bieker, T. and Waxenberger B., "Sustainability BSC and Business Ethics", 10th Intl Conference Greening of Industry network, July 2002, Goteborg, Sweden.

25. Figge, F. et al., "The Sustainability Balanced Scorecard – Theory and Application", 10th Intl Conference Greening of Industry network, July 2002, Goteborg, Sweden.
26. Lang, C., "What Are You Measuring?", Better Management, Sep 2003.
27. *** "Implementing A Sustainable Performance Measuring System", APQC, Oct 2003.
28. Malina, M. and Selto, F., "Communicating & Controlling Strategy", Better Management, Sep 2003.

Annex 12 includes a glossary of terms used in this report.