



Global Environment Facility

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August 21, 2001

Dear Council Member,

UNEP, as the Implementing Agency for the project, *Global: Technology Transfer Networks, Phase 1*, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNEP procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by the Council in May 2001 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by UNEP satisfactorily details how Council's comments and those of the STAP have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at www.gefweb.org. If you do not have access to the Web, you may request the local field office of UNEP to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Mohamed T. El-Ashry
Chief Executive Officer and Chairman

cc: Alternate, Implementing Agencies, STAP



United Nations Environment Programme

برنامج الأمم المتحدة للبيئة · 联合国环境规划署
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT · PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

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TELEFAX TRANSMISSION

To:	Mr. Kenneth King Assistant CEO, GEF Secretariat Fax: 202 522 3240 GEF Coordination Fax: 202 522 3245	Date:	18 July 2001
From:	John Pernetta Deputy Programme Coordinator (O-I-C) UNEP/GEF Coordination Office		
Subject:	Submission of the Technology Transfer Networks project for final CEO endorsement		

Pursuant to the GEF Council meeting May 2001 and having received no further comments we are pleased to present the Technology Transfer Networks Project Document for your consideration and endorsement.

The document contains SANET's business and operations plan. Principal executing partners will be UNOPS for SANET's decision support facility (component II), and GRID Arendal for SANET's on-line decision support system (component I), incl. regional client support centers and related expert networks. As SANET enters specific sectors and markets there will be a growing number of delivery partners for key areas of GEF concern. Organizations who have confirmed interest to become SANET delivery partners in specific sectors are listed in the document. Ongoing development of partner relations will be administered through UNOPS and GRID. These principal executing partners will be responsible for the implementation of SANET's operational principles, in particular verification of impact on decision making and assurance of majority co-financing by SANET's delivery agents and individual clients.

A comprehensive analysis of readiness and demand has been undertaken and is available on www.SustainableAlternatives.net. Current private sector requests for decision support significantly exceed SANET's delivery capacity. Expedient processing of pending requests and timely replenishment of SANET's decision support facility in year two will be essential to assure credibility and impact of SANET's decision support services.

SANET's operational approach is building on a network of partners of excellence, which have been identified during project preparation. Temporary support will be provided to direct their existing information and advisory services towards markets of particular GEF concern and to link them to the SANET portal. As SANET's efforts will be focussing on the alignment of well-established services towards GEF goals and their integration into the decision support system, there will be a very high likelihood of sustainability. SANET partners are committed to continue delivery of their services once GEF co-financed upgrades have

been implemented. Further co-financing will be committed according to SANET's budget and financing plan as partnership agreements are being executed by GRID and UNOPS. SANET builds on UNEP's principal assessment portal www.UNEP.net, and key components of UNEP's energy, cleaner production, trade and financial sector programs. UNEP's baseline budgets for these activities will exceed \$ 5 Million over the duration of the project.

Regards.



John Pernetta

UNITED NATIONS ENVIRONMENT PROGRAMME

PROJECT DOCUMENT SUMMARY

- 1.1 Title of Sub-Programme: Technology, Industry and Economics**
- 1.2 Title of Sub-Project: Technology Transfer Networks Phase I: Prototype set- up & testing and Phase II: Prototype verification & expansion**
- 1.3 Project Number: GF/40**
- 1.4 Geographical Scope: Global**
- 1.5 Implementation: Internal UNEP/DTIE in collaboration with UNOPS and GRID/Arendal**
- 1.6 Duration of the Project: 30 Months**
- Commencing: July 2001
Completion: December 2003

1.7 Cost of Project: (Expressed in US dollars)

	2001	2002	2003	Total	%
GEF Trust Fund	1,016,000	1,787,000	1,182,000	3,985,000	48
Collaborating Agencies (in kind)	732,000	1,463,000	2,195,000	4,390,000	52
Total:	1,748,000	3,250,000	3,377,000	8,375,000	

1.8 Project Summary

Recognizing that technologies and business practices are both a source of the various global environmental problems as well as a key to their solution, this project responds holistically to technology transfer needs identified by the different Multilateral Environmental Agreements (MEA) and demand for related support services, which has been substantiated in a preceding review under the UNEP/GEF partnership. Initial network foci will be technology systems and markets that offer best potentials to generate multiple environmental benefits, such as integrated natural resource management and energy generation systems. These major network practice areas will be backed by crosscutting networks on economic policies, technology financing and risk management.

The overall goal is to connect key public and private sector stakeholder groups who influence technology transfer within, between and to recipient countries with the view to foster increased market uptake of sustainable alternatives that help to protect the global environment. The project aims to facilitate identification of environmental synergy and implementation of integrated “win/win” solutions by encouraging thorough assessment of cleaner technology options. The two principal executing partners will be UNOPS, as managing the Decision Support facility and GRID Arendal for SANET’s online and regional advisory activities. Relations with regional decision support centres will be managed by GRID Arendal.

-PROJECT BRIEF -

1. IDENTIFIERS:

PROJECT NUMBER:

PROJECT NAME:

Technology Transfer Networks

DURATION: PHASED - TWO YEARS

Phase I: **Prototype set-up & testing**

Phase II: **Prototype verification & expansion**

IMPLEMENTING AGENCY:

UNEP

EXECUTING AGENCY:

Multiple operating partners, including UNDESA, IMF, WTO, IEA, ISO, CESES, AIT, APCTT, TERI, managed by GRID/Arendal, UNOPS and UNEP

REQUESTING COUNTRIES:

Response to global demand identified by FCCC, CBD, CCD, and in corporate GEF assessments,

ELIGIBILITY:

Operations will cover eligible countries in accordance with Art. 9 of the GEF Instrument

GEF FOCAL AREA:

Integrated Approach across OP's 6, 7, 10, 11, 12 and 13²

GEF PROGRAMMING FRAMEWORK:

UNEP-GEF Strategic Partnership

Costs and Financing (MillionUS\$)

GEF:	Phase I	1.275
	Phase II	2.710
	Sub-total phase I & II:	3.985

CO-FINANCING:	Operating Partners, incl. UNEP	1.230
	Third Party Sponsors	0.550
	Beneficiaries:	2.550
	Network Income	0.060
	Sub-total	4.390

Total Project Cost: **8.375**

Associated Financing (Million US \$): 27.000

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² FCCC clearinghouse activities will be deferred until related convention guidance has been received. Suggested responses to convention decisions will be presented to GEF Council for approval prior to implementation.

List of Acronyms and Abbreviations

ADB	Asian Development Bank
APCTT	Asia-Pacific Center for Technology Transfer
AMACS	Accompanying Measures to Accelerate the Integration of Concentrated Solar Power
AREED	African Rural Energy Enterprise Development
CADDET	Centre for the Analysis and Dissemination of Demonstrated Energy Technologies
CBD	Convention on Biological Diversity
CCD	Convention to Combat Desertification
CDM	Clean Development Mechanism
CDG	Carl Duisberg Society
CEiT	Countries with Economies in Transition
CESTT	Center for Environmentally Sound Technology Transfer (Beijing)
CSP	Concentrating Solar Power
CESES	Confederation of European Senior Expert Services
DSE	Foundation for International Development (Berlin)
DSF	Decision-Support Facility
DTIE	UNEP Division for Technology, Industry and Economics
EDFI	European Development Finance Institutions Network
ENDA	Environmental Development Action in the Third World
EU	European Union
FAO	Food and Agricultural Organization
FCCC	Framework Convention on Climate Change
FEM	Fond Mondiale pour l'Environnement
FI	Financial Intermediaries
FSC	Forest Stewardship Council
FT	Financial Times
GEF	Global Environment Facility
GDG	Global Development Gateway
GREENTIE	Greenhouse Gas Technology Information Exchange
GITE	Global Initiative on Transport and Emissions
GRID	UNEP Global Resource Information Database
GTZ	German Agency for Technical Cooperation
HIPC	Highly Indebted Poor Countries
IADB	Inter-American Development Bank
IAF	Investment Advisory Facility
ICF	ICF Consulting
ICPIC	International Cleaner Production Information Clearing House
IEA	International Energy Agency
IFC	International Finance Corporation
IPCC	Intergovernmental Panel on Climate Change
ISO	International Standards Organization
IMF	International Monetary Fund
IPP	Independent Power Producer
ISAT	Information and Advisory Service on Appropriate Technology

ITC	International Trade Centre
LABSOLAR	Laboratory for Solar Energy, Brazil
MEA	Multilateral Environmental Agreements
MIGA	Multilateral Investment Guarantee Agency
MOU	Memorandum of Understanding
MPMF	Montreal Protocol Multilateral Fund
MRF	Mineral Resources Forum
MSC	Marine Stewardship Council
MSP	Medium Sized Project
NASA	U.S. National Aeronautics and Space Administration
NCPC	National Cleaner Production Centers
OLADE	The Latin American Energy Organization
OECD	Organization for Economic Cooperation and Development
POPs	Persistent Organic Pollutants
PPA	Power Purchase Agreement
PV	Photovoltaic
RET	Renewable Energy Technology
RETSCREEN	Renewable Energy Project Analysis Software
Risø	Risø National Laboratory, Denmark
SANET	Sustainable Alternatives Network
SBSTA	Subsidiary Body on Scientific Technical Advice of the Framework of the Convention on Climate Change
SBSTTA	Subsidiary Body on Scientific Technical and Technological Advice of the Convention on Biological Diversity
SDA	Strategic Dialogues & Alliances
SME	Small and Medium Enterprises
STAP	GEF Scientific and Technical Advisory Panel
SWERA	Solar and Wind Energy Resource Assessment
TERI	Tata Energy Research Institute, India
TNC	The Nature Conservancy
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Program
UNMF	United Nations Multilateral Fund
UBS	Union Banque de Suisse
UNOPS	United Nations Office for Project Services
WB	World Bank
WBI	World Bank Institute
WTO	World Trade Organization
WFDPI	World Federation of Development Finance Institutions

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Annexes:

1 Incremental Costs

2 Logical Framework

3 Sustainable Alternatives Network Business Plan

Additional Background Material available at www.SustainableAlternatives.net :

A Assessment of Stakeholder Demand and Readiness

B Review of existing Clearing Houses and Corporate Knowledge Management Systems

C Evaluation of the preceding UNEP-GEF MSP on Directing Renewable Energy Investments to Sustainable Alternatives

D Links to SANET Partner Sites

I Current Baseline Situation

1.1 General Background Information

Technical remark: This project brief aims to make best use of Internet technology and related electronic dissemination of GEF Council documentation. It contains various hyperlinks, which are marked and underlined. They enable instant access to valuable background information. Readers are therefore encouraged to review this information online.

1. The proposed project constitutes a direct follow-up to the results of the first phase of the UNEP/GEF Strategic Partnership, which was concluded earlier this year. According to the schedule reflected in the final report concerning phase I ([GEF C16 Inf22](#)), which was submitted to Council in October 2000, the second round of partnership activities for FY01-02 is to be presented to the May 2001 Council for approval.
2. The proposed project builds on the partnership framework ([GEF GC 13/9](#)) approved by GEF Council in 1999. It introduces a phased and adaptable approach towards further partnership implementation that will enable flexible responses to newly emerging needs identified by the Multilateral Environmental Agreements (MEAs) and the GEF. This concept will allow testing of innovative partnership features and gradual expansion. As the role of the UNEP-GEF Partnership as a corporate knowledge management and decision support service has been proven effective, it is proposed to further enhance collaboration between the GEF Secretariat - providing corporate oversight and direction - and UNEP - as strategic operational partner- in directing key initiatives. In view of the organisational challenges arising out of the complexities of the proposed initiative, the UN Office for Project Services ([UNOPS](#)) has been invited to join the undertaking as management partner and network transaction centre.
3. A “Clearing House for Technology and Know-how Transfer” ([GEF C16 Inf22](#)) had been proposed as a core activity for the second phase of the partnership. This proposal responds to technology transfer needs identified in UNFCCC (Art. 2.5), CBD (Article 16), and subsequent convention guidance. It also takes into account Articles 18 of the CCD, and Article 12 of the POPs Convention. A comprehensive review of specific stakeholder needs in the different GEF recipient regions was conducted during Phase I of the UNEP/GEF partnership. Outcomes of this review are available at [SANET](#). The goal is to respond to the technology transfer needs identified by different MEAs in a holistic approach and to relate those needs to specific economic sectors, markets and stakeholders.
4. A review of the lessons offered by public clearing houses and corporate knowledge management systems provides the basis for the proposed undertaking. Specific attention has been paid to successful web-database and business portal operations, such as those documented by the [FT Special Report on e-procurement](#), as well as experience gained under existing Convention Clearinghouses. A review of different clearinghouses and corporate information systems is available at [SANET](#). It has revealed the lack of a common definition for the term “clearing house”, and the necessity to overhaul the clearinghouse concept. It dates back to the 1970s and basically describes conventional collection and dissemination of

information by a centralised database. Meanwhile the emergence of the Internet has triggered profound changes in which information is being managed, accessed and disseminated. The World Wide Web has revolutionised knowledge management, and become the single most universal information “clearinghouse” covering all aspects of the science, economy and life.

5. While the so-called “digital divide” is still significantly hampering Internet use in developing countries and provisions are being made under this project to allow for information dissemination through conventional means, the review has confirmed rapid changes throughout all regions of the world. A “readiness review” was an integral part of the network design process. It has revealed an increasing differentiation within countries and regions. While small-scale enterprises normally do not have the resources to use the Internet, there are a steadily growing numbers of medium and larger size companies that are well connected in all regions. SANET will respond to these findings by establishing strong links with local intermediaries who have Internet capabilities and can pass Internet knowledge to their SME clients.
6. Most **public sites** are designed for broad audience, and are not targeted to specific decision-makers. They are set up in ways that suggest the internet would center around them, rather than linking to and offering “added value” to sites that are most frequently visited by specific target groups of decision makers whose technology, policy or management choices they aim to influence (e.g. business to business, e-commerce sites, or intranets of consulting firms, banks or local intermediaries).
7. Most **clearinghouses** focus on scientific and technical information. Market forces and related economic, financing and policy aspects are generally not well recognised as dominating factors determining actual technology transfer decisions. Public on-line efforts to facilitate commercial transfer of cleaner alternatives between and to developing country markets are still in their infancy.
8. Although some of the more advanced and successful public clearing houses, such as UNEP’s ozone clearing house system, are complemented by off-line networks and training activities, these networks normally do not extend beyond traditional boundaries between specific public and private stakeholders groups. Facilitation of public-private technology transfer and market development partnerships has not played a significant role so far.

1.2 Findings of "Critical Choices"

9. The proposed networking approach is supported by the findings of "Critical Choices" – "The United Nations, Networks and the Future of Global Governance" the report of the "Visioning the UN Project" to the UN Secretary General, which was released in June 2000. Key SANET-related findings include:
10. Today’s issues and challenges exceed existing vertical communication frameworks along conventional administrative and sector boundaries. Especially for transnational corporations, it is increasingly difficult to find individual organisations in the international system that can replace traditional public and civil society counterparts in national governance structures.

11. Networks are natural mechanisms for gathering and disseminating knowledge and sharing of common values. They may also have a commercial dimension, making new markets where they are lacking and deepening markets that are failing to fulfil their potentials. Networks can help bridge between demand and supply. They can also help to set, disseminate and implement business standards and codes.
12. In order to become a more widely used instrument in the arsenal of global governance, the UN has to become an active player in networks. It has to help address the managerial challenges and current weaknesses of emerging networks, most of all inclusiveness across traditional boundaries and sectors. The UN in particular is in a good position to provide a platform for convening tri-sectoral networks. To become reliable team players in networks, the UN and its agencies have to implement a number of management and organizational changes, including mechanisms for prioritizing and coordinating nascent issues.

1.3 Barriers to Transfer of Sustainable Alternatives

13. Analytical work undertaken by GEF and UNEP has revealed the following information related impediments to the transfer of sustainable alternatives:
 - ?? lack of awareness concerning the objectives of the different MEAs and their complex relationship to technology markets in specific sectors of the national, regional and global economies;
 - ?? lack of oversight concerning needs and opportunities to holistically integrate different environmental goals into mainstream policies, management and business practice;
 - ?? lack of awareness about sustainable technology and product alternatives in specific markets;
 - ?? lack of access to customized and comparable markets, finance and policy data and related advisory services;
 - ?? limited alternative business and policy planning capacity, and incentives for the exploration of sustainable alternatives;
 - ?? (already included above)
 - ?? inadequate regulation and lack of incentives for consideration of cleaner solutions in specific markets;
 - ?? insufficient local capacity or local infrastructure to absorb cleaner technology, lack of entrepreneurial capacity, including migration of entrepreneurial resources;
 - ?? lack of communication among different but like-minded public and private stakeholder groups and isolated clean technology market development efforts, little coordination at regional and global levels;
 - ?? lack of market momentum and absence of market aggregation efforts.

1.4 Baseline Activities, Consolidation Needs and Collaboration Prospects

14. The review of existing clearing houses and corporate information systems undertaken in Phase I of the UNEP/GEF partnership reveals a patchwork of GEF related but largely uncoordinated knowledge management activities of a wide range of international, regional and local organizations (for review outcomes, see [SANET](#)). This project builds on many of these communication systems and intends to complement them in areas of specific GEF operational

interest. It will generate global benefits by facilitating customization of existing services to address specific GEF program objectives and related stakeholder information needs. Services will be consolidated, customized and integrated in a holistic information management, communication and incentive system. This is to enable seamless and access to a targeted selection of well organized decision support tools that offer immediate value to GEF clients, because they help to address specific technology transfer and market development barriers identified in different GEF programs. The following paragraphs provide an overview important baseline services and collaboration prospects.

15. The UNEP-GEF networks are directly linked to UNEP's environmental assessment data portal UNEP.NET that was launched at UNEP's Governing Council earlier this year and integrates the GRID databases. SANET and UNEP.NET are highly complementary. While the latter focuses on the facilitation of access to scientific and research data and tools that allow identification and assessment environmental problems, SANET will provide a comprehensive set of support services for decision makers who are searching for solutions that allow them to respond to identified problems.
16. The project has close relations to various ongoing and planned UNEP-GEF projects. Specifically the network will build on and integrate outcomes from the GEF sponsored "Solar and Wind Energy Resource Assessment", the "Fuel Cell Market Prospects and Intervention Strategies" and the "Renewable Energy and Energy Efficiency Investment Advisory Facility". It will also facilitate targeted follow-up to activities of the initial phase out of the UNEP-GEF partnership, such as "Assessment of the potential for the commercialization of conjunctive Photovoltaic/hydro power generation".
17. The network will support implementation of recommendations of corporate activities such as the assessment of GEF's concentrated solar power project portfolio and GEF's Marrakech Workshop on best ways and means to make a difference in emerging PV markets.
18. Various other UNEP initiatives will also be linked to SANET. For example, SANET will use MAESTRO, a database containing information on a full range of environmental technologies, institutions and information sources such as air and water pollution, environmental management, human settlements, recycling toxic substances, solid waste, wastewater, water augmentation and so on. It is also anticipated that UNEP's emerging Cleaner Production ClearingHouse will become an important element of SANET. Options to set up joint market places on sustainable mining alternatives are being explored.
19. UNEP is implementing an African Rural Energy Enterprise Development (AREED) initiative. The AREED seeks to develop new sustainable energy enterprises that use clean, efficient, and renewable energy technologies to meet the energy needs of under-served populations, thereby reducing the environmental and health consequences of existing energy use patterns. The AREED approach offers rural energy entrepreneurs a combination of enterprise development services and start-up financing. This integrated financial and technical support allows entrepreneurs to plan and structure their companies in a manner that prepares them for growth and makes eventual investments by mainstream financial partners less risky. SANET will complement and support AREED's activities by delivering decision support through AREED's regional intermediaries.

20. UNEP's Collaborating Centre on Energy and Environment (UCCEE) is operating a Sustainable Energy Advisory Facility (SEAF). Services offered include access to information, expert assistance and support for national or regional training. Technical assistance will be available for sector and national planning studies, climate change mitigation studies, technology assessment and selection, assessment of renewable and conventional energy projects with reduced environmental impacts, linkage to relevant institutions for project finance. SANET will build on SEAF and help to disseminate its services to interested developing country clients.
21. SANET will complement and work closely together with existing and newly emerging MEA Clearing Houses, such as the Ozone Clearing House and the Clearing House of the CBD, which focus on scientific and technical advice. Important knowledge management activities offering excellent baselines for the project by partner organizations include the following:
22. The Global Development Gateway (GDG) of the World Bank is a portal website on development issues. From this site, users can access information, resources, and tools. They can also contribute their own knowledge and experience, as the Gateway creates a common platform for shared material, dialogue, and problem-solving that is easy to access and navigate through. This will enable those in the development field to share information, easily communicate, and build communities of practice around significant challenges from the grassroots up. SANET will link to GDG and complement it in the area of clean technology transfer.
23. Global Campus 21 (GC21), a joint venture of CDG and DSE, is an information gateway for advanced professional training and follow-up in the Internet. It includes training programs with regard to business development and policy in the form of courses, seminars, workshops, and conferences as well as - complementary - computer-aided modules. In addition, GC21 makes it easier for specialists and managers from developing countries to access important information in the field of advanced professional training, and it facilitates communication and cooperation between users and experts on technical and more general issues. GC21 aims to facilitate the implementation of AGENDA 21 by offering these training programs. SANET will partner with GC21 to disseminate distance learning that highlights win/win opportunities to contribute to the protection of the global environment.
24. Recognizing that National Development Banks have a need to enhance their networking with other development banks to share experiences, to exchange ideas and information and to learn about best management experiences of development banks, the World Federation of Development Finance Institutions (WFDFI) has decided to create a joint knowledge bank. There are 550 development banks world-wide, primarily in developing countries, aiming to integrate into a single network of communication, and knowledge sharing that will place development banks on a similar level of access to information that exists for commercial and investment banks. Together with the UNEP Finance Sector Initiative and within its financing alternatives marketplace, SANET will partner with WFDFI in disseminating information on sustainable financing alternatives, and in exploring possibilities to jointly develop and test innovative financing and guarantee modalities customized to the specific risk characteristics of clean technology investments.

25. As without the creation of an appropriate framework of innovative mechanisms and economic incentives, the agenda for biodiversity conservation and sustainable use will be difficult to realize, UNCTAD launched the BIOTRADE Initiative. The mission of BIOTRADE is to stimulate trade and investment in biological resources to further sustainable development in line with the three objectives of the CBD, i.e. to promote conservation of biological diversity; sustainable use of its components and equitable sharing of benefits. It is an integrated program consisting of three complementary components: the BIOTRADE country programs; market research and policy analysis; and Internet services. SANET will work together with BIOTRADE to integrate and enhance the use of on-line services by interested private sector partners.
26. RETSCREEN of Environment Canada is an extremely efficient renewable energy decision-support tool. The core of the service consists of standardized and integrated renewable energy project analysis software that can be used to evaluate the energy production, life-cycle costs and greenhouse gas emission reductions for the whole range of renewable energy technologies ranging from PV to Biomass. Without sacrificing quality, use of RETSCREEN helps to reduce costs in pre-feasibility investment studies by up to 90%. SANET and RETSCREEN have agreed to work together in integrating the outcomes of UNEP's Global Solar and Wind Resource Assessments into the wind and solar project analysis toolkit, to customize available on-line tools to the specific needs of GEF recipient country clients, and to develop and deliver distance learning as well as short-term coaching programs for developing country intermediaries (regional centers) who will in turn provide supports to local users.
27. The International Energy Agency (IEA) is offering a wide range of on-line decision support tools primarily to member countries. IEA sites -if complemented and customized to GEF client needs- could become extremely valuable contribution to SANET. These tools include Greentie and Caddet. GREENTIE is an international information network of that distributes details of suppliers whose technologies help to reduce greenhouse gas emissions. GREENTIE also provides information on leading international organizations and IEA programs whose RD&D and information activities center around clean energy technologies. IEA's Center for the Analysis and Dissemination of Demonstrated Energy Technologies, CADDET, collects, analyses and disseminates information on demonstration projects in energy efficient and renewable energy technologies. Working within the framework of IEA, CADDET's objective is to provide impartial information about proven technologies to help accelerate their adoption in the market place. UNEP and IEA are working closely together in exploring best ways and means to customize existing services to GEF recipient country needs and to deliver them to private sector clients through regional centers.
28. ISAT, the *Information and Advisory Service on Appropriate Technology*, is a service provided by *Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)*. For more than 15 years, ISAT has been involved in the development, adaptation and dissemination of Appropriate Technology. Appropriate Technologies use local resources with minimum damage to the environment. They aim to improve the economic, ecological and socio-cultural conditions of the disadvantaged segments of the population. ISAT's objective is the increased use of Appropriate Technology in developing countries. They offer supports for both North-South transfer and South-South exchange of technological knowledge. SANET will link to ISAT because it complements SANET in the area of appropriate technology.

29. Baseline examples at the regional level include:
- a) China's Center for Environmentally Sound Technology Transfer (CESTT), which aims to promote the transfer and adoption EST by forming bridges between policy makers, technology suppliers, technology developers, financial institutions, and Chinese industry, in particular small and medium-sized enterprises (SMEs);
 - b) the Technology Transfer Center for the Asian and Pacific Region (APCTT), which aims to strengthen the technology transfer capabilities in the region and to facilitate trade of environmentally sound technologies within, to and from the member countries;
 - c) The Latin American Energy Organization (OLADE), which is an international public cooperation, coordination, and advisory energy organization basically aimed at ensuring the integration, rational development and marketing of the region's energy resources. In its 26 member countries in the region, the Organization supports projects in power efficiency, new and renewable sources of energy and strategic alliances among enterprises;
 - d) The Environment and Development Network of the Third World (ENDA), an international organization located in Dakar (Senegal), and the Kumasi Institute of Technology and Environment (Ghana) who aim to contribute towards sustainable energy and industrial development based on local technological capabilities, in harmony with the environment. They implement targeted research projects, undertake feasibility studies and deliver training for local partners.
30. The project aims to establish partnerships with these and other organizations, such as UNEP and UNIDO supported national cleaner production centers (NCPC). This is to develop an effective network of intermediary partners with best potentials to become strong delivery channels and regional support centers for SANET's services to ultimately reach clean technology buyers and sellers at the grassroots level. SANET will build strong baseline services and related operational budgets of identified partners. Partner budgets are expected to assure financing of recurrent costs. Temporary co-financing of incremental costs associated with the enhancement of available tools appears to be inevitable to enable their customization to GEF's operational objectives, stakeholder needs, and the generation of related global benefits.

II UNEP's Niche and Comparative advantage

31. Primary focus of GEF barrier removal efforts so far has been investment and capacity building projects that normally span multiple years. There are limitations with both these approaches. While investments offer a high demonstration value, they also incur high costs. Their systemic benefits- in terms of encouragement of replication and technology cost buy down- are yet to be proven. Capacity building efforts are normally process oriented and not linked to specific decision making situations. Verification of the impact requires long term monitoring of changes in the governance systems.
32. Hands on short-term support to public and private sector partners, who are confronted with critical choices prior to actual decision-making, has not played a significant role so far.

Although such counselling, coaching and feasibility assessment activities may take only a few days or weeks -and therefore do not fit into the format of regular projects- they offer intriguing low-cost opportunities to facilitate the generation of substantive global environmental benefits. By facilitating informed decision-making, they can help to direct pending investment, policy and management decisions to cleaner “win/win” solutions that have long-term impacts on how natural resources are used.

33. An area of similar potential, also not yet covered by GEF activities, appears to be the facilitation of strategic dialogues among different, but like-minded, public and private sector stakeholders across traditional sector and country boundaries with the view to incubate global technology market development alliances. As already proven in the private sector, such strategic partnerships can help each partner to accomplish a common goal much more efficiently in a global market place than otherwise in isolated parallel efforts.
34. Delivery of targeted “hands-on” decision support and facilitation of alliances with modern means of on-line communication and in traditional ways have been identified as UNEP’s unique niche and area of comparative advantage in the GEF family that can help to fill important gaps in GEF’s toolkit. The box below provides an indicative comparison of different intervention types and highlights the highly complementary nature of the proposed Technology Transfer Networks.

35. UNEP’s Niche and Comparative Advantage

Intervention Type	Costs	Impact time lag	Impact Scope	Leverage	Risk
Investment	High	Medium	Local	Low	Medium
Capacity Building	Medium	Long	Country specific	Medium	Medium
Alliance Building (UNEP)	Low	Medium	Market Specific	Very high	Medium
Decision Support (UNEP)	Very low	Short	Specific Decisions	High	Medium

III The UNEP/GEF Alternative: SANET

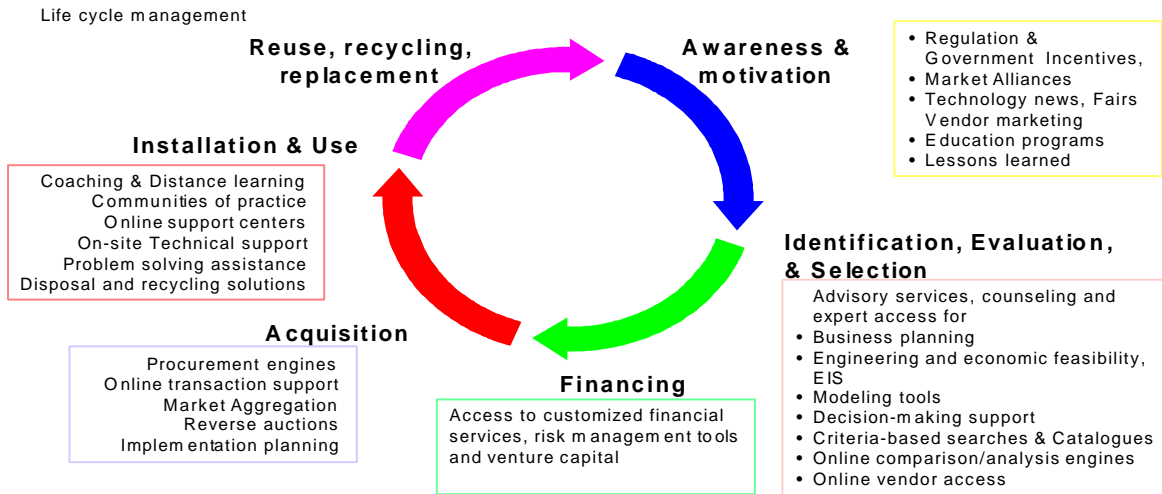
1.1 General Objectives

36. The overall objective of this project is to set up and operate a “Technology Transfer Network” with the ultimate goal of accelerating the uptake of sustainable alternative technologies in GEF client country markets. It is expected that SANET will effectively facilitate the generation of significant and tangible global environmental benefits in all GEF focal areas. SANET is focussing on current and newly emerging “win/win” market solutions that offer economically viable opportunities to protect the global environment. It does not

intend to identify future GEF projects that would incur incremental costs. A primary goal is to facilitate identification and implementation of “bankable” technology alternatives by connecting investors, mainstream public financing institutions with clean technology providers and users. Taking into account that cross-cutting economic and sector regulations determine the playing field for technology transfer, the project will also facilitate conducive regulatory environments for investments in cleaner solutions.

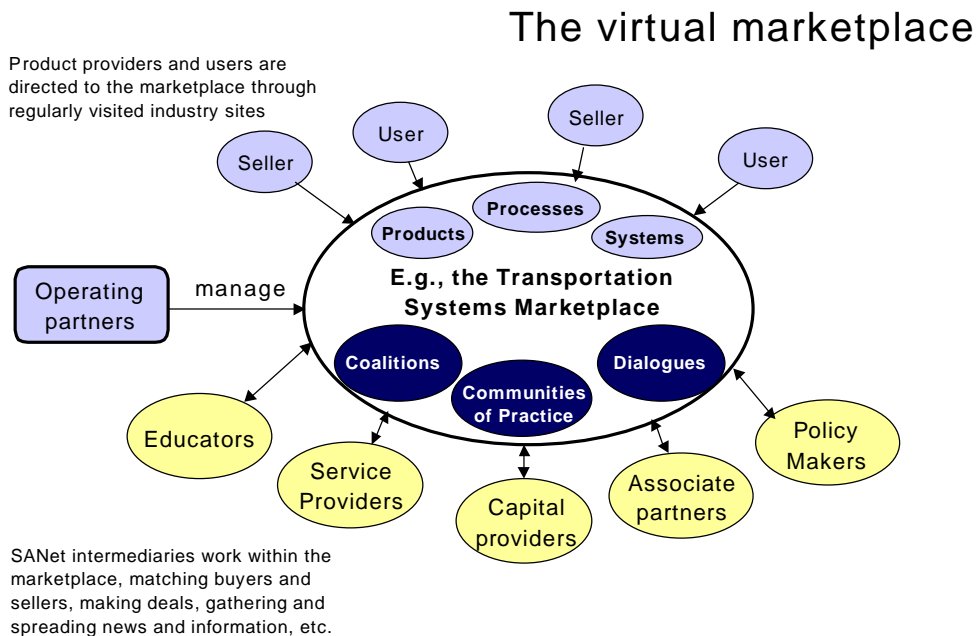
37. Aiming to offer added value to on-going GEF operations, SANET is designed to become an important communication tool for all GEF projects and related programs that help to transfer technologies and build sustainable markets for cleaner alternatives. It will build on the positive experiences of the already established network for GEF’s international water projects and will help to expand them. SANET will facilitate structured learning, disseminate hands-on advice, enable the exchange of lessons learned, best practice and may even facilitate co-operative procurement efforts and market aggregation.
38. Recognizing that technologies and business practices are as much a source of environmental problems as providers of keys to the solutions, SANET aims to relate UNEP’s and GEF’s objectives to markets and stakeholders that influence technology transfer and use. The goal is to facilitate consideration of sustainable decision alternatives in the following areas:
 - ?? Policy: Conducive market environments for clean technology transfer and utilization;
 - ?? Investment: Identification, planning, financing and operation of cleaner “win/win” technology solutions;
 - ?? Management: Introduction of integrative business approaches that internalize environmental considerations and translate them into competitive advantage.
39. SANET has responded to the findings of “Critical Choices” by entering dialogues with key players who are interested in rapid development of emerging clean technology markets, and discussing best ways and means to deepening the markets with best potentials through, e.g. market aggregation and market development risk sharing alliances. SANET may also assist interested recipient country enterprises in exploring business value of voluntary standards, related labels and certificates, especially how they could translate into increased revenue and competitive advantage.
40. SANET aspires to be an effective example of how partnerships of UN and Bretton Woods organizations can provide networking platforms. It will design and implement the evolving concept of a tripartite network in such a way that creates value for members by cross-fertilizing joint efforts across conventional sectoral and administrative boundaries.
41. The management challenges are well recognized and provisions are being made to respond to the complexities of network management. SANET intends to enter a management partnership with the UN Office for Project Services (UNOPS) and will use innovative performance contracting models to assure timely delivery of premier network facilitation services.

3.2 The Technology Transfer Cycle



42. While all of the above mentioned entities provide a wealth of relevant information, most of them lack a comprehensive approach to technology transfer that covers the whole technology acquisition cycle (See Graph 1 above). If the project can link them together and help to fill gaps in their services and to showcase and promote globally beneficial alternatives, then SANET has a very unique niche - it can provide an integrated package of complementary services customized to actual technology users and providers in GEF recipient countries. And this is SANET's objective.

3 The Marketplace for Sustainable Alternatives



43. The network will consist of several integrating frameworks supported by an Internet portal that will bring together stakeholders, information, services, capital, and technologies that help to achieve global environmental benefits. Acknowledging the critical role of intermediaries in technology transfer, the network will enable their participation in the collaborative and interactive process of technology transfer. One of the most important integrating frameworks that SANET will create is a series of technology-specific “virtual marketplaces” (see Graph 2 on page 15). These will encourage joint efforts and strategic alliances to develop viable markets for cleaner technology options and to improve related regulatory frameworks. As indicated in “Critical Choices”, networks can also be an extremely effective means of setting and disseminating business standards and codes. The virtual marketplace is a vehicle where such activities can flourish.

IV The Increment: SANET’s Design, Activities & Management

44. The following principles guide the project design:

- ~~///~~ retain a holistic perspective on all factors influencing technology transfer, however do not try to influence them all at once;
- ~~///~~ respond selectively to most promising opportunities to direct relevant decisions (investment, management, policy) to sustainable alternatives;
- ~~///~~ use all available forms of communication;
- ~~///~~ do not create new structures, work with what exists, delegate and decentralize wherever possible – do not compete;
- ~~///~~ build on strong institutional and financial baselines of potential operating partners;
- ~~///~~ adhere to the incremental cost principle, verify existing budgets and keep support limited to minority stakes at all intervention levels;
- ~~///~~ link to and help to enhance and customize available UNEP and other partners’ services with focus on GEF objectives, help to showcase cleaner solutions;
- ~~///~~ integrate, consolidate and design to influence technology transfer decisions;
- ~~///~~ follow the “incremental approach” even in Internet portal design, center efforts around successful mainstream sites, do not create a new “center of the universe”;
- ~~///~~ link to mainstream sites and assure targeted marketing of the network services to clients;
- ~~///~~ strengthen alternative assessment at critical intervention opportunities prior to decision making, focus attention to activities that actually determine technology transfer (trade/investments);
- ~~///~~ help to build networks, institutional partnerships, joint venture and strategic alliances between public and private technology transfer partners in north and south;
- ~~///~~ start small and expand gradually upon verification of success;
- ~~///~~ assure continuous and thorough impact monitoring.

45. In the absence of commonly agreed definitions, the following working interpretations are being used to characterize the scope of the network undertaking:

Technologies are the tools (hardware), methods and practices (know-how) necessary to produce goods, to deliver services or to set rules in any sector of the economy. Technology transfer encompasses a broad range of decision making and capacity building processes that result in increased application of new/advanced tools and practices in growth in related markets. Technology transfer may be embedded in business transactions, and non-commercial cooperation of private and public entities that facilitate technology market development, adaptation and application. For any transfer to occur, some form of communication between people appears to be instrumental. Access to hardware, methods and static market knowledge alone will rarely suffice for successful completion of the transfer process and establishment of vibrant markets for sustainable alternatives.

46. SANET's major services will include:

- ~~///~~ provision of seamless access to relevant market, financial, technology and policy information to enhance market transparency;
- ~~///~~ reduction of transaction times and costs through provision of access to on-line procurement tools for cleaner technology alternatives;
- ~~///~~ supporting informed decision making through targeted on-site advisory, coaching and mentoring services, and incentives for alternative feasibility studies (Decision Support Facility, DSF);
- ~~///~~ facilitation of targeted stakeholder dialogues to explore and implement specific clean technology market development coalitions at regional and global levels, exchange of best practice, lessons learned and related distance learning on investment, management and policy alternatives.

4.2 Main activities

47. It is proposed to implement the Network prototype set-up, testing and verification in two phases of about one year each.

Phase I (May 2001 – April 2002): Prototype Start Up and Testing;

Phase II (May 2002 – April 2003): Verification and Expansion

A progress and performance report on Year 1, a detailed implementation plan for Year 2, and a request of releasing the second tranche of finance will be submitted to Council in early 2002.

48. Phase I will concentrate on setting up the core information technology infrastructure for the Internet marketplaces, finalizing negotiations with initial operating partners, soliciting their commitments, testing and fine-tuning the procedures for delivery of specific decision support services in one networking area. Phase II will be used to verify network benefits according to specific GEF objectives, and to expand the network to other areas and GEF operational programs.

49. In Phase I the network activities will primarily focus on demonstration of network benefits in the area of integrated land and water management according to the objectives of GEF's Operational Program #12.

Scenario: Integrated Ecosystem Management

In response to SANET information obtained at a recent GEF Country Dialogue the administrator of one of the country's pacific islands asks his assistant to order the latest SANET CD-ROM, and to check whether it might contain any information of practical value to the islanders.

In the integrated ecosystem management practice area she gets attracted by multi-media clips that showcase remarkable economic benefit of successful "Biosphere Reserve" ventures in different regions of the globe. They explain why Biosphere Reserves count on integration of conservation and sustainable use of natural resources into participatory approaches towards improvement of local livelihoods. When browsing through the case material she is getting increasingly excited, because it contains hands-on counsel how the natural and cultural land & seascapes of her island could be managed more profitably while preserving its unique endemic biodiversity, abating pollution and reducing degradation of its land and water resources.

The step by step inter-active guide for biosphere reserve entrepreneurs functions like a business planning tool and supports the preparation of bankable investment plans, that take into account newly emerging alternative revenue sources. It contains dozens of direct links to specialized sources of practical decision support ranging from TNC's Virtual Center for Innovative Conservation Finance to on-line market-places and B2B portals for eco-tourism, organic agriculture, sustainable forestry and carbon sequestration, eco-certified fishery, related financial services and specialized sources of training, as well as public and commercial advice.

As her boss is one of the leading law-makers in the parliament of her country, who has just launched a initiative to overhaul fiscal and trade policies to spur economic growth and to attract foreign direct investment, she is intrigued about the practice area concerning cross cutting economic policies. Besides offering direct access to brilliantly written summaries of recent legislative success stories and candid analysis of bad policy practice, its interactive features allow on-line simulation of different tax and tariff scenarios based on latest economic data for her region. Of greatest practical interest are advanced modeling tools that enable direct comparison of impacts of these scenarios on public revenue, and on markets for specific sustainable technology, product and service alternatives, such as clean energy and certified timber.

The assistant eventually decides to recommend consideration of the biosphere reserve status for her island. Encouraged by the positive feedback of her peers she talks to the Island Development Council and gets a chance to introduce SANET at the next meeting of this multi-stakeholder body involving representatives of the island community, business leaders, environmental groups and government executives.

Key Council members are fascinated about the way, how the holistic business and policy perspectives inherited in the SANET design are translated into hands on counseling tools for specific public and private sector target groups. They are particularly thrilled by a documentary on a Caribbean Island that has recently introduced a fully integrated and self-sustaining energy supply system. The system builds on a combination of wind generators, biogas and biomass gasification. It supports sustainable agriculture because it allows efficient use of the residues of biologically diverse organic sugar cane production, and has also helped to shape the island image as eco-tourism paradise, where even Rum stems from organically produced ingredients, and sewage gets recycled.

In view of all the convincing reference materials one Council member suggests that they should try to make their isle a role model for sustainable development in the region. The Council eventually decides to request network co-sponsorship for a strategic dialogue with lead entrepreneurs and policy makers from the Caribbean Island featured at SANET. The dialogue does not only trigger a joint-venture and three business alliances that enable the transfer of sustainable technology alternatives and business practice, it also facilitates a partnership between the two island administrations to systematically exchange policy making know-how. What follows is are several feasibility studies which receive contingent co-financing by the Network's Decision Support Facility to verify bankability of alternative energy generation, agriculture and tourism development approaches that have been transferred from the partner island.

Two years later the island administrator receives a notification from UNESCO's Man and Biosphere Committee (MAB) that their application to become an internationally recognized "Biosphere Reserve" has been accepted. In its note the Committee emphasizes that the island has the potential to become a globally significant example for ecologically oriented regional development.

Project activities will be gradually expanded to other areas taking into account developments in the relevant convention processes. Integration of FCCC and CBD related clearinghouse activities would be considered upon receipt of specific convention guidance. Suggested responses to Convention decisions will be presented to GEF Council for approval prior to implementation. A scenario that illustrates network projects for Phase II is contained in the box on the following page.

Activity I: Market Place Set-up

50. To help demonstrate the value of the Network and to prove the concept, a small number of specific on-line marketplaces will be designed in Phases I and II. These may include marketplaces for integrated natural resource use, land and water management, and cleaner energy alternatives. A prototype model of the marketplace approach will become available at www.sustainable.alternatives; by mid April 2001.
51. Activities in the initial year will focus on network “marketplace” prototype set-up and testing. This will include verification of global environmental benefits that will arise out of cooperation with specific global and regional partners who are offering strong baseline services and have indicated interest to collaborate with SANET (see the partner section). Most compelling Internet sites will be integrated in SANET’s gateway design and aligned to recipient country needs. Identified content gaps will be closed with the help of interested partners. The goal is to establish at least one fully functioning market place that clearly demonstrates the added value to network members, users, and the GEF. At least two regional mirror sites and on-line support centers in will be set up in collaboration with selected operating partners in major developing regions. This may include selective translation of most valuable and on-line content and distance learning tools to major regional business languages, and coaching of partners that provide on-line supports. Targeted on-line marketing will be started by linking the SANET to most frequently visited industry sites and intranets of major service providers such as consulting firms and the 500 financial institutions gathered under the World Federation of Development Banks.

Activity 2: Decision Support Facility for Public and Private Decision Makers

52. When thinking evolves around a new technology, business activity, management or policy approaches, comparisons with conventional alternatives and related risk assessments need to be more rigorous, but the information is normally scarce. So SANET’s on-line information and assessment tools may not suffice to reach to the whole decision making cycles. The up-front transaction costs and risks of evaluating and assessing the feasibility of technology, business, financing and/or policy alternatives are greater than for conventional options.

Scenario: Sustainable Energy Advisory Services (Phase II)

Stage 1: An independent power company that is successfully operating several gas fired stations and a wind farm in South America is interested in expanding business to other regions, possibly based on joint ventures. The CEO’s assistant responsible for strategic planning has been asked to search for basic information about the market environment and possible business partners in East and South Asia. Alerted to the UNEP-GEF “sustainable alternatives” portal at a recent congress of her business association, she decides to explore it and enters the energy gateway. In the menu of information options she detects four categories of immediate interest:

- /// a gate to investor information concerning the energy market situation, current restructuring efforts, and related investment and trade laws in countries with important energy markets;
- /// a directory of local and international consulting firms specializing in clean energy investments;
- /// a gateway to specialized providers of finance/venture capital, export guarantees, etc. who offer incentives and risk sharing for cleaner technology investments;
- /// a sustainable energy investment advisory service operated by a partnership of leading market research institutes, which provides direct access to independent expert advice.

Stage 2: The policy gate provides her with information about the regulatory situation in a number of countries of the region. It draws special attention to incentives for clean energy investments and helps her to find out that there is only one country in the region offering tax breaks for renewable energy investments and related technology imports. An e-mail exchange with a leading policy research institute of the region that was facilitated through the gate helps her to get a much better understanding of the somewhat complicated law for IPPs and related PPA frameworks in that country.

Stage 3: After a thorough review of the information provided by his assistant, the CEO decides that it should be worthwhile to study the identified energy market in greater depth, which would require the help of consultants. Through the portal his assistant is getting seamless access to available consulting firms that are specialized in the region an offer specific expertise in clean energy investing.

Stage 4: The selected consultants help the IPP-company to get in touch with possible local investment partners and to customize their investment strategy to available incentives for clean technology investments. As the tax break is most favorable for PV and complemented by a favorable credit line of a public development bank, which was identified through the portal's financing alternatives gateway, the CEO decides to explore this option further

Stage 5: The prospect of gaining a stream of additional revenue through the CDM, which was scrutinized with the portal's cost/benefit comparison tool, is bolstering the CEO's intent to look into PV investment options more closely. A portal advertisement concerning an emerging PV market development coalition draws attention to synergies of PV conjunctive use applications. The CEO's assistant obtains further information through the PV "market place" and the associated discussion group.

Stage 6: Based on the information received the search for local partners is directed to independent hydro station operators. The prospect to procure PV panels at preferential rates and to meet possible business partners provides sufficient incentives to the CEO to join the next coalition meeting. Through the coalition the company meets a suitable joint venture partner, risk capital providers and other like-minded stakeholders. Inspired by the coalition meeting the prospective joint venture decides to apply for a small contingent grant from the network's decision support facility to study economic and technical feasibility of a joint investment in distributed PV, which would complement an existing hydro station.

Encouraging study results and risk-sharing incentives offered by the coalition's banking partners lead to the decision to participate in an aggregated procurement effort of the coalition, which is -facilitated through the reverse auctioning feature of the portal's procurement engine. Auctioning results lead to 15% decline in panel prices on immediate orders, another 20% are offered on binding options for later delivery. The joint venture partners decide to cut a deal and to go ahead with further investment planning so that they could benefit from the 35% price drop which was offered for order options with 2 1/2 years deferral.

Stage 7: Distance learning tools offered through the portal and best practice seminars organized by the coalition facilitator help the joint venture to gain a thorough understanding of all relevant technical, economic and policy issues and to lay the foundation for successful completion of the technology transfer.

53. These up-front issues, or barriers, are the key targets of the proposed Decision Support Facility (DSF). If a partner is willing to invest time and resources in considering a clean technology project that yields significant global environmental benefits over a conventional technology choice, the Facility may share some portion of their incremental transaction risks on a

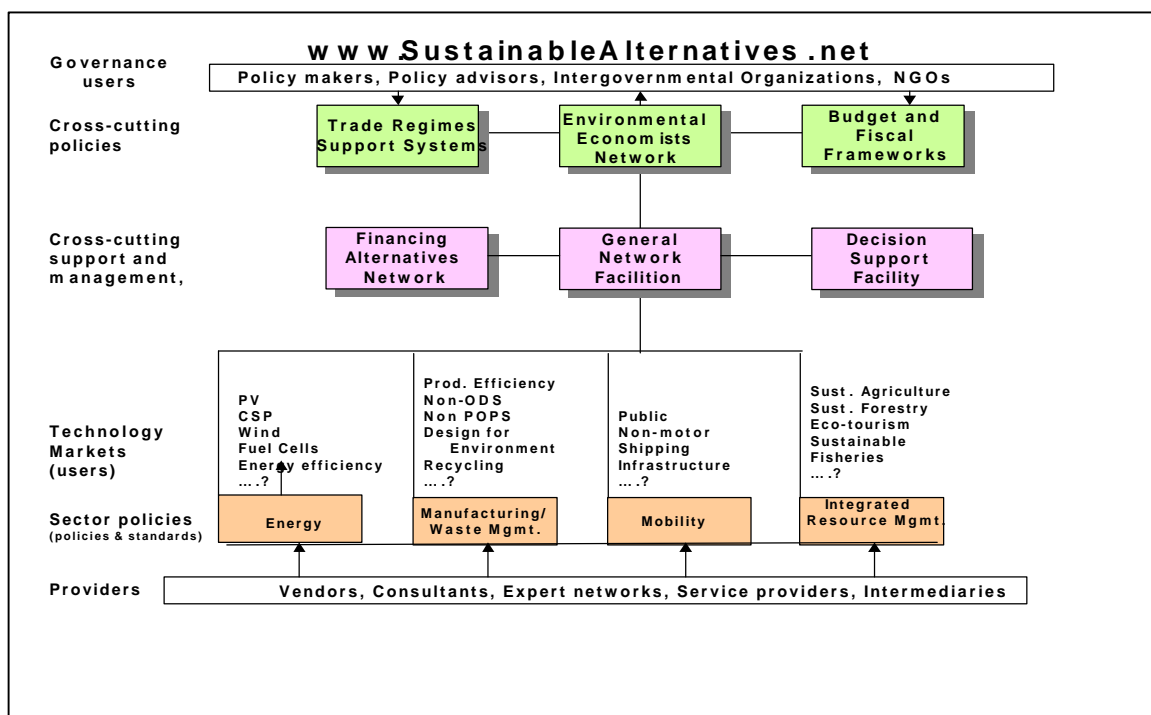
contingent basis. The partner will always be expected to pay the majority of the costs. Contingency simply means that the partner would be requested to repay the support if he decides to invest in a conventional “baseline” technology even though jointly financed feasibility work has proven “bankability” of the cleaner alternative. The resources can be retained if the cleaner investment alternative will be pursued, or if the feasibility study outcomes are not bankable. In the start-up phase, approximately 5-10 alternative feasibility studies are expected to be funded. Maximum GEF exposure will be 49% of the total assessment costs, capped at \$ 49,000 if total costs exceed \$100,000.

54. This network component builds on the experience and success of UNEP’s Renewable Energy and Energy Efficiency Investment Advisory Facility (IAF). The IAF is a pilot initiative launched in mid-1999 as the core element of the MSP "Redirecting commercial investment decisions to cleaner technologies". It provides targeted expertise to banks and financiers to help them evaluate proposals in the renewable energy or energy efficiency sectors.
55. To date the IAF has worked successfully with the development banks including IFC, IADB, ADB, FMO and DEG, with the commercial bank UBS, and with various private investors. The first investments, whose evaluations were supported by the IAF, have gone forward. They include a \$36 million small hydro peaking plant in Guatemala, and \$4 million for a biodiversity rich biomass plantation in Tanzania. The IAF provided \$25,000 in technical support for the first investment and \$26,000 to the second, allowing both to overcome barriers encountered in the due diligence process. Due diligence work for a 20 MW Windfarm investment in Ghana is being finalized by DEG.
56. The independent evaluation of DSF at SANET concludes: “The experience gained so far has been that the IAF is an effective tool for helping banks and their clients over hurdles they encounter in evaluating sustainable energy projects. The IAF, in its existing or some modified form as suggested in this review, should become one element of the Technology Transfer Network within the UNEP-GEF Strategic Partnership”. It is proposed to test and implement the following extension options:
 - ?? to gradually expand operations and test the effectiveness of the facility in other critical decision making situations that will result in significant benefits for the global environment. This could include globally beneficial investment alternatives in the natural resources management, manufacturing or mining sectors, as well as sustainable management alternatives that meet specific standards, e.g. sustainable forestry, agriculture, fisheries or environmental management (ISO 14000);
 - ?? in specific cases it may also be warranted to provide decision support prior to critical policy decisions, such as revisions of critical fiscal or trade laws, or allocation of HIPC resources, if partners are interested in optimizing their choice towards most synergetic options that help to level the playing fields for transfer and utilization of cleaner technologies;
 - ?? to combine the current facility with other low cost forms of short-term advice, coaching and counselling prior to critical decision-making. Specifically, it is proposed to enter a Strategic Alliance with the Confederation of European Senior Expert Services (CESES) and the emerging global network of Senior Advisors. Setting-up a joint internet-based

referral and counselling service would enable direct and dedicated network access to a pool of more than 80,000 senior experts world-wide delivering services that are valued at more than \$ 500 million annually and cover all sectors of the economy. Many of them offer special expertise concerning environmentally sound investment, management and policy alternatives. Costs to the project and to network clients would be extremely modest, as the executives are providing their services on a voluntary basis;

?? to offer minority share incentive financing for strategic technology market assessments, facilitation of alliances, design of market development strategies, as well as innovative financing and risk sharing modalities as described in the preceding sections. Co-financing may be requested by coalitions of public and private stakeholders who share common clean technology transfer and market development goals, and who are willing to provide the majority of the funding required for proposed undertakings.

57. The DSF would be part of SANET’s two-fold approach to encouraging the “greening” of the finance sector. First, SANET secures high level environmental commitments from bank and insurance CEOs through UNEP’s Financial Service Initiative. Second, SANET’s DSF works with these organizations to develop clean investment activity, and innovative modalities in the various sustainable development sectors.
58. The proposed strategy for SANET is to establish a network of operating partners who will function as managers of sector/market specific network nodes. These operating partners will ensure that the fullest possible set of services is being provided to network members and users within the partners’ market sector and geographical region. Details of this approach are explained in the network business plan available at [SANET](#).
59. The following sectors and markets with greatest impacts on the global environment will be explored in Phases I and II.



4.3 SANET Management

60. During implementation, UNEP will work closely together with GEF's Implementing and executing partners. SANET will focus on leveraging existing efforts in the area of sustainable alternative technology instead of duplicating such efforts. It will link to and build upon existing global and regional technology transfer and investment promotion programs such as MIGA's IPANET, IFCs_SME Facilities, including the recently approved GEF Balkans SME Facility, and UNDP's Energy and Atmosphere program.
61. Upon Council approval of this proposal, the SANET management team will finalize negotiations with interested partners to determine specific roles and contributions to the network in accordance with the principles outlined in earlier sections of this document.
62. Taking into account the anticipated large number of small scale transactions (it is estimated that in its initial year the network will establish partnership relations with about 10 organizations and may support up to 10 pre-investment feasibility assessments prior to critical decision making). With UNEP's limited administrative capacities in the area of transaction management, it is foreseeable that processing of contracts and partnership agreements would soon become a bottleneck in network operations if these activities would be handled in-house. Therefore UNEP has identified the United Nations Office for Project Services (UNOPS) as a strategic management partner and network transaction center.
63. A Memorandum of Understanding has recently been signed between UNEP and UNOPS concerning the use of UNOPS services for execution of UNEP projects. This framework agreement will be complemented by a customized performance contract, geared towards assuring excellence in responding to client needs and processing of related network transactions. It will build on the benchmarks established under the preceding Investment Advisory Facility (see Activity 2). UNOPS has agreed to a performance contracting system that will feature penalties for unjustified delays and reward for excellence in processing network transactions. Details of the agreement will be negotiated immediately after Council approval of this proposal and tested in the initial year of network operations. Council will receive a detailed report on the experience with the proposed performance contract in the initial progress report due in early 2002.
64. The GEF Secretariat is expected to provide strategic direction to UNOPS and the SANET team. The three partners will and work closely together in overseeing the proposed management system.

4.4 Project Partners

65. In selecting operating partners, the network team is using the following criteria:
 - ?? budget and mandate oriented to the dissemination of sustainable alternatives;
 - ?? services that, in some way, have a causal relationship between action and benefit in one of more of the GEF focal areas;
 - ?? credibility with the key stakeholders;

- ?? existing links to on-line services (information, advisory, or transactional);
 - ?? capacity to expand and willingness to customize services to UNEP/GEF objectives;
 - ?? experience in managing client networks;
 - ?? overall track record of performance and administration;
 - ?? keen interest in exploring the emerging potential of private/public networking.
66. Among others, the following organizations have been identified as partners for joint activities in some specific sectors:

Manufacturing, Waste Management and Mining

67. Cleaner production is a widely recognized and proven strategy for increasing the efficiency of natural resource use and minimizing wastes especially toxic residuals such as Persistent Organic Pollutants (POPs). Pollution and risks to human health and the global environment are reduced at the source, rather than the end of the production process, i.e. the "end-of-pipe" stage. Cleaner production results in meeting consumers' needs with more environmentally compatible, quality products and services. As well as reducing pollution, this strategy also generates tangible economic savings for a business enterprise by improving the overall efficiency of production. SANET will support further improvement of UNEP's cleaner production clearing house (ICPIC) to showcase technological opportunities and protect the global environment.
68. UNEP's mining initiative and its interactive Mineral Resources Forum (MRF) provide excellent baselines for targeted dialogues and exchange with experts who are involved in mining decisions related to the global environment. Together UNEP's core team SANET will explore potentials for the development of "Sustainable Mining Alliance" that would engage industry stakeholders in an effort to minimize mining impacts on the global environment, i.e. biodiversity, land and water resources, climate and persistent organic pollution.
69. The International Standards Organization (ISO) is currently compiling evidence to support claims that implementation of environmental management standards (ISO 14000) results in tangible global environmental benefits. If the evidence is compelling, SANET may work together with ISO's Program for Developing Countries and CEiT to facilitate further certification decisions.

Integrated Natural Resources Management

70. Taking into account declining numbers of subsistence communities in GEF partner countries and the growing influence of market forces on decisions that determine the how land and water resources are actually being used, SANET aims to facilitate the consideration of integrated land and water management technologies that translate sustainable resource utilization methods into market advantage and increased rural incomes. Recognizing that consumer ability and willingness to pay price premiums for certified alternatives including agricultural, forest and fishery products, and services like eco-tourism are much higher in export markets, SANET will work together with ITC's World Trade Networks in facilitating

market development. ITC together with its networking partners in the natural resources management area; such as FAO, aims to facilitate market growth for products arising out of ecosystem uses that meet specific sustainability standards and help to protect the global environment. Examples for such biodiversity, agriculture, forestry and fishery standards are available online at the SANET webpage.

Integrated Conservation Finance

71. The traditional approach to financing biodiversity conservation programs relies primarily on grants by governments, multilateral agencies and private foundations, and overlooks potential roles of private financial institutions and related markets. As this approach does not offer sufficient potential to meet the threats to biodiversity and also does not target economic root causes of the problem, it appears to be essential to explore and set in place long-term financing mechanisms that engage markets and private capital - particularly the financial services industry - to value natural resources and conserving biological assets through sustainable use.
72. SANET, through UNEP's Financial Sector Initiatives, intends to work together with The Nature Conservancy (TNC) in facilitating profound changes in the ways how revenue for long-term nature conservation will be generated. Specifically, SANET intends to support and integrate TNC's conservation finance network and clearinghouse, which are designed to engage new actors, share and disseminate lessons from field experience and stimulate collaboration particularly through "South-South" exchanges. The goal is to reduce the current reliance on international conservation and multilateral organizations. Elements of the Network include:
 - /// Specialist Groups* on strategic topics (e.g., environmental investment funds, conservation trust funds): to exchange lessons learned and best practices, support the development of new methodologies and tools
 - /// Practitioner information tools*: such as on-line databases and directories on best practice and lessons learned in innovative Conservation Finance, a roster of specialized regional consultants with proven track records;
 - /// Practitioner coaching*: cross-cutting distance learning and training programs designed to enable local experts to plan and implement reliable conservation finance approaches.
73. The network will build upon TNC's conservation finance expertise through work on: 14 environmental trust funds, 12 debt-for-nature swap transactions, \$36 million in carbon investment projects, and a \$10 million Eco-Enterprises Fund – resulting in \$500 million in long-term finance for conservation projects in some 30 developing countries.

Cross cutting economic frameworks

74. Building on the existing expert communication links such as WBI's Environmental Economists Networks, and partnering with specialized short-term advisory, training and distance learning programs of IMF, WTO and affiliated organizations, SANET intends to deliver information to interested decision makers on interrelations between fiscal and trade policies and resource usage.

75. Specifically the network is working together with IMF and WTO in exploring options to support provisions targeted short-term counsel and coaching prior to critical decision making. Piggybacking on their strong baseline advisory programs that are closely linked to specific decision making points, SANET will facilitate fully informed policy choices by enabling decision makers to compare the effects of different policy options on natural resources use and transfer of specific technologies. It is expected that policy makers would be enabled to identify win/win solutions and to level the playing field while avoiding adverse effects on budget, revenue and expenses. Such counseling could be of particular interest to countries that participate in the HIPC initiative, because efforts to reduce poverty should go hand in hand with efforts to facilitate a more sensible use of limited natural resources and to reduce emissions and pollution.

Sustainable Technology Financing Alternatives (Finance and Insurance Sector Initiative)

76. UNEP's Financial Services Sector Initiative (FSI) with currently 170 banking and 85 insurance sector members will provide the basis for the proposed Financing Alternatives Network. The network will bring together financing and insurance organizations that are interested in exploring new financial products and risk management instruments such as performance risk guarantees customized to the specific characteristics of clean technology financing. In facilitating the exchange of lessons learned and best practice, and in advancing the clean technology financing toolkits, SANET will work closely with the World Federation of Development Banks (WFDB) and their regional subsidiaries such as EDFI.
77. SANET will also link to OECD's Export Credit Guarantee Agency Working Group and explore options to facilitate advanced collaboration of interested members. This may include efforts to encourage development of innovative performance guarantee vehicles for clean technology investments .

Sustainable Mobility Systems (Outlook of Phase II)

78. With the Global Initiative on Transport Emissions (GITE), the United Nations and the World Bank are jointly undertaking a project aimed at promoting emissions reductions in the transport sector, which is a major energy consumer and a significant contributor to global carbon emissions. GITE was introduced at the joint UN/World Bank International Roundtable on Transportation Energy Efficiency and Sustainable Development held in Cairo in December, 1999. Its goal is to facilitate cooperation among transportation equipment industries, developing countries and relevant international agencies in efforts to promote sustainable transportation alternatives, at the regulatory, infrastructure planning and technology level and to help reduce local and global environmental problems related to this sector. GITE's managing partners believe that together with SANET, they can more effectively influence critical choices in integrated transportation planning (both motorized, non-motorized and modal shifts) targeted at instrumental decision-makers. GITE will take the lead in developing the proposed mobility market place, link to local clients who can make best use of offered tools, and will help to coach regional partners on best ways and means to identify and

implement sustainable alternatives. GITE's management will also review requests for specific decision support activities and oversee their implementation

Clean Energy Markets (Outlook of Phase II)

79. In view of the specific characteristics of emerging clean energy markets, and the nature of identified market development barriers, it would be very difficult for the GEF or any other interested organization alone to make a difference especially in emerging RET markets. Therefore GEF and the International Energy Agency (IEA) have recently been actively looking into possibilities for working together towards RET coalitions that would involve key private and public sector stakeholders in strategic market development efforts and would help regional developing country organizations to play more proactive roles in RET market development efforts and would help regional developing country organizations, such as OLADE, to play more proactive roles in RET market development. The UNEP-GEF technology transfer networks are offering a vehicle to facilitate closer cooperation between northern and southern energy organizations. In partnership with IEA's Renewable Energy Implementing Agreements, the network may orchestrate development and implementation of collaborative frameworks to unlock RET market potentials in developing regions with best potentials. Initial efforts in this regard will focus on Geothermal, CSP, PV and Fuel Cell Markets. Examples for emerging alliances in the CSP and PV areas are posted at www.sustainable.alternatives. Outcomes of UNEP and GEF market assessment for CSP and distributed PV applications provide an interesting basis for the exploration of strategic cooperation options. They confirm that economically viable solar applications are in arms length reach in developing countries with favorable solar radiation and conducive energy market environments. Results should encourage further efforts, because these markets have been more dynamic recently than any other RE markets and offer price reduction potentials down to fully competitive levels. Benefits to local utilities, technology manufacturers, technology sponsors and the global environment resulted from globally coordinated marketing, procurement aggregation and risk sharing efforts could be more significant than in any other emerging RET market. Dialogues with key private and public stakeholders to explore these potentials have therefore been scheduled for later this year.
80. Market development alliances could offer the following specific benefits to participating stakeholders:
- ?? enhanced oversight concerning global RET market opportunities in specific developing countries and regions;
 - ?? improved technology transfer to viable markets;
 - ?? sharing and distribution of market development risks among interested financing institutions, energy companies and private investors;
 - ?? enhanced impact and efficiency through market aggregation, and focus on least cost market opportunities at a global scale;
 - ?? establishment of strategic working relationships with key local and international partners interested in clean technology transfer;
 - ?? integration of individual efforts into global market development.

81. SANET is also working together with IEA's Implementing Agreements in exploring best ways and means to facilitate non-discriminatory power purchase tariff frameworks, GRID integration, standardization and certification. SANET intends to partner with IEA's CSP Implementing Agreement in an EU sponsored effort to Accelerate the Integration of Concentrated Solar Power (AMACS). Particularly GEF supported CSP projects in India, Morocco, Egypt and Mexico may benefit from the AMACS findings and recommendations. SANET will facilitate consideration and use of proposed CSP Power Purchase Framework Agreements and GRID dispatch models by policy makers, energy sector executives and venture capital providers.
82. The proposed partnership with IEA is drawing on the unique strengths and complementarity of the involved organizations in facilitating expansion of global markets for clean energy systems. As already described, SANET's clean energy "marketplace" will build upon IEA's excellent on-line knowledge management services, including Greentia and Caddett. Efforts will focus on making these services better accessible for GEF clients, customizing specific elements to their particular needs and integrating them into SANET mirror sites at regional technology transfer support centers.

V. SANET Incremental Costs, Financing, Risks & Sustainability,

83. SANET is building on strong baseline activities and related operational budgets of proposed operating partners. Incremental work needs to be undertaken, because identified baseline services, although they have a good potential to support implementation of specific GEF programs, are not well coordinated, often hard to find, and generally not customized to specific GEF stakeholder needs.
84. The alternative envisaged under this project is a comprehensive decision support system that will generate global benefits by enhancing existing services to address specific GEF program objectives and related stakeholder information needs. Customized services will be integrated in a holistic information management, communication and incentive system. This is to enable seamless and access to a targeted selection of well organized of decision support tools that offer immediate value to clients, because they help to address specific technology transfer and market development barriers identified in various GEF programs. Details concerning the incremental reasoning of the project are contained in the incremental cost annex.
85. Operating partners will provide the bulk of the financing for SANET's on-line services. They are also expected to assure financing of recurrent costs. Temporary co-financing of incremental costs associated with the enhancement of available on-line tools will be essential to enable their customization to GEF's operational objectives and related stakeholder needs. After an initial increase in GEF co-financing from phase I to II that will be proportionate to the growth in the overall network budget GEF financing shares are expected to decline steadily, so that delivery of partner services through SANET would become self sustaining after about five years. This should be feasible because the network will work only on baseline web-services that have excellent financial track records. Operating partners are expected to

maintain and further improve the on-line services that have been tailored to recipient country client needs with initial GEF support.

86. The management costs for the cross-cutting portal and regional customer support infrastructure that links and integrates customised partner services will be gradually covered by membership and user fees to be paid by commercial providers of sustainable technology, product and service alternatives who can use the network to find new business, joint venture and alliance partners. While the initial membership year will be free, a modest fee would be charged thereafter. The projected network fee income of about \$60,000 in year 2 builds on the assumption that the network will be able to attract at least 300 paying members and have several thousand frequent users, for whom -if routed through the network to a commercial provider of cleaner alternatives- the service provider would pay a modest routing levy. The fee income is expected to exceed operational expenditures for SANET by year 6, so that excess resources could start to feed the decision support facility (DSF).
87. Majority co-financing of activities that will be sponsored by the Decision Support Facility will be provided directly by the beneficiaries, or by third parties who are interested in co-sponsoring the exploration of specific investment or policy alternatives. DSF financing will be provided according to the principles outlined in section 4.2. While GEF financing for the DSF would grow from phase I and phase II it expected that GEF share would decline after year three and be gradually replaced by contributions of foundations, providers of public financing, and network fee income, so that the DSF would become independent from the GEF after about five years. Details concerning the project operations budget, co-financing and projected revenue are contained in the network business plan that is currently being finalized and will be submitted to Council for endorsement. In view of the innovative nature of the network venture financing data provided in the budget table below should be considered indicative. Detailed statements of actual income and expenditures will be provided to Council in annual progress reports.

Activities	GEF Year 1	GEF Year 2	Co-Financing	Total
1.0 Technology Transfer Marketplaces				
1.1 Portal implementation (Integration of existing sites, closure of gaps + customization of information technology tools)	200,000	180,000	390,000	770,000
1.2 Technical support for local users through regional mirror operators	25,000	80,000	50,000	155,000
1.3 SANet maintenance: decentralized content management and improvement by local operating partners	12,000	212,000	224,000	448,000
1.4 Hardware and software	73,000	49,000	110,000	232,000
1.5 Support of regional centers, including mirror site set up, coaching and translations	85,000	144,000	500,000	729,000
<i>Subtotal</i>	395,000	665,000	1,274,000	2,334,000
2.0 Decision Support Facility				
2.1 Feasibility studies, Market Alliances	350,000	1,450,000	2,500,000	4,300,000
2.2 Senior executive referral service and short-term counseling*.	70,000	90,000	180,000*	340,000

2.3 DSF grant application processing	0	0	150,000	150,000
<i>Subtotal</i>	420,000	1,540,000	2,830,000	4,790,000
3.0 Network Facilitation and Management				
3.1 Overall management, development of partner relationships and coordination, negotiation of partnership agreements and supervision of contractual performance	150,000	250,000	0	400,000
3.2 Progress and impact monitoring – specific activities and services	60,000	60,000	0	120,000
3.2 Coordination of on-line activities	80,000	80,000	0	160,000
3.3 Outreach, marketing, and fund raising	170,000	115,000	286,000	571,000
<i>Subtotal</i>	460,000	505,000	286,000	1,251,000
Total	1,275,000	2,710,000	4,390,000	8,375,000

* This number does not reflect expected in-kind contribution of participating senior expert services in terms of required staff time for agreed short-term advisory services. Staff time will normally count for more than 80 percent of proposed decision support.

5.1 Stakeholder Participation

88. The network design benefits from extensive stakeholder consultations and stakeholder involvement in preceding pilot activities. Demand for proposed network services has been verified in a comprehensive regional review of stakeholder readiness, which is available at [SANET](#). Strong private sector interest for decision support prior to critical investments is documented in a substantive pipeline of requests that has been generated through the preceding [IAF](#).
89. An initial meeting of the proposed consultative group on clean technology markets and transfer (CG Tech) was held in February this year. This was to solicit additional feedback of important regional entities who represented key public and private stakeholder perspectives. To assure continuous stakeholder feedback and timely responses to changing needs is suggested to organize annual CG Tech meetings. In addition it is planned to establish a small board of senior public and private sector advisors. This is to encourage the involvement of key stakeholder representatives in the preparation of strategic network decisions.

5.3 Network Risks

89. There are a number of important risks with the potential to affect the project's sustainability. They include but are not limited to:
- ?? the SANET net may fail to attract sufficient interest of users that are actually involved in critical decision making;
 - ?? co-funding and income will result in a net cash flow that lengthens the time expected for the project to reach its break-even point;

- ?? operating partner(s) involved at the start of the Network's operations may, for some reason, decide to withdraw their involvement or to reduce their commitments, resulting in a less stable structure.
90. On the first risk, the project takes a precautionary approach reflected in the adaptable project framework that involves two initial tranches of one year each to allow for set-up, testing, fine-tuning and verification of different networking options.
91. On the second risk, the project has been deliberately structured in such a way so as to cast the net as widely as possible for financial contributions from partners other than the GEF. To minimize risks, specific commitments will be verified prior to endorsement of different tranches. In addition, an increasing proportion of revenues will be derived from users and third parties. Growing network income is expected to come from fees for specific on-line features, such as registration of technology, service and product providers, referral services and routing. Foundations and bilateral partners are expected to gradually substitute GEF financing shares to the decision support facility. Specific fund raising activities in this regard are foreseen in Phases I and II. DSF third party co-financing is expected to reach at least 50% in Phase III. According to financial projections contained in the network business plan, which is currently being finalized and will be presented to Council for endorsement, it is expected that core network operations will become self sustaining after Phase III i.e. after about 5 years.
92. On the third risk, the project minimizes the potential impact by selecting partners with significant baseline activities and through the basic technical design and Network architecture. The Network has been designed in such a way to be expanded over time. Additional market segments can be added incrementally and non-performing partners can be replaced.
93. Successful Phase I and II network prototype operations will be replicated in other technology areas during Phase III. In view of the specific nature of the network as a corporate service under the UNEP /GEF partnership, no replication is expected outside the scope of this partnership. However, as outlined in Section 4.2, Network itself will facilitate dissemination of lessons learned in GEF projects and replication of good practice by interested GEF partners. The current network design will be customized to changing GEF needs.

5.4 Monitoring and Evaluation

94. The network management team will engage in continuous monitoring of progress, performance and impact. It will report back to GEF Council on an annual basis. The following milestones are suggested to monitor progress and performance towards the end of the initial year of operations:
- ?? SANET prototype set-up and testing completed;
 - ?? at least one global on-line technology transfer "market place" established and linked to at least two regional technology transfer support centers;
 - ?? services of at least 10 operational partners customized to GEF client needs and integrated, cooperation agreements signed;

- ?? at least 7 critical investment, management, policy or alliance building decisions influenced and directed towards sustainable alternatives;
- ?? at least 3 strategic dialogues between key industry and government stakeholder supported;
- ?? at least one clean technology market development alliances launched;
- ?? SANET connected to at least 20 industry mainstream sites, intermediaries and intranets to assure proper outreach and marketing.

95. The following indicators of success are proposed for performance monitoring beyond the initial year:

- ?? quality and number of partnerships and organizational joint-ventures built;
- ?? sustainability of regional knowledge management and networking capacities;
- ?? quality and number of on-line and off line advisory capacities enhanced and directed to UNEP/GEF goals;
- ?? number of stakeholder reached with these services and related communications;
- ?? number of specific service requests;
- ?? nature, quality and number of delivered networking responses –influence on decisions;
- ?? quality and number of facilitated stakeholder communications, policy dialogues and market development alliances – influence on decisions?
- ?? number of alternative feasibility studies;
- ?? number and volume of influenced investment decisions;
- ?? clean technology transfers facilitated/ financial resource flows redirected;
- ?? nature, quality and quantity of the generated global benefits;
- ?? number of pre-investment studies financed.

96. Monitoring and Evaluation Plan operationalizing the above indicators will be developed during the initial year of the project implementation and submitted to Council along with the progress report in early 2002.

97. Substantive reports will be generated every six months.

Annex 1 : Incremental Cost Matrix

Activity	Baseline	Alternative	Increment
Set-up and Testing of SANet Marketplaces	There is no network currently in place that aims to holistically facilitate sustainable investment, management, and policy alternatives. Advisory information and some services exist online. Approaches to influencing sustainable technology transfer are fractionated and disorganized, focus on mainstream business, economic, and developmental goals, ignoring global environmental impacts.	Multiple network partners offer tools and services that help to compare economic, technical and financing aspects different technology choices identify showcase cleaner solutions that help to implement GEF's objectives.	Set-up and testing of the marketplaces are to be borne by the GEF. Partner organizations add in-kind support and revenue towards developing self-sufficiency is generated by network services. The GEF share of the operations budget declines as the network becomes self-supporting over five to seven years.
Costs	\$1,274,000	\$2,334,000	\$1,060,000
Set-up and testing of the Decision Support Facility (DSF)	There is no facility currently in place that aims to facilitate the wholesale acquisition of sustainable technology alternatives. Some financing is available for specific technologies or for pilot projects through the efforts	Matching funds are contingently offered to encourage the consideration of sustainable technology alternatives, administered by the decision support facility. The DSF takes a minority stake in any study, encouraging a firm to seriously consider alternatives. Awards range from \$10k to \$50k depending on	Set-up and testing costs of the DSF are to be borne by the GEF with matching funds being contributed by interested organizations. Funds are disbursed to groups who apply and are qualified, influencing business decisions. The GEF share of the operations budget declines as the

Activity	Baseline	Alternative	Increment
	of international organizations. Pre-investment analysis of alternatives is generally neglected leading to a reliance on traditional technologies.	the project.	network becomes self-supporting over five to seven years.
Costs	\$2,830,000	\$4,790,000	\$1,960,000
Network Facilitation, Management, Outreach, and Fundraising	There is no network currently in place that aims to holistically facilitate sustainable investment, management, and policy alternatives. Consequently, there is little integration between the efforts of different groups active in promoting sustainable technology.	The network will be established with GEF support and will eventually become self-sustaining as financing and revenue replace GEF start-up funds.	Start-up, testing, and expansion costs are to be borne by the GEF. Management of the network is supported by operating partners at the global and regional levels. Outreach is supplemented by the efforts of these groups targeted at their constituent audiences. The GEF share of the operations budget declines as the network becomes self-supporting over five to seven years.
0Costs	\$286,000	\$1,251,000	\$0,965,000
1Total	\$4,390,000	\$8,375,000	\$3,985,000

Costs Summary:	2Baseline	Alternative	Increment
Global Environment Benefits	Efforts to influence the adoption of sustainable technology alternatives are unconnected with no clear focus on achieving global	The SANet unites global, regional, and local organizations to influence business decisions and support the dissemination of clean technology.	GEF funds serve to integrate and focus the existing efforts of many groups, developing a network of individuals, organizations, and information to support the adoption

	environmental benefits.		of clean technology and create benefits for the global environment.
Domestic Environmental Benefits	Efforts to influence the adoption of sustainable technology alternatives are similarly unconnected within countries and regions.	The SANet operates on the regional level, exploits centers of local expertise and best practice, transfers these lessons learned through domestic individuals and organizations, and facilitates the adoption of appropriate technologies.	GEF funds serve to integrate the insular efforts of disparate groups. Investments in clean technology that benefit the global environment have positive local effects.

Annex 2 Logical Framework

	Summary	3Indicators	Means of Verification	External Factors (Assumptions and Risks)
Network Objective	Benefit the global environment in each of the GEF focal areas by improving the adoption of sustainable technologies through the SANet.	<p>Number and quality of on-line and off-line network capacities enhanced and directed to UNEP/GEF goals;</p> <p>Number of stakeholder reached with network services and related communications;</p> <p>Amount of financial resource flows redirected;</p> <p>Nature, quantity, and quality of the global benefits generated.</p>	<p>Partner profile statistics</p> <p>Member profile statistics</p> <p>Project profile statistics</p> <p>Analysis of network activities against the baseline</p>	Acknowledgement by partners that the vision of the SANet is substantive, clear, and compelling.
Outcome	Organizations and individuals linked through the SANet, provide services from awareness to acquisition and support which facilitate the dissemination of sustainable technologies, benefiting the global environment.	<p>Number and volume of investment decisions influenced;</p> <p>Number and volume of clean technology acquisitions facilitated.</p>	Project profile statistics	Failure to attract the sufficient interest of users involved in critical decision making.
Outputs	SANet Portal	<p>Number and quality of network partners and organizational joint-ventures with signed partnership MOUs;</p> <p>Representative distribution of network partners: Regionally and</p>	<p>Partner profile statistics</p> <p>Number of signed MOUs</p>	The expectations and operating guidelines of partnership must be established at the beginning and strictly followed;

		<p>North – South;</p> <p>Increasing resources committed to the SANet by network partners;</p> <p>Number, volume, and duration of site visits per week increasing;</p> <p>Number of specific service requests.</p>	<p>Site user statistics</p> <p>Member profile statistics</p>	<p>Withdrawal of partners results in a less stable structure;</p> <p>Lack of co-funding and revenue results in a net cash flow loss, lengthening the time to reach break - even;</p> <p>Site is accessible and pertinent in developing countries;</p> <p>Outreach strategy and partners create user volume.</p>
	Networking	<p>Number and quality of stakeholder communications, policy dialogues and market development alliances facilitated;</p> <p>Nature, quality, and number of delivered networking responses.</p>	<p>Site user statistics</p>	<p>Assume that organizations achieve value added by using the SANet to reach persons and organizations.</p>
	Decision Support Facility	<p>Number and volume of pre - investment studies financed;</p> <p>Number and volume of alternative feasibility studies;</p> <p>Number and volume of technology acquisitions as a result of DSF studies.</p>	<p>Project profile statistics</p> <p>Cash flow analysis</p>	<p>Assume an influx of good project proposals and the ability to effectively distribute resources without “red-tape”.</p>

Activity	Deliverable	External Factors (Assumptions and Risks)
Activity 1 Set Up the SANet Network 1.1 Define relationships with partners 1.2 Document operating mechanisms	Consultation with all partners Signed MOUs Operational handbook of procedures and protocols	Willingness of partners to participate Skills of the team to operationalize the network
Activity 2 Set Up the SANet Portal 2.1 Portal implementation: Integrate content Develop portal and IT framework 2.2 Customize and organize regional support (Regional mirror site set up and translations) 2.3 Coach mirror operators and users	Four (2 technology and 2 cross-cutting) preliminary marketplaces operational in Year 1 Participating regional operating partners	Easy customization of external data Capacity and involvement of southern partners
Activity 3 Establish and Operate the DSF 3.1 Solicit and process DSF application grants 3.2 Issue grants / support feasibility studies 3.3 Provide: Senior executive referral services Short-term counseling	Agreement and operating plan with decision support facility fund manager Instruction materials on how to qualify, access, and use the DSF Weekly processing of grant applications Proof of influence in 10 investments / decisions Creation of 2 clean technology alliances	Ability of the administrator to effectively disburse funds Demand of clients for feasibility study assistance
Activity 4 Sponsor Targeted Dialogues 4.1 Conduct targeted dialogues with key stakeholders	Lessons learned from 4 targeted dialogues in Year 1	Participation of important stakeholders
Activity 5 Administer and Maintain the SANet 5.1 Overall development and management: Negotiate of partner agreements Monitor / report progress and performance 5.2 Coordinate of on-line activities	Fully functioning and expanding network by the end of Year 1 Partnership agreements with new financial sponsors	Complete definition of network administration

	Regular quantitative and qualitative reporting of marketplace and partner performance	
<i>4Activity 6 Conduct Outreach and Marketing</i> 6.1 Develop and implement a outreach strategy 6.2 Conduct annual meeting of the consultative group on technology markets and transfer	Marketing plan Targeted marketing materials Annual partner conference	Participation of partners in marketing efforts

Annex 3 STAP Roster Review

The STAP Roster review is provided as a scanned image file. All recommendations from the review were implemented. This necessitated a substantial reorganisation of the brief with many improvements. The brief can now be found to conform with the guidance provided.

BUSINESS PLAN FOR THE GEF/UNEP SUSTAINABLE ALTERNATIVES NETWORK

(www.SustainableAlternatives.net)

1.0 Introduction to the Sustainable Alternatives Network Business Plan

1.1 Document Purpose

The Sustainable Alternatives Network (SANet) is designed to foster rapid dissemination and acquisition of cleaner technology alternatives to and within developing country markets and to promote adoption of viable business practices consistent with global environmental agreements. As such, SANet responds to corporate Global Environment Facility (GEF) and United Nations Environment Programme (UNEP) demand identified through implementing and executing partners, as well as the multilateral environmental agreements (MEAs) and their subsidiary bodies.

The purpose of this document is to provide a path forward for the implementation of an effective Sustainable Alternatives Network.

To this end, the document provides a description of the SANet, the steps required for implementing it, the estimated costs for implementation, and the estimated costs for operation.

1.2 Structure of the Business Plan

This business plan consists of eight chapters:

Section 1:0 presents the purpose of the document and the project background.

Section 2:0 provides the Intent and Rationale for the Sustainable Alternatives Network, including the vision and goals of the network, the logical framework that supports the network, and the key beneficiaries of the network.

Section 3:0 presents a brief overview of the current sustainable technology situation in developing countries. The current landscape represents the environment in which the network will function.

Section 4:0 describes the Concept of Operations (CONOPS) for the Sustainable Alternatives Network, including a description of the SANet products and services and the governance and logistics required for the operation of the network.

Section 5:0 gives a brief overview of the technical architecture of the Internet portal that will provide the communications and information backbone for the SANet.

Section 6.0 describes the marketing plan that is required for the support of the network as it becomes operational.

Section 7.0 provides the stages to SANet implementation, focusing on the critical first six month period.

Section 8.0 provides financial projections for the network.

The Annexes provide supporting materials.

2.0 GEF/UNEP Sustainable Alternatives Network Intent and Rationale

The Global Environmental Facility (GEF) is a special funding facility managed jointly by the World Bank, United Nations Development Programme (UNDP) and UNEP. The GEF's mandate is to provide co-financing for activities that help protect the global environment, for instance, by facilitating market development for cleaner technologies in developing countries. The GEF will consider providing financial support for market development activities for cleaner technologies that can help to implement the goals and objectives of four International Environmental Agreements:

1. Climate Convention - objective to decrease man-made greenhouse gases in the atmosphere.
2. Biodiversity Convention - objective to protect and enhance biodiversity through wise use of natural resources and ecosystem management.
3. Montreal Protocol on Ozone Depletion - objective to decrease man-made and natural emissions of those gases depleting the ozone layer.
4. Convention on Persistent Organic Pollutants - objective to decrease ten "dangerous" and persistent chemical substances especially in international waters.

In 1998, 36 nations pledged \$2.75 billion to protect the global environment and promote sustainable development.

The Sustainable Alternatives Network is projected to become the communication and coordination link for the global clean technologies community. By linking people, organizations, information, and technologies together in one network, the SANet will play major role in creating global business and trade policy conditions more favorable to the adoption of sustainable technologies in developing countries. In keeping with this strategy, the SANet will be managed from within the GEF/UNEP partnership during the start-up period. After proving the viability of the SANet, alternative, other arrangements —including the possibility of setting up a non-profit entity to manage the SANet — will be explored.

2.1 Vision and Goals for the SANet

The ultimate goal of the Sustainable Alternatives Network is to contribute to the protection of the global environment by facilitating rapid dissemination of sustainable technologies, products, and services that

support holistic implementation of the multilateral environmental agreements.

The goal will be achieved by implementing the SANet vision: to create a network of marketplaces for sustainable technology alternatives. Together, these marketplaces will create a self-sustaining and decentralized communication and decision support system that relates environmental objectives covered by GEF to technologies, markets and stakeholders.

The intention of the SANet is not invent anything new but rather to link together and enhance existing initiatives. Through the marketplace concept, the SANet will provide a framework for the integration of various environmental objectives into a comprehensive package of communication and advisory services for public and private sector. In addition, through strategic allocation of funds to network members and partners, the SANet will strengthen pre-investment activities in the technology acquisition process, helping potential sustainable technology buyers make more informed, more environmentally-aware technology choices. Through the marketplace, the SANet will support a range of members, including civil society stakeholders, who are involved in technology transfer-related decision making.

Tendencies exist to implement closely interrelated environmental objectives and agreements in isolated parallel efforts. By building a network of sustainable technology marketplaces, the SANet intends to catalyze targeted dialogues and partnerships among the various stakeholder groups who influence specific technology markets and determine the playing field for sustainable alternatives in related sectors of the economy. By managing this closer collaboration, the SANet will encourage joint efforts within the clean technologies community to encourage viable markets for cleaner technology options, to improve related regulatory frameworks, to influence sustainable technology buying decisions.

Seeded initially with funds from the GEF, the SANet will evolve toward a self-sustaining situation over time. At the present time, projections are for this additional funding to be a combination of funds already programmed for use in related areas by potential operating partners matched by funds donated by financial sponsors with an interest in promoting the adoption of sustainable technologies.

2.2 The Logical Framework for the SANet

In accordance with UNEP's role and mandate in the GEF networking will focus on information and communication barriers that hamper clean technology transfer and related market development. Analytical work undertaken by the GEF and UNEP has revealed the following information/communication related impediments to the adoption of sustainable technology alternatives:

Lack of awareness concerning the objectives of MEAs and their complex relationship to technology markets in specific sectors of the national, regional and global economies.

Isolated and fragmentary efforts to implement environmental goals that are reflected in different policies, laws and international treaties.

Lack of awareness about sustainable business, technology, product and related regulatory alternatives for specific markets.

Lack of access to customized and comparable technology, market, finance and policy data and related communication/advisory services

Limited alternative business and policy planning capacity and incentives for the exploration of sustainable alternatives.

Difficult access to finance and venture capital for sustainable investment alternatives.

Inadequate regulation and lack of incentives for consideration of cleaner solutions in specific markets.

Lack of communication among different but like-minded public and private stakeholder groups and isolated clean technology market development efforts, little coordination at regional and global levels.

Limited market aggregation efforts and related transaction assistance.

In addressing these barriers the Sustainable Alternatives Network aims to build on existing information, knowledge management and stakeholder communication systems. A review of the lessons offered by public clearing houses and corporate information management systems is providing the basis for this undertaking (see Annex B). Specific attention is being paid to successful web -database, policy, and business portal operations, as well as experience gained under existing Convention Clearinghouses. Reviews of related UNEP activities such as the Global Wind and Solar Resource Assessment, the PV and Fuel Cell Market Assessments have been integrated in the overall analysis.

2.3 Who benefits from the Sustainable Alternatives Network?

The SANet will be successful only if the range of its stakeholders find real value for their organizations through their participation in the network.

This section presents the value propositions that each stakeholder might be expected to realize through association with the SANet. These statements are followed by a set of scenarios that present illustrations of the types of situations through which the value might be realized.

2.3.1 Stakeholders and Value Propositions

Stakeholder	SANet Value Propositions
Technology buyer	<p>?? Access to intermediaries, information, and other stakeholders in the clean technology community.</p> <p>?? Access to incentive funds for pre -investment activities,</p>

	<p>particularly feasibility studies.</p> <p>?? Better decision -making through integrated analysis —the chances of making suboptimal purchases (responding to one MEA with a technology that causes problems in another area) are lessened.</p> <p>?? Potential for form partnerships with other buyers to bargain for more advantageous buying terms.</p>
Intermediaries (consultants, brokers, advisors, as well as industry associations, trade groups, and others who attempt to match buyers and sells in the marketplace.)	<p>?? Support for discussions, dialogues, coalition -building with colleagues.</p> <p>?? Integrated view of the requirements of the MEAs.</p> <p>?? Integrated access to information, services, and products that enhance the ability to acquire sustainable technology.</p>
Product, services, education, and capital providers	<p>?? Easier and earlier identification of customer needs.</p> <p>?? Better access to a wider range of potential customers.</p> <p>?? Help negotiating the trade barriers that might inhibit trading in sustainable technologies.</p>
NGO and IGO operating partners	<p>?? The means to leverage their own mandate into a wider range of users and customers.</p> <p>?? Synergy among a wide diversity of environmental goals and mandates.</p> <p>??</p>
Financial sponsors	<p>?? Ability to target donations directly to the sustainable marketplace and technology of choice.</p> <p>?? Clear measures of</p>
UNEP/GEF	<p>?? The increased acquisition, implementation, and use of sustainable technology.</p> <p>?? Integrated support for the implementation of the Conventions.</p>

2.3.2 Sustainable Alternatives Network Scenarios

The approach used in developing the SANet concept of operations is based on the development of “use” scenarios to provide the bridge between the stakeholders, the SANet requirements, and the SANet design.

First, use scenarios are developed to cover the range of stakeholders, functions, and data that are required for the system. These scenarios try to describe, in simple narrative form, how the SANet will be used by the various stakeholders.

The scenarios contain implied functional and technical requirements that must be supported in the SANet. The use scenarios have been reviewed to

ensure clarity, completeness, comprehensiveness, and consistency. Taken together, they represent the basic functionality of the SANet as it is conceived at the present time. (It is understood that as the SANet team grows and as experience with the SANet grows, that additional uses for the SANet will be defined and will be included in the implementation. This ongoing improvement of the SANet is treated below in the description of the business process required for maintenance and enhancement of the SANet.)

The use scenarios will be used again during the development of the test plan and throughout the testing phase of the SANet (Phase 1 of the Implementation Plan described below). Ability to satisfy the scenarios will be taken as acceptance that the SANet meets the stakeholders' requirements as defined at present.

Scenarios have been grouped according to the technology clusters currently under consideration for the SANet. However, this grouping is for convenience of review only. In fact, in the final SANet, the functionality called for in each of the scenarios below might be attainable in each of the clusters.

Energy Scenario 1

A new user of the Sustainable Alternatives site has identified an energy production technology that appears to be perfect for his particular application in central Africa. He has also discovered that the technology is only available from a manufacturer in the United States. After reviewing the import/export restrictions information available for his country, he is still unsure if he will be able to import the technology.

The user selects the customer service link from the web page banner and submits his specific question. His question is reviewed by customer service staff at Sustainable Alternatives headquarters and then is forwarded to the appropriate import/export partner or regional partner. The Sustainable Alternatives staff use an extensive database of partner qualifications and expertise to direct the question to the right person. Within 24 hours, the new user receives an answer from customer support via e-mail with specific advice for obtaining additional import/export support from a service provider partner.

Scenario 2

2-1. An independent power company that is successfully operating several gas fired stations and a wind farm in South America is interested in expanding business to other regions, possibly based on joint ventures. The CEO's assistant responsible for strategic planning has been asked to search for basic information about the market environment and possible business partners in East and South Asia. Alerted to the UNEP -GEF "sustainable alternatives" portal at a recent congress of her business association, she decides to explore it and enters the energy gateway. In the

menu of information options she detects five categories of immediate interest:

A gate to investor information concerning the energy market situation, current restructuring efforts, and related investment and trade laws in countries with important energy markets,

A directory of local and international consulting firms specializing in clean energy investments,

A gateway to specialized providers of finance/venture capital, export guarantees, etc. who offer incentives and risk sharing for cleaner technology investments,

A sustainable energy investment advisory service operated by a partnership of leading policy and market research institutes which provides direct e-mail/telephone contact to independent expert advice.

2-2. The policy gate provides her with information about the regulatory situation in India, China, and a number of other countries of the region. It draws special attention to incentives for clean energy investments and helps her to find out that India is the only country in the region offering generous tax breaks for renewable energy investments and related technology imports. An e-mail exchange with a leading policy research institute of the region that was facilitated through the gate helps her to get a much better understanding of the somewhat complicated law for IPPs and related PPA frameworks in India.

2-3. After a thorough review of available information, the CEO decides that it should be worthwhile to study the Indian energy market in greater depth, which would require the help of consultants. Through the UNEP - GEF portal his assistant is getting seamless access to available consulting firms that are specialized in the region and offer specific expertise in clean energy investing.

2-3. The selected consultants help the IPP -company to get in touch with possible local investment partners and to customize their investment strategy to available incentives for clean technology investments. As the tax break is most favorable for PV and complemented by a lending option from ADB, which was identified through the portal's clean technology finance gateway, the CEO decides to explore this option further.

2-4. The prospect of gaining a stream of additional revenue through the CDM, which was scrutinized with the portal's cost/benefit comparison tool, is bolstering the CEO's intent to look into PV investment options more closely. A portal advertisement concerning an emerging PV market development coalition draws attention to synergies of PV -Hydro conjunctive applications. The CEO's assistant obtains further information through the PV -hydro site and the associated discussion group.

2-5. Based on the information received the search for local partners is directed to independent hydro station operators. The prospect to procure PV panels at preferential rates and to meet possible business partners

provides sufficient incentives to the CEO to join the next coalition meeting.

Through the coalition the company meets a suitable joint venture partner, risk capital providers and other like-minded stakeholders. Inspired by the coalition meeting the prospective joint venture decides to apply for a contingent grant from the network's pre-investment risk sharing facility to study economic and technical feasibility of a joint investment in distributed PV, which would complement an existing hydro station.

Encouraging study results and risk-sharing incentives offered by the coalition's banking partners lead to the decision to participate in an aggregated procurement effort of the coalition, which is facilitated through the reverse auctioning feature of the portal's procurement engine.

Auctioning results lead to 25% decline in panel prices of immediate orders another 25% are offered for deferred orders.

The joint venture partners decide to cut a deal and to go ahead with further investment planning so that they could benefit from the 50% price drop which was offered for orders with 2 1/2 years deferral.

2-6. Distance learning tools offered through the portal and best practice seminars organized by the coalition facilitator help the joint venture to gain a thorough understanding of all relevant technical, economic and policy issues and to lay the foundation for successful completion of the technology transfer.

Scenario 3

An Asian country's inter-agency task force is concerned about its forecasted growth in the construction industry and the potential implications for required growth in energy demand. The task force agrees that the country ought to design and implement a voluntary program to promote energy efficiency and reduce greenhouse gas emissions in the commercial buildings sector. After accessing SustainableAlternatives.net, it is able to ascertain best practices in policies and measures that have been implemented in other developing countries as well as OECD countries. The task force's work is enriched by the lessons learned from other experiences. Moreover, the leader of the task force is able to exchange e-mail with the node operator who facilitates the start up of a community of best practice for decision-makers concerned with energy efficiency in the commercial building sector.

Scenario 4

Additional energy scenario.

Manufacturing processes/waste management

Scenario 5

A group of investors in Eastern Europe acquire a formerly state-owned pulp and paper plant along a minor river. The plant has suffered from years of neglect and operates with out-of-date machinery. The investors had envisioned a few possibilities for the site that could negate their

potential losses due to inefficient equipment. 1) A gradual retooling effort using new technology that requires fewer chemical processes and less labor and maintenance. 2) Harnessing the river power with mini-hydro units that produce sufficient energy to power the plant. 3) Investigating cogeneration technologies whereby electrical power could be supplementally produced by a new heating facility for the plant. Through selling the excess power produced by the cogeneration facility to the grid, the investors could recoup cash expended on capital improvements.

The investors are made aware of the UNEP-GEF Sustainable Alternatives site through some of their loan providers, a few different privatization and reconstruction / redevelopment banks. They initially search for a consulting firm who could guide the various decision-making processes and regulatory hurdles that complicate the project immensely. While searching the site for consulting services they discover a “manufacturing” home page. On the page they see gateways to “energy” and “process chemical reduction”. Educating themselves about new technologies in the “research” section, they decide that two separate and more focused consulting services are needed. Going back to the consulting services section, they submit RFPs for an engineering firm with experience in energy projects and an international consulting firm with experience in Eastern European regulatory barriers.

Scenario 6

A clothes manufacturer is interested in comparing the cost of alternative sustainable technology for dyeing fabric that will consume less water and produce less waste. However, the plant operator lacks the funds to do a convincing feasibility study. Through the regional operating partner of the SANet, the plant operator is able to put together a request for incentive funds from the Sustainable Alternatives Network. Through the SANet Decision Support Facility, the Network agrees to support the plant operator in conducting this study (a bankable investment study that will assist the operator in his efforts to secure necessary financing once the technology selection is made). The operator is expected to match the financial resources granted by the Network for the feasibility work and business planning.

The Network's contribution would have to be repaid in full if the plant operator decides to invest in the conventional choice in lieu of a bankable alternative justified with Network support. If the operator proceeds with the procurement of the sustainable option, the contribution would be converted into an incentive grant upon completion of the technology acquisition.

Scenario 7

A purchasing agent within a multi-national auto manufacturing corporation has received several mandates from corporate headquarters. He is supposed to:

Apply “design for environment” principles, including the use of environmentally -preferable chemical substitutes whenever possible,

Use local products and services whenever feasible (his factory is in Mexico),

Identify methods for reducing greenhouse gas emissions associated with his processes.

The purchasing agent uses the Sustainable Alternatives homepage to get information on viable chemical substitutes for his processes. Through the Sustainable Alternatives Network, he develops a dialogue with several leading manufacturers in the North, who are willing to share some of their best practices. The chief engineers from the two countries exchange lengthy visits to understand the demands of the various approaches. In the end, the CEO of the northern firm agrees to share best practices with the southern partner. During the visits, the site manager also identifies several methods for reducing his fossil -fuel-related energy usage (e.g., photovoltaics, industrial cogeneration) Next, he uses the interface to quickly zero in on products and services available from Mexican firms. Finally, he uses the request for proposal features of the site to request bids from both local and international product/service providers.

Scenario 8

Additional manufacturing/waste management scenario.

Mobility

Scenario 9

A Latin American government has decided to leapfrog technologies in its transportation sector. Congestion, air -quality related health problems, and an interest in taking some action to control greenhouse gas emissions have all played a part in its decision. It would like to procure a fleet of fuel cell buses for one of its rapidly growing metropolitan areas. A young but up and coming star technical analyst within the Ministry of Transportation has been charged with working with World Bank procurement officials to draft the Terms of Reference for the procurement of the fuel cell buses. The analyst, whose personal Internet homepage is SustainableAlternatives.net, is familiar with the information available through the portal. By contacting suppliers to inquire about the latest product specifications and performance criteria, the analyst is able to put together 80% of the material required for a World Bank formatted Terms of Reference. Most importantly, the analyst has been able to ensure that the specifications reflect current technological performance. The Minister has previously made several statements about not wanting to become a dumping ground for outdated Western technology.

Scenario 10

The City Council is puzzled. Two years ago, the council passed legislation requiring that bus fleet operators acquire new technology, low emission buses. The council expected some delay in achieving the air quality gains

they desired, but now the new buses have been in place for over a year and pollution seems to be increasing rather than decreasing.

The Council member who sponsored the original bill is aware of Sustainable Alternatives. The member arranges a consultation with the regional node operator, who in turn brings in a mobility researcher from the transportation department of a nearby university. After a period of time, the researcher identifies the problem—the clean buses are more expensive, therefore less affordable so that the overall carrying capacity of the city's bus fleet has actually diminished. Instead of riding crowded buses, more folks are riding two-wheel mopeds that are very dirty compared with alternatives. The City Council, through the regional node operator, convenes a group of experts to design a more sustainable solution to the transportation issue, including the design of pedestrian-friendly environments.

Scenario 11

The City Council wants to convert its government fleet vehicles to electric-drive vehicles. While this seems a simple process—research the various suppliers, test the vehicles, put together a request for bid, and so on—the manager of the city transportation group decides on a unique approach. If she can get the managers from the several other cities in the region to make the same decision, together they should be able to command an even better deal from the automobile manufacturers.

The transportation manager contacts the regional node operator of the SANet through the Internet portal. After explaining her ideas, the manager is given the names and e-mail addresses of other SANet members in cities within the region. She is also given the names of contacts at the transportation technology centers in Japan and Holland, where studies on the effectiveness of electric vehicles as fleet vehicles have been conducted and catalogued. The regional node operator agrees to convene a meeting of interested parties to discuss strategies for a consolidated purchase request.

Scenario 12

Additional mobility sector scenario based on consultation (responsive).

Natural resources management

Scenario 13

A coalition of farmers in Brazil are searching for new, higher profit crops that can be grown in thin soil. The crops need to be dense, alleviating the need to clear more forest, they need to have strong root structures to solidify thin soil, they need quick plant to harvest cycles to maximize the growing season before yearly torrential rains, and the crops need to replenish nutrients extracted from the soil.

Using the Sustainable Alternatives portal site, representatives from the farmer's coalition read about new techniques in harvesting a combination of different crops. They also searched "organic agriculture" to learn about the new green revolution in farming that is creating strong profits in the

United States. This information adds a new requirement to the farmers list, crops that are disease and pest resistant which reduce the need for chemical spraying. The coalition ultimately decides to contract with an agricultural consulting firm that searches for new, genetically altered crops and crop combinations which meet the farmer's environmental needs.

Scenario 14

A leading lumber producer in the south is convinced that, although it seems to have a sustained timber yield, it can do more to protect the environment. The nation's resource managers are convinced that the impact of cumulative local decisions is beginning to threaten overall water quality, biodiversity, and other forest resources. The prevailing opinion is that any action that will make a real difference requires the participation and cooperation of many land owners across a large landscape.

Accessing the SANet, the resource managers find up to date studies of the effectiveness of integrated ecosystem management as a best practice for management forest resources. In addition to the studies, the managers find examples of public policies crafted to support the ecosystem approach. Accessing the SANet's Decision Support Facility, the managers receive matching funds to initiate a dialogue among the community of owners who need to agree with and play a role in the switch to a more integrated management approach. Educational resources accessible through the network are used in increasing the awareness of the constituents as to the effects of current practices and the benefits of the more integrated approach.

Scenario 15

A private consortium that manages a series of profitable resort properties in the country also owns large tracts of land along a sensitive stretch of the undeveloped wetlands on the country's less populated southern coast. The consortium's managers have been debating what to do with the undeveloped land for several years, but pressure is mounting from forces within the consortium for them to make a decision.

One school of thought among the managers is that the traditional way is the best. It has worked for years and has never failed to return a sizable profit. In this approach, the wetlands are reengineered to provide a more decisive, and more controllable, relationship of land and water. By building up some of the lowland and digging out some of the sluggish channels, the entire landscape can be made more suitable for summer houses, hotels, and small marinas on a network of canals.

On the other hand, the managers in the other school say, we can work with what is there rather than replacing what is there. They have examples — downloaded from the Sustainable Alternatives Network — of resort development projects that proceeded in an ecosystem sensitive way, making the ecosystem itself the main attraction for tourists. The Consortium board likes the idea of balancing their other investments with a more eco-sensitive approach.

Scenario 16

Add your own natural resources management scenario.

Cross-cutting services

Scenario 17

A consulting firm selling services in strategic planning for helping organizations shift from traditional to renewable resources wants their planning service posted on the GEF/UNEP web site (The GEF/UNEP Sustainable Alternatives Network).

They access the Sustainable Alternatives Network, read through the information provided on the various types of supplier partnerships that are available, and then fill out the online registration form. Once the form has been completed and submitted, Sustainable Alternatives staff review the information and contact the potential supplier to review the appropriateness of the supplier's offerings and to discuss preferred partnering relationships.

Scenario 18

A Californian venture capital fund is keen to set up a new mutual fund/unit trust that will invest in small but growing companies concerned with clean technology in the developing world. One of his former classmates from the Bay Area who works for an environmental consulting firm has recommended that he click on SustainableAlternatives.Net. After accessing the portal, he is able to quickly identify firms in each region of the world, including in the developing world, that are active in the clean technology market. He is able to contact each of the suppliers via e-mail address information provided to begin his investment screening process. Within 3 months, the Global Clean Market Portfolio is available to high-net worth investors. By the end of the year, it has succeeded in raising US\$30 million for niche players in developing countries who would otherwise have limited access to equity finance.

Scenario 19

A professor of Chemical Engineering at the University of Waterloo, Ontario has just started a side-venture to supplement his income earned from academia. Together with his daughter, he has set up an SME that now manufactures a piece of equipment that helps to eliminate greenhouse gas emissions from a particular industrial process. A market assessment by one of the professor's graduate students has helped him realize that the technology has little market potential in Canada because most of this sector's economic activity takes place in South Asia. The recently created Canadian Sustainable Development Technology Fund is a financial sponsor of and advisor to SustainableAlternatives.net. With some facilitation from the node/segment operator and use of the extensive directory listings, the professor's daughter is able to identify potential local manufacturers, sales agents, and licensors of the new technology in each of the key country markets. After discussing financing options with capital providers and reviewing investment tax credits, they conclude that it would be most economically advantageous if a manufacturing plant for

their technology in one of the countries in South Asia and set up licensing arrangements with agents in each of the other countries.

Scenario 20

Add your own cross cutting scenario.

3.0 Current Landscape Analysis

This section describes the results of three background reviews conducted as part of the SANet definition process. These reviews were conducted to help determine the strength of the markets for sustainable technology, where those targets might be most ready for an application such as the SANet, whether other groups are doing something similar to what's being defined here, how trade policy might be influencing technology buying decisions, and a number of related questions.

In order to support the discussion, the text box contains several definitions of terms used in these reports.

The findings in these reports support the general approaches under consideration for the implementation of the SANet. Several key elements seem to emerge as especially critical, however. First, the notion of "appropriate" technology, which is key to the implementation of the MEAs in a well-balanced and fair way is critical. For instance, the SANet must avoid the practice of dumping, in which "optimal" technology is sold into socio-economic situations that do not need "the best" in order to meet their responsibilities.

Endorsement of such a practice will eventually lead to a loss of confidence on

the part of developing countries in the objectivity of the SANet management members. Furthermore, the capacity of a region to absorb the new technology extends down to the individual technology user. Ultimately, the SANet is of no value to GEF/UNEP goals if it does not facilitate the actual use of sustainable technologies on the ground. Therefore, while the trade policy and regional readiness reviews convey important information, each technology acquisition transaction must ensure that this user has the capacity to implement, use, and maintain the technology over time.

DEFINITION OF TERMS

In absence of commonly agreed definitions the following working definitions are proposed to characterize the Sustainable Alternatives Network (SANet) undertaking:

Technologies are the tools (hardware), methods, and practices (know-how) necessary to produce goods or to deliver services in any sector of the economy. Agenda 21 states that these technologies "not just individual technologies, but total systems which include know-how, procedures, goods and services, and equipment as well as organizational and managerial procedures."

Sustainable alternative technologies are environmentally sound technologies that are also appropriate to the particular time, country, and situation, and that offer reduced impact on environmental health than conventional technologies.

Technology acquisition encompasses a broad range of decision making and capacity building processes that result in the procurement, implementation, use and eventual disposition of new/advanced tools and practices in specific markets. Although the supporting and enabling conditions are critical, technology acquisition is, at the heart, a business transaction between a buyer and seller.

Technology adoption capacity is the ability of a particular socio-economic entity (a trade zone, an individual country, a geographical region) to support technology acquisition. Technology adoption capacity may be embedded in business transactions or non-commercial cooperation of private and public entities that influence technology development, adaptation and application.

3.1 Overview: Sustainable Technology Landscape

The Global Environment Facility (GEF) was established in 1991 to forge international cooperation and finance actions to address four critical threats to the global environment:

- ?? Biodiversity Loss,
- ?? Climate Change,
- ?? Degradation of International Waters, and
- ?? Ozone Depletion.

Today, GEF brings together 166 member governments, leading development institutions, the scientific community and a wide spectrum of private sector and non-governmental organizations on behalf of a common global environmental agenda.

These GEF efforts have contributed to the formation of an abundant body of policy, technical, financial, scientific, and regulatory information and cooperative agreements related to the uptake of sustainable technologies. However, while abundant, this information is not easily found nor is it bundled or packaged such as to facilitate implementation of sustainable technologies, particularly as an alternative to more traditional or standard approaches.

SANet will increase the implementation of sustainable technologies by accelerating the awareness of and, more importantly, the use of the information, knowledge and experience that is already available.

3.2 Players in the Market: Summary of the Network Review

3.2.1 Introduction

The Network Review (Annex C) provides a high level understanding of existing network facilities that may facilitate or otherwise influence the GEF/UNEP Sustainable Alternatives Network (SANet). It broadly explores the experiences of, and lessons learned by, other networks and clearinghouses that encourage changes in business and policy decision-making toward GEF goals.

The information developed through this review is used to:

1. Verify the need for and refine the proposed scope of the SANet by identifying missing elements in the current network situation that are critical for implementation of the MEAs.
2. Incorporate lessons learned by the most appropriate of these networks in the design of the SANet.
3. Help identify potential members and partners who share GEF/UNEP values and points of view on sustainable technology and who may be interested and willing to participate in the SANet endeavor.

The key findings of the Network Review are presented in the following sections.

3.2.2 Methodology

The Network Review proceeded in four phases:

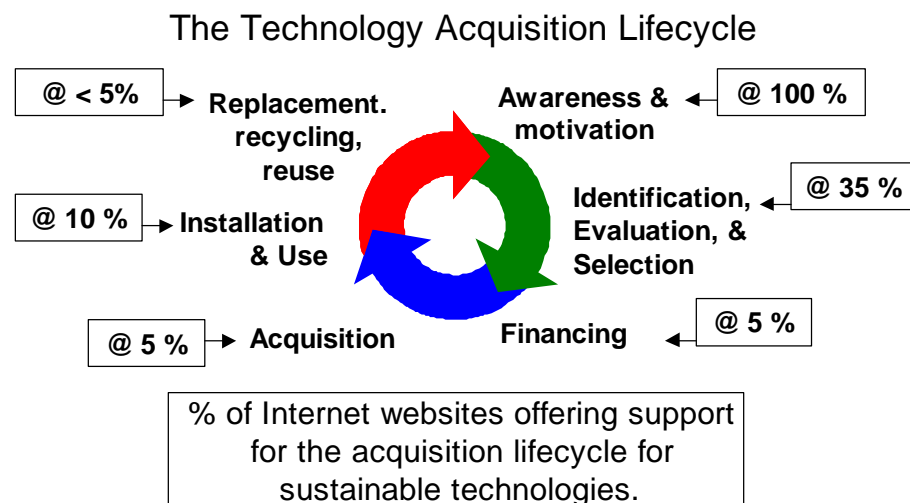
1. A general scan of sites related to sustainable technology identified approximately 1000 sites for review.
2. After basic filtering, 165 of the 1000 received a first-level review of the site's information and services.
3. Certain sites were identified as having great interest and received a second-level review, which included in most cases direct contact with someone responsible for the site.
4. For approximately 30 of the sites, a lessons learned interview (either by phone or in person) that explored the critical factors for site success.

The sites targeted for review addressed energy, natural resources, manufacturing, waste management, mobility and sustainability policies, finances, and practices.

3.2.3 Findings

The Network Review yielded useful information and insights regarding the current status of networks addressing sustainable technologies. Some key findings that bear directly on the formation and structure of SANet include:

- ?? Many valuable databases and related internet sites cover areas relevant to the process of technology transfer but most of the sites focus on the information awareness stage. Few sites allow on-line feasibility work, comparison of different options, provide information on financing or offer the opportunity to acquire on-line (See figure, "The technology



acquisition life cycle.”)

- ?? Even fewer sites provide information that has been customized to the needs of developing country clients, translations into languages other than English are very rare.
- ?? There is a general lack of regional mirror sites in developing countries and the associated help desks and support systems that would complement the on-line sources.
- ?? The digital divide is still a significant barrier in developing countries, however, two key issues are helping overcome the divide. First, the pace of technology is moving so swiftly that many limitations of infrastructure and culture are being overcome on a regular basis, and second, interested developing country partners are finding creative ways around the problem, through intermediaries and other short-term solutions. Rapidly growing numbers of local business associations, intermediaries and commercial internet café's offer internet access even in medium sized cities of Africa.
- ?? Most **public sites** are designed for a broad audience, and not targeted or even marketed to specific decision makers. They are set up in way that suggest the internet would center around them, rather than linking to and offering "added value" to sites that are most frequently visited by specific target groups of decision makers whose technology, policy or management choices they aim to influence (e.g. business to business, e-commerce sites or internets of consulting firms, banks or local intermediaries)
- ?? Most clearing houses focus on scientific and technical information. Market forces and related economic, financing and policy aspects are generally not well recognized as the dominating factor determining actual technology transfer decisions. Public on-line efforts to facilitate commercial transfer of cleaner alternatives between and to developing country markets are still in their infancy.
- ?? Although some of the more advanced and successful public clearing houses, such as UNEP's ozone clearing house system, are complemented by "off-line networks and training activities" these networks normally do not extend beyond traditional boundaries between public and private stakeholders. Facilitation of public-private technology transfer and market development partnerships does not play a significant role so far.
- ?? Most sites of **private companies** are narrowly focused on product marketing and transactions and don't provide information about the environmental impact of offered technologies, or "win/win opportunities" to contribute to the protection of the global environment with specific choices.
- ?? Hardly any site with transaction capacity is geared towards showcasing or promoting new, environmentally sound technologies, products and services.

- ?? Offline activities are complemented by online services. Many of the sites have both offline and online elements. The online activities are used to support the more personalized offline efforts.
- ?? None of the proposed SANet clusters (e.g., Manufacturing and Waste Management, Energy, Natural Resources Management, Mobility) are comprehensively addressed by any of the reviewed sites.
- ?? Capacity building is needed in all sectors.

3.2.4 Summary

There are many sites containing information germane to the evaluation, acquisition, installation and use of sustainable technologies. None of these sites provides a complete solution, nor are the sites well -linked among themselves. Furthermore, with the exception of many of the UNEP - specific sites (and a few other governmental clearinghouses), the sites referencing sustainable technology do not attempt to draw direct linkages to the implementation of the MEAs.

A determined user could find a great deal of valuable information through persistence and effort. However, a service that organized and linked existing sites, and provided intelligent access to the information services stored there would be a positive addition.

3.3 Regional and Regulatory Markets

3.3.1 Introduction

The Regional Markets for manufacturing and waste management, energy, natural resources management, and mobility were assessed to determine their readiness to

- ?? Receive and absorb sustainable technology, and
- ?? Contribute to the process of technology movement and dissemination.

The regions assessed were: OECD, MERCOSUR (South America), Central America, ASEAN (Thailand, Cambodia, Philippines, etc.), South Asia, China, SADC (South Africa, Swaziland, Tanzania, etc.), West, Central, and East Africa, MENA (Middle East and North Africa), and Economies in Transition (EIT).

3.3.2 Methodology

The Regional Readiness Reviews was composed of a detailed evaluation of a representative focal country coupled with a broad regional overview. These assessments included 60 qualitative and quantitative criteria for evaluation. The general criteria categories were:

- ?? Political
- ?? Economic
- ?? Financial
- ?? Environmental

- ?? Energy
- ?? Technical
- ?? Institutional
- ?? Infrastructure.

Three stages of technology transfer readiness were established based on the technology transfer research (see the attending text box.) The stages capture the idea that readiness is a multi-faceted issue. The highest level of readiness requires a fairly cohesive technology and business environment that enables risk-sharing, innovation, entrepreneurial behavior, and a whole range of other supporting activities.

Based on the review of the regions, each focal country was placed into one of the readiness stages for each of the four SANet areas (energy, mobility, manufacturing processes/waste management, and natural resources management.)

Three stages of readiness could be discerned from the literature review. These stages were used to categorize the findings.

Stage 1: Enabling environment creation

At Stage 1, no enablement exists; little technology transfer occurs. Activities might include (i) technical support for governance i.e., policy instruments, regulatory framework, strengthening standards etc., (ii) capacity-building through training and resources, (iii) technical and financial protection of intellectual capital and indigenous technology, (iv) increasing awareness at all levels (industry, government, civil society) (v) identifying technology needs in the focal clusters (vi) and catalyzing regional agreements to enhance cohesion and diffusion of sustainable technologies.

Stage 2: Focused and selective environment enhancement.

At Stage 2, the region offers some level of institutional, technical or financial support, but this is fairly country/region specific. Activities might include: (i) technical and financial support for capacity building that may only specifically be for enforcement / strengthening of standards etc. depending on the local conditions; (ii) institutional support for specific sectors (e.g., SMEs, community based organizations); (iii) partnerships with local institutions; (iv) facilitating additional regional cooperation as required and re-orient existing agreements to integrate elements of sustainability.

Stage 3: Establishment of Network

This is the most evolved stage of the network, which would typically include countries in the OECD region that have well established technology markets. Activities for this stage include: (i) synchronizing and collaborating with institutions towards establishing the Portal; (ii) identifying potential markets for sustainable alternative technologies; (iii) building internal capacity towards better meeting market demand.

3.3.3 Findings

General Observations on Regional Readiness

Drawing from the regional readiness review, an attempt was made to categorize each of the focus countries (and by association, its trade region) into the various stages defined above. This classification represents an expression of the readiness of the region for technology transfer in the sustainable alternative technologies determined to be part of the SANet. It is envisaged that this categorization would influence SANet's strategy, over the long term,

- ?? for prioritization of regional marketplaces,
- ?? for focus on services to be delivered first in the regions,

?? and for resource allocation through the SANet’s decision support facility.

Since regional readiness must influence the success of the technology transfer activity, understanding this component relative to the efforts of the SANet is paramount. However, it must be noted that readiness is not entirely homogenous throughout each region. While the focal country was chosen with care, in the belief that the focal country represents a fair barometer of readiness within the region, the differences between countries because of politics, economy, education, and other factors can be quite large. Therefore, it would be wise for SANet operating partners to review country readiness before undertaking a major effort within a specific region.

The readiness stage of each focal country in the review is summarized in the Table below. In those cases in which the focal country can be taken with some confidence to represent the region, the region’s name is entered along with the country.

	Manufacturing and Waste Management	Energy	Mobility	Natural Resource Management
Stage 1: Need To Create Enabling Conditions	Russia (EIT), Kenya (Central, West and East Africa).	Russia (EIT), Kenya (Central, West and East Africa), Malaysia, South Africa.	India, Russia, China, Kenya (Central, West and East Africa), South Africa (SADC), Egypt	Brazil, Kenya (Central, West and East Africa), South Africa (SADC), Egypt, Malaysia (ASEAN), Russia
Stage 2: Need Selective Improvement Of Conditions	India, China, Egypt, Brazil, South Africa, Malaysia.	India, China, Costa Rica, Brazil, Egypt (MENA).	Malaysia, Costa Rica, Brazil	India, Costa Rica, China
Stage 3: Well-Established Markets And Policies	OECD.	OECD	OECD	OECD (?)

From the table it is apparent that there is significant room for activity within the regions targeted for the SANet, but that the activity may be different for each technology/practice area/region combination.

The following points need to be noted while drawing conclusions from the table:

The focus country presented in the Table is most likely to influence developments in the region, as well as with other regions, because of its political, economic and environmental position. It is also recognized that all the countries in a given region are not at the same level of readiness.

The categorization does not imply that countries within a stage are at a similar level of readiness for a given cluster. For example, countries located in the Stage 2 of a cluster are not necessarily identical in terms of readiness; rather they are in a better position relative to countries in Stage 1 for that cluster.

Within a cluster, countries have core competence in different areas. For example, the natural resource management cluster encompasses not just agriculture but also biodiversity, forestry, sustainable tourism, and so on. Therefore countries categorized in various stages here may be considered as nodes for their specific areas of competence not for the cluster as a whole.

It must be recognized that technology transfer and acquisition may be faster in certain clusters such as manufacturing and waste management, while diffusion may be slow for some clusters such as mobility and natural resource management.

3.3.4 Summary

Regional readiness to absorb the sustainable technology will be a major concern in the success of sustainable technology transfer. The role of the regional operating partners is absolutely critical if the SANet is to bridge the gap between the ideal situation and the real in-country situation.

The review also shows that in many of the regions targeted for attention by the SANet, much of the activity driven by the SANet must focus around the development of enabling conditions. In many cases, the lack of enabling conditions presents a far greater barrier than lack of awareness or lack of funds.

3.4 Trade Policy Review

3.4.1 Introduction

The trade policy review was constructed to look at how trade policy might influence the uptake of sustainable technology alternatives within the regions defined for the SANet.

3.4.2 Methodology

Similar to the methodology in the Regional Readiness Review, the first step in the Trade Policy Review was the selection of a focal country within the regions. Because of the overlap of some data between the two reviews, it was deemed expedient to stay with the same focal country for both reviews.

In place of the criteria established for determining readiness, the trade policy review looked at a number of key areas in which regional and national policies could influence the promotion and transfer of sustainable technologies. The key areas evaluated were:

- ?? Tariffs
- ?? Currency exchange restrictions
- ?? Foreign direct investment policy

- ?? Local content requirements
- ?? Intellectual property rights protection
- ?? Standards and regulations
- ?? Member of trade agreements
- ?? Export or environmental subsidies.

3.4.3 Findings

Observations on Trade Policy Readiness

The evaluation revealed rather conclusively that Trade Policy generally is not a major consideration in the acquisition of sustainable technology. There are, of course, isolated exceptions to this. Moreover, the trends in terms of Trade Policy are favorable.

The most important factors influencing sustainable technology acquisition are the enforcement of environmental requirements and the availability of financing. Some of the other key observations are:

- ?? The trade policies of the non-OECD countries are increasingly open towards Foreign Direct Investment (FDI).
- ?? Local content requirements are highly variable and can be a hindrance to technology acquisition.
- ?? Intellectual Property Rights (IPR) are increasingly recognized and failure to recognize them often inhibits or prevents the acquisition of technology.
- ?? Some regions have strong inter-country sharing and movement of technologies.
- ?? OECD export promotion strategies result in strong flow toward non-OECD regions (this is particularly true for manufacturing and waste management). However, the flow of trade from one developing country to another is increasing and can be a considerable source of less desirable (from a sustainability point of view) technology.

3.5 Direction of the Sustainable Technologies Industry

3.5.1 Status

The market for Sustainable Technologies is diverse geographically and functionally. Sustainable technologies are acquired and used virtually everywhere on earth by very small enterprises up to the very largest, multinational industries. The market benefits enormously from a full range of government and non-government initiatives aimed at increasing the use of sustainable technologies. These involve many players and take many forms. Examples include:

- ?? Extensive international cooperation and cooperative agreements and treaties, including of course the multi-lateral environmental agreements that are of critical concern to GEF/UNEP,

- ?? High-level political attention,
- ?? Facilitation of balanced buyer perception of sustainable technology values and benefits,
- ?? Technology-specific implementation agreements,
- ?? Cost sharing and task-sharing agreements, and
- ?? Stimulation of the creation and promotion of projects using sustainable technologies.

Despite these factors, however, acquisition and implementation of technology is uneven from one country to another and one region to another.

3.5.2 Market Challenge and Response

The challenge of sustainable technology uptake does not yield easily to a single agency, policy, technology, incentive or cooperative agreement. Technical data, financial support, and regulatory, legal and policy information are readily available but they are diffuse and not easily found if the seeker is not already familiar with them.

For example, a traditional lender of capital for an energy project could easily have the perception that a project using sustainable technology might pose higher capital and operating risks. While information refuting this notion is readily available, it is not easily found unless one knows where to look.

The challenge is being met, in part, by three trends. First, larger and relatively resource-rich organizations are able to commit the resources needed to seek out, evaluate, and implement sustainable technologies. These efforts are driven, in part, by governmental regulations mandating environmental protection.

Second, government organizations (particularly UNEP, other UN groups, the World Bank, and others) are gathering and packaging information in virtual clearinghouses that are available to constituents with access to Internet technology. (These organizations also publish their information in hardcopy formats, but once published, such documents become hard to link together internally so that following a single idea from document to document in the hardcopy becomes almost impossible.)

Third, intermediaries are packaging information on technologies, financing, regulations, and so on, and selling these bundled services to smaller individual buyers and firms who lack the resources to perform such work for themselves.

However, even more could be accomplished by the integration of what is already occurring piecemeal throughout the world. This coordination effort has not actualized. Hence, there is a clear opportunity to accelerate the world's uptake of sustainable technologies through SANet.

SANet will link the global players in sustainable technology and make it far easier for them to share their rapidly expanding experiences and knowledge. This will yield a measurable acceleration and increase in the world's use of sustainable technologies.

4.0 Concept of Operations for the Sustainable Alternatives Network

This section presents the basic structures that the Sustainable Alternatives Network uses to organize its operations. The various elements of the structure are required for meeting the agenda outlined in Section 2.0.

These elements include:

The network of stakeholders supported by an Internet portal,

The network of marketplaces,

SANet services and products, and

SANet management and governance structures.

4.1 A Network of Stakeholders and Marketplaces Tied Together By an Internet Portal

The SANet links together the global clean technologies community, whose members all have some interest in facilitating the acquisition and use of sustainable technologies, particularly in developing countries.

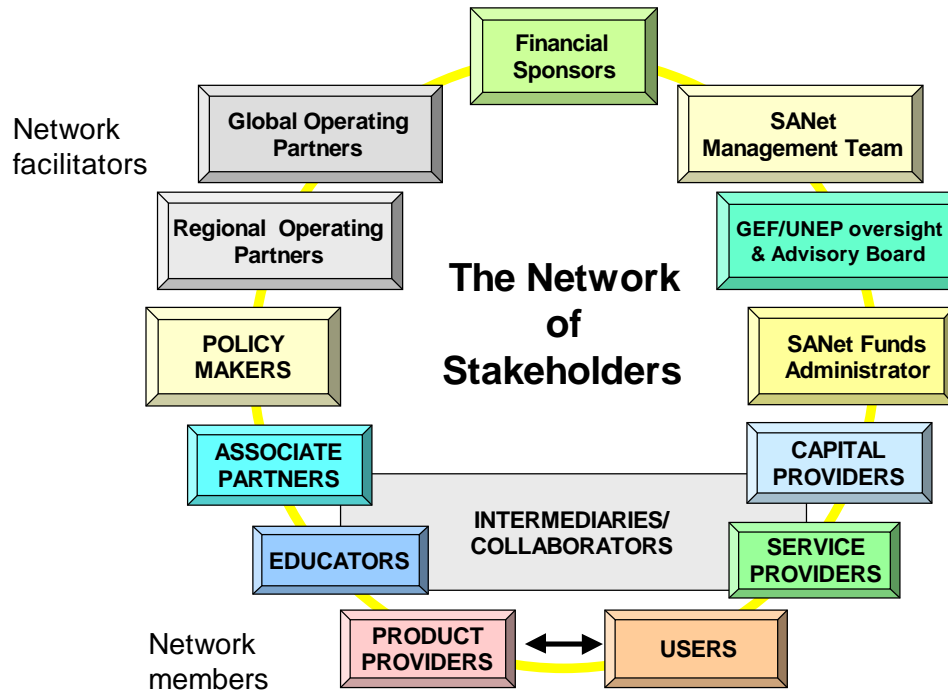
The SANet is actually composed of multiple communities. For instance, communities of operating partners manage the network. Other stakeholders—intermediaries, service providers, financial providers, buyer, and sellers—work together in specific community marketplaces where they compare, buy, and sell goods, exchange news and ideas, and discuss the choices they will make. Regional networks work to increase the receptivity of the particular region to sustainable technologies by influencing policy, developing coalitions, facilitating joint ventures and so on. And a technical community of practice helps to make online resources available to stakeholders over the Internet. Furthermore, all these communities are supported by the technology network that consists of the information, software, and hardware that form the backbone of the Sustainable Alternatives Network portal.

These communities are discussed in the following sections as the SANet 1—the network of stakeholder organizations, SANet 2—the network of marketplaces—and the SANet 3—the technical Internet portal.

4.1.1 SANet 1: A Network of Stakeholder Organizations

SANet 1 is based on the concept of partnership networks espoused in the recent publication, “Critical Choices: The United Nations, Networks, and the Future of Global Governance.”

In SANet 1, stakeholder organizations and other communities of practice are brought together in partnership with the Sustainable Alternatives Management team to conduct activities and transfer information with a focus on increasing the rate at which sustainable technologies can



penetrate technology markets in the developing countries.

The organizations in SANet 1 are responsible for delivering the services and products that supports the network in accomplishing its agenda. The organizations in SANet 1 are responsible for the development of partner relationships, for the management and evolution of the SANet, and for the maintenance of SANet 3 (the Internet portal). The figure “The Network of Stakeholders” shows the major elements of this view of the network.

The capacity of these partners —particularly operating partners, financial sponsors, and intermediaries —to share operating costs and to gradually integrate the network activities into their mainstream operations is expected to assure continued and self-sustaining network operations after about five to seven years of declining GEF co-financing. The various SANet 1 organizations are described in the following sections.

The SANet management team

The SANet management team is responsible for the oversight and management of the SANet as a GEF/UNEP initiative. The team

?? articulates the network vision espoused by the member organizations,

?? solicits and approves new cluster and regional operating partners,

- ?? conducts periodic meetings of network stakeholders to review issues and enhance stakeholder involvement,
- ?? designs the processes and protocols for operating partner performance, service delivery, and funds allocations,
- ?? coordinates the activities the network and monitors the quality of network performance,
- ?? consolidates and disseminates network standards,
- ?? reports on the achievement of network goals and objectives to the SANet advisory groups and other internal and external stakeholders, and
- ?? manages the evolution of the network over time.

The network team ensures that the principles of the SANet (see text box) are implemented through the partnership arrangements that constitute the SANet 1. The management team also provides whatever centralized control is deemed appropriate by the stakeholders to ensure that the direction of the network is consistent with the overall mission for the SANet. This control can be exercised through services definition, process and procedure protocols, the technical architecture of the portal, quality standards, policies, portal metadata, and so on.

The intent of SANet designers is to keep the management team to as small a group of staff as possible. This approach will ensure that the maximum percentage of funds can be directed to activities that will build support for sustainable technologies. The eventual number of permanent staff in the management team has not yet been determined and will not be ascertained until at least the end of the second year of the Network's development (see management and staffing below). However, in order to provide the governance required for smooth coordination of network activities, the SANet management team will provide at least *network coordination functions* (standards, logistical support, performance monitoring, operating partner enrollment and so on) *technical administration functions* (maintenance, quality, and evolution of the Internet portal).

<p>Sustainable Alternatives Network Operating Principles</p> <ol style="list-style-type: none"> 1. Do not create new structures. Work with what exists—do not compete. Integrate, consolidate and assist in decision oriented customization. 2. Help to enhance available partner services with focus on UNEP/GEF objectives. 3. Design to influence technology transfer decisions (<i>Previous: Design to influence private sector decisions</i>). 4. Focus on activities that influence technology trade/investments as core transaction (<i>Previous: Focus on B2B as core transaction</i>). 5. Help to build networks, institutional partnerships and joint ventures between
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Global and regional operators.

Operating partners are leading entities in one or more of the SANet marketplaces. These partners are already specializing in the provision of

information, the development of policy, the delivery of market analysis, advisory services, and other services aimed at improving the spread of sustainable technology.

At the global level, operating partner from OECD countries, developing countries, and intergovernmental agencies (UN, World Bank, etc.) may be teamed to operate specific global marketplaces. By working with these partners, the SANet management team can work to implement the first operating principle, “Do not create new structures.”

By assuming a role within the Sustainable Alternatives Network, these partner organizations are able to extend the benefits provided by their own efforts by tying these efforts into the other activities provided by the sustainable alternatives network community. In addition, the practice of teaming the operating partners will also match organizations with similar profiles in north and south, thus enabling capacity building, know-how transfer and establishment of a network of regional operating centers.

These operating partners take the lead in ensuring that each marketplace can deliver the array of services described below. As part of the distributed SANet, the operating partners will provide communication tools, advisory services, and incentives to key players engaged in or directly influencing specific practice area marketplaces. The operating partners will ensure that appropriate regional partners are enlisted to help deliver services within each region.

This partnering arrangement is also necessitated by the financing approach underlying the Sustainable Alternatives Network. While the GEF will provide the seed money for the establishment of the network, the eventual goal is to make the network self-sustaining through funds provided by the partnering organizations, supplemented by contributions from a range of financial sponsors.

Based on operating partner roles, good candidates for operating partner will already have carved out an area within their technology cluster in which they have taken responsibility for consolidating resources, increasing communication among cluster stakeholders, developing training and education programs, coordinating and sponsoring pilot projects, encouraging political and regulatory involvement, and conducting other activities and services upon which the SANet can build. They should display an excellent knowledge of the cluster landscape, including the players and technologies within it.

These operator partners —for the most part made up of other UNEP divisions, intergovernmental groups, NGOs, and industry associations— contribute to the SANet in several ways.

First, global operating partners participate in a decision-making capacity with the SANet management team in setting direction and overseeing the evolution of the network.

Second, the global operators have responsibility for maintaining the currency of their marketplace, including the maintenance of all other partner relationships within the marketplace.

Third, as the key representatives for their cluster, they must continuously survey the landscape to maintain a current understanding of the state-of-the-art in the technologies, providers, and regional regulatory status within their marketplace.

Fourth, marketplace operators are responsible for the management of the regional operators and network members that fall within their marketplace. In this function, global operators must collaborate across the network since regional operators and network members may span marketplaces.

Fifth, through their identification, marketing, and management of potential provider members, global operating partners, in conjunction with their regional partners, must ensure that the fullest range of services is offered to the stakeholders in their marketplace and that these services meet the quality standards established by the SANet management team.

Sixth, in addition to ensuring that appropriate services are provided to stakeholders within the cluster, the cluster operator is also responsible for maintenance of the portion of the SANet Internet portal that supports the marketplace's operations.

Seventh, global partners are expected to contribute funding to the accomplishment of network objectives. The GEF may provide co-financing over initial years, but the expectation is that partners commit to fully integrate joint activities into their core programs within about five years, so that the co-financing can be phased out over time.

The Identification and selection of key operating partners for the major network marketplaces is one of the first items to be decided during the start-up phase of the network following the approval of the Sustainable Alternatives Network concept by the GEF Council. Candidates for these positions have been involved in the initial discussions concerned the network and expressions of interest from a number of these groups are contained in Annex G.

Policy Makers

Policy makers have a role in influencing the shape of technology trade policy, environmental enforcement policies, and other policies that might have an effect on the nurturing and enhancing the readiness of the sustainable technology environment. Clearly, one of the conditions of increased acquisition of sustainable technologies is the increased attention at the policy level to the sanity of choosing sustainable technology over conventional technology.

The SANet can support policy makers in a number of ways: targeted dialogues and education programs; discussion groups among and with

colleagues and technology experts, access to advisory support, updates on the state-of-the-art in a range of marketplaces, and so on.

Financial Sponsors

Financial Sponsors are public and private organizations and individuals who are interested in supporting the SANet undertaking, but do not desire to take an active role in operating the network. These SANet partners work behind the scenes and contribute funds for the sustenance of the network. Financial sponsors are not the only contributors of fund to the SANet (operators and providers will also be contributors). Financial sponsors are only interested in the network insofar as it effectively accomplishes its mission. As long as the SANet achieves the goals it sets for itself, the financial sponsors would allow the current arrangements to continue.

GEF/UNEP Management

These partners are largely in the GEF/UNEP family, or closely related to it. They have their own initiatives and mandates, many of which involve Internet portals, clearinghouses, and so on. These partners may also (but not necessarily) be operators and/or providers. The key, however, is to get their political concurrence so that the Sustainable Alternative network is seen as integrated with them.

Key members of this partner group include the GEF executive management team, the head of UNEP and the Director of UNEP's Division of Technology, Industry, and Environment (DTIE), the GEF Council and the Science and Technology Advisory Panel (STAP), among other groups.

Advisory Board

Advisory partners will be selected based on their ability to connect with other persons within the sustainable technology marketplaces, to be political and social sponsors for Sustainable Alternatives, and to provide valuable counsel to the project as it goes forward. Currently, an *Advisory Board* (of seven persons, in the current thinking) is in the process of being formed to provide strategic direction. Representatives of the Advisory Board are being sought from industry, government, and inter-governmental organizations with experience in networks and e-business strategy.

SANet Funds Administrator

This is a critical function within the SANet, since a large portion of the SANet method is in distribution of funds through the Decision Support Facility, the facility manager is key to ensuring that funds are spent according to the rules established by the SANet management team.

Basically, funds to support SANet activities are available from four sources: the GEF, which is providing the seed capital for the network; financial sponsors, whose contributions will substantially replace the GEF's capital contributions over time; partner in-kind expenditures, to be managed by the partners in execution of their own mandates, which represents that portion of the partner's budget that can be used to more

effective advantage through association with the SANet; and member contributions (see figure “Sources of Funding” in Section 4.3).

The SANet funds administrator is the group that develops grant proposals, enacts transactions with SANet clients, oversees the dispersal of all funds (except for those assigned directly to the SANet management team) and in general functions as the SANet’s contractual and financial execution arm. To some extent, in this role, the SANet funds administrator is the embodiment of the Decision Support Facility.

INTERMEDIARIES

Technology acquisition often results from the pre-investment activities of deal-makers, business planners, technology experts, financiers, policy-makers, researchers, and a host of other stakeholders who play roles as *intermediaries* between the potential technology buyer and the various vendors and other providers within the specific practice area marketplace. These intermediaries are extremely critical to the success of the SANet, and in fact can be considered a primary user of the SANet services.

These intermediaries can take almost any organizational form — independent consultants, NGOs, multidimensional, global corporations. For the purposes of this business plan, we describe associate partners, vendors, capital providers, service providers, and educators as intermediaries, understanding that any of these groups, and others, can play the intermediary role.

However, while it is necessary and right to acknowledge the role of the intermediaries, in the end, if this is all the SANet accomplishes, the network will have failed in its ultimate goal, which is the increased acquisition, implementation, and use of sustainable technology in developing countries. Ultimately the transaction between the technology provider and the technology user is the focal concern of SANet activities.

Associate Partners

Associate Partners are groups committed to the support and encouragement of sustainable technology but who have no immediate commercial gain at stake. These intermediaries —academic consortia, regional think tanks, or other NGOs dedicated to supporting sustainable choices—may not have the resources or the desire to play a more involved role in the SANet as operating partners. At the same time, they are committed to the transfer and dissemination of the sustainable technologies, especially in developing countries, although they do not have monetary goals in mind in the same way other SANet members may have (for the provider, net income; for the buyer, return on investment).

Provider Members

In order to provide potential buyers of sustainable technology the range of services required to support the decision-making process, the network must enlist the participation of public/private entities with excellent management track records, and products and services that fit into the scope of services described below.

These provider members will register with the SANet and as a result will have access to SANet services and information. Provider members — particularly service providers — may function as intermediaries in developing, designing, and nurturing specific technology deals. However, since these provider members have an interest in turning a profit, their responsibility in this role to be honest brokers must be carefully guarded.

Provider members include:

Product providers (sellers)—Manufacturers and other vendors of alternative sustainable technologies.

Services providers—Consultants providing advisory services, business planning expertise, feasibility study help, and a wide array of other services.

Educators—Organizations with a mandate to provide training in a range of skills, both technical and managerial, that can support decisions in support of sustainable alternatives.

Capital providers—Sources of financing in support of alternative sustainable technologies.

Different membership rules may apply to each category. Certainly, the responsibilities of each provider will differ depending what is being provided. We also need to have these clearly roles defined in order to have consistent rules to administer for the various provider partners.

Membership entails filling out specific information about the member, agreeing to certain rules and conditions, including the right of the SANet management and operators to help customize member offerings to meet the intention of the SANet.

TECHNOLOGY USER (BUYER)

The technology user (buyer) is the key to ultimate SANet success. Unless buyers implement and actually use the sustainable technologies that are being discussed, planned for, brokered, bought, and implemented through the SANet, the benefits promised to the GEF by SANet managers will not be achieved. We are interested in public/private sector decision makers whose policy, investment and management decisions the network aims to influence, and who will benefit directly from the network services.

Technology users are often supported by intermediaries. This is especially true of many SMEs who rely on their industry associations to provide news, directions, guidance and so on. The importance of these SMEs for increasing the uptake of sustainable technology cannot be underestimated, however, it is clear that SANet's forces can be leveraged across a who range of SMEs by dealing with the industry organization that acts as an intermediary for them. Therefore, the involvement of these industry associations in the SANet marketplaces must be a goal of the marketing/outreach strategy developed for the network.

It is important to reiterate, however, that if all the SANet accomplishes is to contribute to the well-being of the intermediaries—even when the intermediaries are industry associations and not consultants—it will have failed in its purpose. Therefore, even when working through intermediaries, the core focus of the SANet contributions must be on the provider/user transaction. This focus means that over time the technology user must be given the skills and capacity to make technology decisions on their own, within conditions that are more conducive than at present to supporting those decisions.

One final, important note to make here is that technology users cover the span of private and public sector organizations. Municipalities are one of the largest consumers of energy in every society. Therefore, when the managers of the municipality make energy (or waste management or transportation) technology decisions, they are functioning directly in the role of SANet's direct focus. Bringing such public sector decision-makers into the SANet's marketplaces at the right time to influence their decisions will be one of the key success factors for the network.

4.1.2 SANet 2: The Network of Marketplaces

The Marketplace Image

At the heart of the SANet is the marketplace.

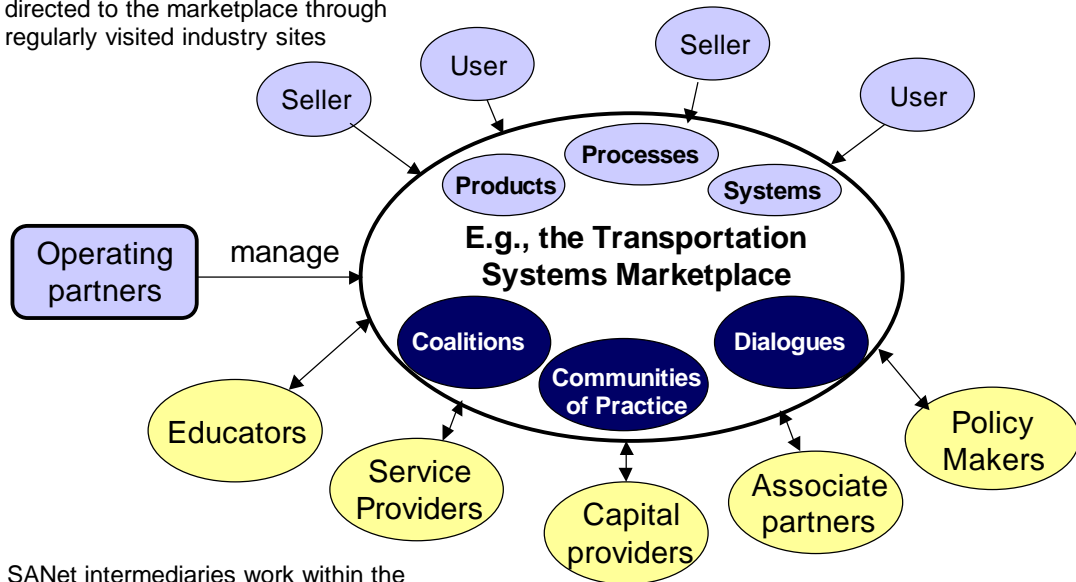
The marketplace is the place where people in a community gather to buy and sell goods, exchange ideas, make deals, share the news, and trade information. The open exchange in the marketplace includes negotiations and collaborations, brokers, sellers, and buyers, goods and services. There are a few rules of commerce that are necessary to govern behaviors—the value of money, rates of exchange, truth in advertising—but much of the activity is self-organizing and spontaneous.

The SANet will attempt to imitate this marketplace idea in virtual space, linking the buyers, sellers, deal-makers, financiers, and other marketplace persons into a community of stakeholders who can gather and share news and other information, analyze buyers' needs, put together deals, negotiate prices and conditions, and so on.

Marketplaces can be of two kinds (at least). The **practice area marketplace** is centered around a specific industry practice area. The **cross-cutting marketplace** develops around a service, set of services, or issue/concern that cuts across all the practice areas. For instance, transportation systems may represent a practice area marketplace while financial services may be a good example of a cross-cutting one.

The virtual marketplace

Product providers and users are directed to the marketplace through regularly visited industry sites



SANet intermediaries work within the marketplace, matching buyers and sellers, making deals, gathering and spreading news and information, etc.

The Figure “The Virtual Marketplace” shows how the marketplace might work. The marketplace is formed about a specific “practice area,” in this case transportation systems.

These practice areas are composed of related activities, services, and products that support a bounded area within a broad industry, for instance transportation systems falls within the larger heading of mobility and in turn can be decomposed further into transportation system planning and transportation system implementation.

Other examples of practice are as might be destination management within the tourism industry; extraction and refining within mining, and generation—on-grid and off-grid—and energy services within the energy industry. The Table “Examples of Potential Practice Area Marketplaces” shows examples of how the four initial proposed clusters of the SANet may be broken into practice area marketplaces. It will be up to the operating partners managing the specific marketplace to determine where the boundaries of each marketplace might be best established.

Examples of Possible Practice Area Marketplaces			
Energy	Manufacturing Processes & Waste Mgmt	Mobility	Management of Natural Resources
Generation	Metal Finishing	Integrated transportation systems	Sustainable tourism
On grid	Cleaning	Planning	Destination mgmt
Off grid	Plating	Implementation	Agribusiness
Distribution	Textile manufacturing	Mass Transit	Food processing
Energy Services	Dying processes	Rail systems operation	Mining
Energy efficiency		Bus fleet operation	Extraction

In addition to the industry -specific marketplaces, the SANet will also establish a series of **cross-cutting marketplaces**. These cross-cutting marketplaces will provide some basic services across the range of industry-related marketplaces.

Financial services, for instance, will be established as a cross-cutting marketplace. Within the financial services marketplace, practitioners will be able to discuss such critical issues as how to find the right projects, how to bridge the gap between technology providers and users, and how to streamline funding formalities, for instance. At the same time, of course, the members of the financial services marketplace are advertising and delivering their services within the other industry-related marketplaces. In addition to financial services, SANet planners are considering cross-cutting marketplaces for policy, MEA implementers, and industry consultants.

One especially important cross-cutting marketplace in the thoughts of several potential SANet members is a marketplace for decision-support tools for better sustainable technology decision-making. One of the barriers to sustainable technology acquisition is the lack of good decision-making capacity on the part of end-users. In the short term, intermediaries can help ameliorate this lack of expertise by providing business planning assistance, feasibility study guidance, and other advisory services. However, in the long run, technology users must learn to make their own decisions, or all the SANet will have accomplished will be the care and feeding of the intermediaries. The cross-cutting marketplace on decision-

support tools can be the place where the tools for decision -making are discussed, traded, and given out to those who need them.

Each marketplace space is managed by a team of operating partners. The operating partners can determine how the marketplace should be bounded. For instance, the Mobility operating partners may set up the Integrated Transportation Systems area to be one marketplace or they may subdivide the area into Planning and Implementation. These decisions will be intuitive to the operating partners managing the various marketplaces.

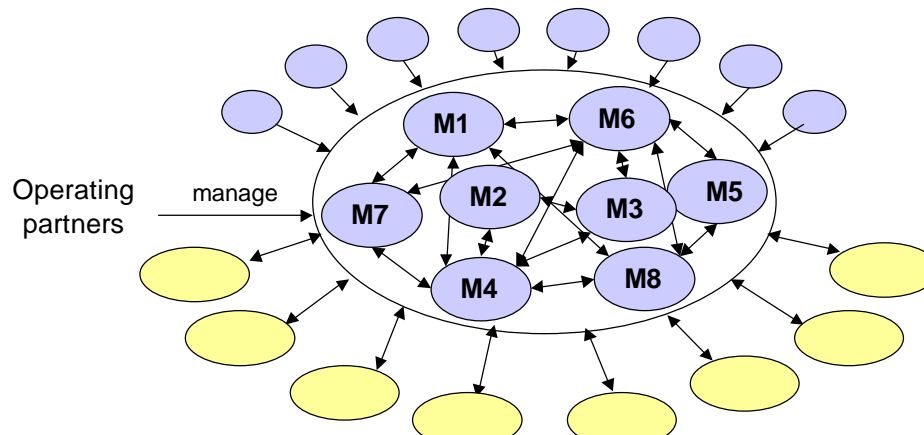
As “The Virtual Marketplace” figure depicts, product providers (sellers) and product users (buyers) can find the virtual marketplace through links established at the most frequently visited industry Internet sites. By establishing these links at the front end, the SANet marketplace operating teams build the electronic pathways necessary to facilitate stakeholder traffic into marketplace. Likewise, intermediaries find their way into the marketplace from a variety of other sites.

Electronic links, while necessary, will not be enough to guarantee an adequate population in the virtual marketplace. As in a real marketplace, the users of the marketplace must eventually reach a critical mass that allows commerce to proceed smoothly and profitably for all those involved. To ensure a population of this size, the teams of operating partners managing the SANet marketplace will have to work with the SANet management team to design and implement an outreach and marketing strategy for each practice area.

Within the marketplace, the practice area stakeholders can also get together for a various of reasons related to the basic transactions within the marketplace. For instance, service providers, policy -makers, and associate partners may get together in coalitions to try to pressure the marketplace into adopting rules and practices that may be more conducive to the exchange of goods within it, perhaps trying to get interest rates modified, or the supply of investment funds increased, or the rules enforcing environmental regulations strengthened.

Similarly, a group of regional partners may sponsor a series of executive dialogues on topics of relating the practice area to the implementation of the MEAs for senior managers of SMEs. The teams of operating partners,

The network of marketplaces



in conjunction with their regional partners, are expected to encourage and support these types of activities as well.

One of the key advantages of the SANet is depicted in the Figure “The Network of Marketplaces.” An observed weakness of the current MEA implementation is that the individual MEAs are individually implemented.

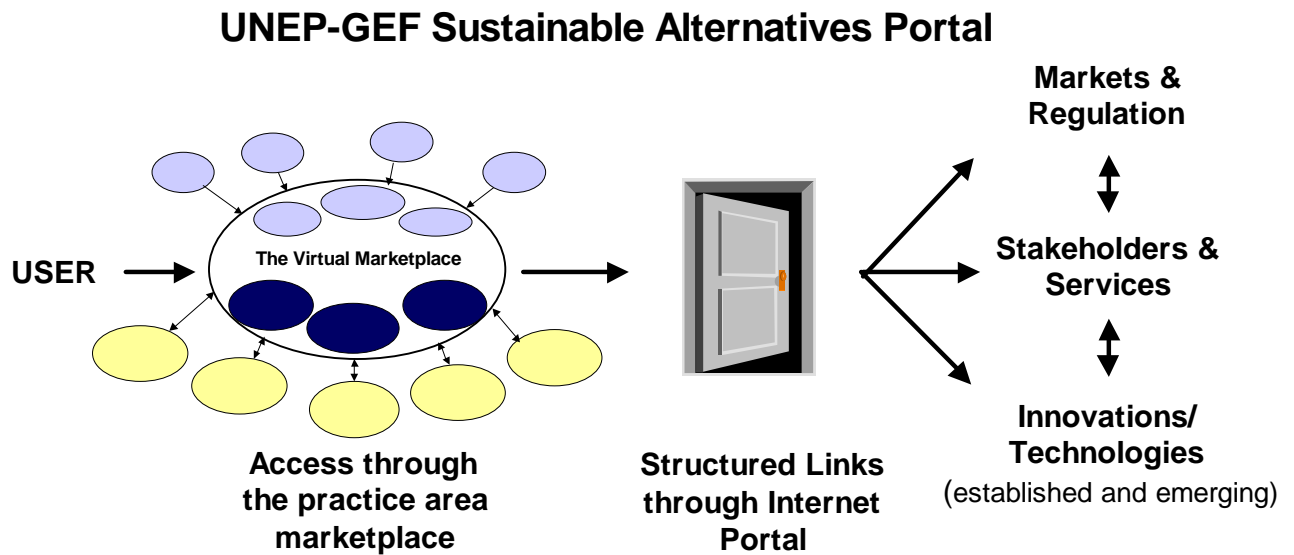
By establishing the virtual market place, the concerns within the practice area can be viewed as a set of integrated needs —energy consumption, waste management, transportation issues and so on are all viewed from the perspective of the practice area.

Then, by linking practice areas, further integration is achieved. It should be possible at this higher level of integration for potential technology buyers to evaluate their options in light of all the MEAs before making a technology purchase decision. This not only has benefits for the individual technology user but also for the partners and members who are involved in supporting MEA implementation.

4.1.3 SANet 3: Internet Portal

The Sustainable Alternatives Internet portal is SANet 3. This Internet - based network portal (backbone) will provide “one stop” access to a wide range of interactive decision support, communication and training tools covering all stages of the technology transfer process.

The portal provides the foundation and support for SANet 1 and SANet 2. It does this by providing the knowledge management structures, information content, links, decision -making tools, collaboration support, and other Internet -based information and communication channels. The figure “UNEP-GEF Sustainable Alternatives Portal” depicts the basic



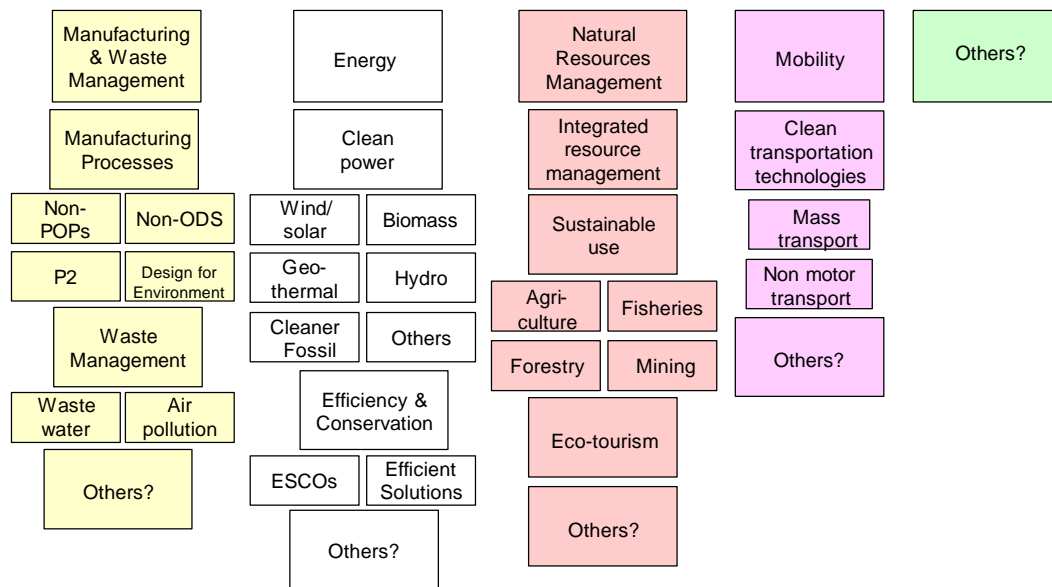
structure of the portal. In this highly simplified depiction, a user of portal services establishes a interaction with the portal through the metaphor of the practice area marketplace (see the discussion above).

Of course, other organizational schemes are also available to the user of SANet's services. Some of the information and services within the marketplace are organized according to the stages of the Technology Acquisition Life Cycle. Through the life cycle, members may directly access the services they are particularly interested in. Additionally, members may request information about the technologies themselves and then move from the technology to the industrial uses.

Another way to access the information and services of the SANet will be through the technology markets themselves. This technology-based classification will allow intermediaries and potential users to access information about specific technologies directly. For instance, if there was a question about photovoltaic cells, the questioner could directly access information on that technology segment. (See the figure "Key SANet Technology Clusters.")

The primary user of the SANet 3 portal is intended to be any stakeholder intermediary involved in helping organizations select sustainable technologies. While we suspect that the most frequent user will be

Key SANet Technology Clusters



intermediaries whose work centers around this issue, we also hope that organizations interested in acquiring sustainable technology will directly access the SANet and conduct their own research. However, every provider member (sellers, capital providers, educators, service providers) can be expected to be a user of network services over the course of time.

4.2 Products and Services on the SANet

4.2.1 Linking the SANet to the GEF/UNEP Focus

A prerequisite for GEF/UNEP involvement in the SANet marketplace is that the potential services offered can be customized to meet the spirit and purpose of the Conventions. SANet activities and services must be focused

so that they are likely to support the GEF/UNEP objective to support the MEAs. The services offered must likely result in decision making changes on the part of SANet stakeholders that will help to protect the global environment through market development for sustainable technology, product, and service alternatives and acquisition and implementation of those technologies.

Therefore, a causal relationship must be established between proposed activities and specific global benefits in least one but desirably several forms, including:

- reduction of GHG emissions ;
- conservation of biodiversity in land and seascapes through sustainable use and integrated management;
- protection of international waters, particularly prevention of pollution by persistent toxic residuals;
- substitution of CFC and other ODS by non toxic ozone and climate friendly alternatives.

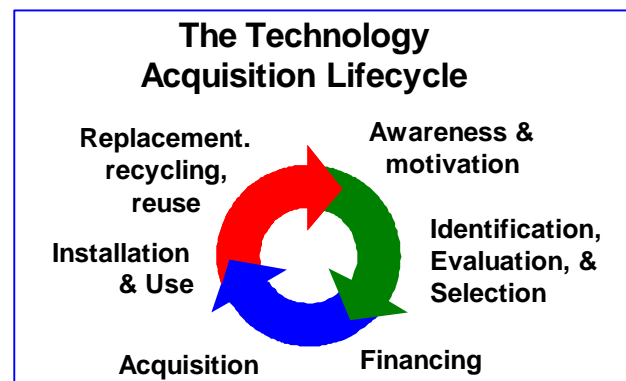
The SANet partners will aid the GEF/UNEP network team in the implementation of activities that influence decision making processes about sustainable alternative technology in developing countries through:

- provision of seamless access to relevant market/economic, financial, technology and policy information;
- delivery of advisory services that help to assess and compare technology;
- investment/financing, management and policy alternatives;
- provision of incentives to alternative investment planning (co-financing of bankable feasibility studies);
- facilitation of targeted stakeholder dialogues to explore and implement specific market development coalitions at regional and global levels;
- best practice seminars (investment, management and policy) , and related distance learning.

The *technology acquisition life cycle* will provide one of the structures that will help to organize the services that provided as part of each SANet marketplace.

4.2.2 Technology Acquisition Life Cycle

The technology acquisition life cycle provides one of the organizing metaphors for the SANet. Within each SANet marketplace, services can be organized according the stages of the life cycle.



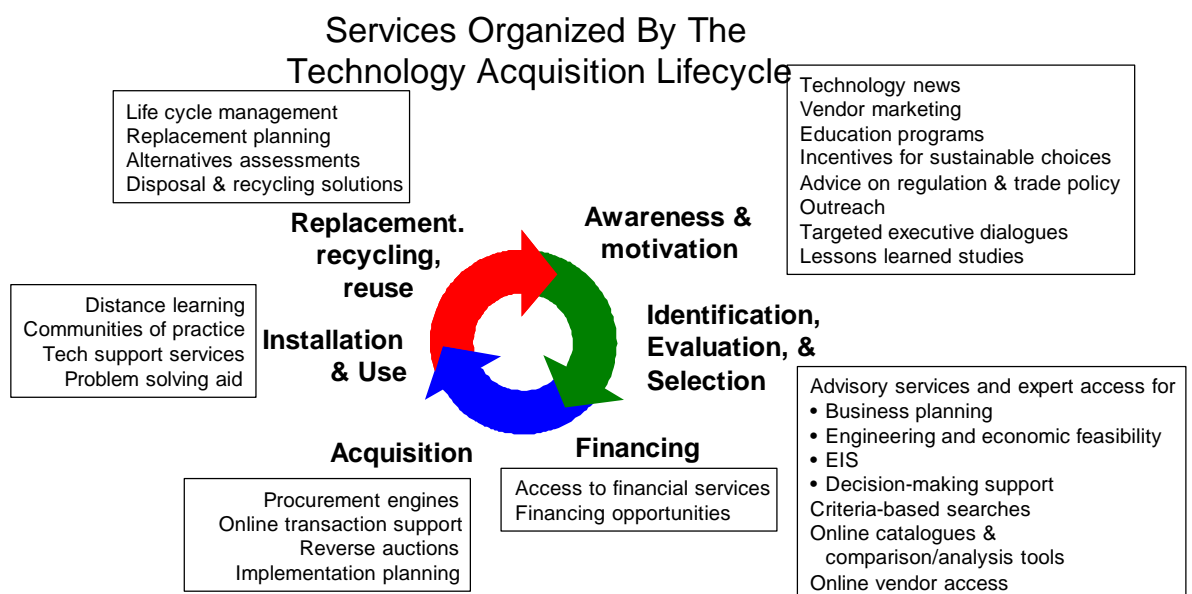
The technology acquisition life cycle is based on research in a number of areas, including innovation diffusion, technology transfer, and technology buying behavior. The six stages of the life cycle —1. Awareness and motivation, 2. Identification, evaluation, and selection, 3. Financing, 4. Acquisition, 5. Installation and use, and 6. Replacement, recycling, and reuse—provide an easy, intuitive way to organize information, tools, and services that are available within the SANet. Furthermore, by using the life cycle within each marketplace, the linkages between marketplace can be more easily made and managed.

In addition to services that apply to the life cycle, however, are other marketplace services that support the members of the marketplace. These services include fostering discussion groups among marketplace members , developing coalitions for the purposes of influencing conditions supporting sustainable alternatives, conducting executive outreach and dialogues and so on. These member support services, reflecting of the social exchanges that take place in any marketplace, are crucial to the ability of the SANet to influence technology decisions on a broad range of issues and industries.

4.2.3 Services for the Sustainable Technology Seller/Buyer

The services to be offered within each SANet marketplace will be stored and ordered according to the Technology Acquisition Life Cycle. Operating partners will attempt to ensure that the services available within each practice area marketplace are well -balanced and transferable with other marketplaces. By using a common organizational scheme for services, the exchange of services among services should be fostered.

The figure “Services Organized by the Technology Acquisition Life Cycle” depicts the various SANet services as they relate to the six life



cycle stages.

Stage 1—Awareness and motivation

Technology information and advisory services.

Distance learning and best practice seminars: Taking into account that the transfer and introduction of cleaner alternatives to newly emerging markets constitutes a learning challenge as much to investment managers as to policy makers the network would provide opportunities for the exchange of good practice and operational lessons as well as for structured learning. Subjects of targeted distance learning offers and related regional seminars may include (subject to revision):

Associated policy databases to provide hands on access to relevant regulatory information, including country specific codes and standards, trade, fiscal and sector laws that may provide incentives or impediments for cleaner technology transfer

Integrated (trade) policy advisory services and links to incentive instruments.

Links to specialized providers of finance, venture capital, export guarantees, performance insurers and leasing companies as well as financial advisory services to complement technical and market information sources

Outreach—targeted executive dialogues and education.

Stage 2—Identification, evaluation, and selection stage

Interactive technology and market assessment tools as well as lifecycle oriented cost/benefit comparison engines that help to showcase cleaner solutions and to enhance market transparency.

Associated on-line advisory services to provide access to research and consulting services of public and private entities that focus on the assessment of clean technologies/investments and their viability prospects in specific markets.

Integrated business planning services.

Technology catalogues and criteria searches.

Online comparisons and analysis engines.

Access to vendors and online experts.

Risk-sharing pre-investment instruments for:

Feasibility studies

Investment appraisals

Business planning

Strategic markets and resource assessments.

Stage 4—Financing

Integrated information services on available financial tools enabling instant access to financial institutes.

Financing opportunities.

Stage 5—Acquisition

Virtual B2B exchange with online marketing/procurement engines for cleaner technologies. B2B, B2G and B2C technology procurement, bidding and reverse auctioning tools to facilitate market aggregation and help to reduce transaction times & costs.

Stage 6—Implementation, Use, and Reuse

On-line communities of practice sharing knowledge and experience with the implementation and operation of specific technologies may round up the portal. These stake holders will help to exchange policy, business and technical lessons learned, assist in problem resolution and disseminate models of best practice.

Miscellaneous Services

A dedicated search tool may enable the screening of bi - and multilateral development co-operation, trade and investment promotion programs for clean technology transfer incentives and risk sharing instruments.

1.4.3.2.4.2.4 The SANet's Decision Support Facility

A major element of the SANet's services will be the Decision Support Facility (DSF). The facility, to be modeled in part on UNEP's Renewable Energy Technologies and Energy Efficiency Investment Advisory Facility (a partnership between UNEP's Energy Programme and its Collaborating Centre on Energy and Environment), will provide assistance to buyer members who are considering the acquisition of sustainable technology. In the majority of cases, the DSF contribution will be matched by funds brought from the member firm, beginning at least with 51% of the total funds required. The basic rule will be that DSF contributions may be up to but will not exceed 49% of the total cost for the activity.

The DSF will support a range of activities related to technology decision - making, including:

- ?? Support for Web -site and service customization to reflect the values of the GEF and UNEP. In some few cases, particularly in the case of organizations in developing countries, the cost of customizing existing information and sites to reflect GEF values may be prohibitive. The DSF can offer small allowances to developing country organizations to aid in this customization and thereby increase the SANet's reach, particularly into the regional level.
- ?? Support for pre -investment feasibility studies. In some cases, anecdotal evidence exists that suggests that feasibility studies have not been undertaken because of lack of funding. In these cases, it became easier for the member to make the conventional decision, because feasibility had already been demonstrated and the financial arguments were

already in place. The DSF will hope to counteract this tendency by making funds available to support such feasibility studies.

- ?? Providing special advice and short-term, targeted counseling and coaching. Although such counseling and coaching activities may only take a few hours, days or weeks -and therefore do not fit into the format of regular projects, they seem to offer intriguing low-cost opportunities to facilitate generation of substantive global environmental benefits. By facilitating informed decision making, they can help to direct pending investment, policy and management decisions to cleaner “win/win” solutions that have a long term impact on the way how natural resources are used.
- ?? Acquiring senior executive technical help. It is expected that from time-to-time the SANet will benefit from the help of senior executives who can offer help in solidifying deals, gaining access to important policy-makers, finding additional financial sponsors, and other activities that could provide significant benefits for the SANet. The DSF will have a small amount of funds to help get these experts onto the SANet team when their help is required.

4.2.5 Other Coalition-Building Support

SANet 1 will provide a host of other services that support and add capacity to the SANet and the SANet’s members and partners. While these services may be partly dependent on the capabilities and baselines of the operating partners, they are critical to the effective use of the SANet marketplaces and to the extension of the influence of SANet partners and members outside the virtual marketplace into the real world.

Some of these services may include:

Facilitation of dialogues between technology developers, manufacturers, traders, deployment industries and their banking/financing partners to enable global market development alliances.

The network will respond to client interests to interact with peers and stakeholders who influence the development of the same/similar technology markets. It may facilitate dialogues and partnerships among relevant public and private entities. Dialogues may include technology developers, manufacturers, traders and users, their financiers as well as regulatory and policy making bodies and NGOs. The purpose of such dialogues may range from exchange of lessons learned to efforts to level the playing field for the transfer of cleaner alternatives in specific regions. Sometimes they may lead to coalitions that bundle various isolated market development efforts regional or global alliances.

While it would be expected that interested stakeholders cover the majority of the costs of these communications, SANet resources may be offered through the DSF to facilitate the process and to enable necessary market assessments and development of intervention

concepts, including market aggregation strategies or policy reform models.

Networking at the node/market segment level that may concentrate on exploration and implementation of market development coalitions for specific technologies and services.

Consultations with members and partners to help keep the SANet on track over time. These consultations may take place periodically at the cluster level to ensure operating partners are working together within the cluster, but they must also take place at the global level where the main topic of focus must be the integration of MEA implementation.

4.3 Governance and Funding

4.3.1 Basic Governance Approach

The Network will function in as decentralized a way as possible. Several organizations will, however, have responsibility for its overall operations and overseeing the basic structure.

The *SANet management team* is responsible for the oversight and management of the network as a GEF/UNEP initiative. The goal is to keep this management team to as small a number as possible. Current thinking is that a team of three (general manager, senior manager, and mid-level administrative staff member) will be sufficient to support the basic operations of the SANet, although the SANet funds administrator and some ongoing, experienced technical and administrative support will be required. The management team will be supported by a group of operating partners working in teams to manage the SANet marketplaces.

The management team determines the basic directions of the network, solicits and approves new global and regional operating partners, reports on the achievement of network goals and objectives to the SANet advisory group, and facilitates all network planning and implementation activities.

The management team ensures that the principles of the network are implemented through its partnership arrangements. The team also provides what centralized control is deemed appropriate and necessary to ensure that the direction of the network remains consistent with the overall GEF/UNEP mission. This control is exercised in a variety of ways, including definition of services, technical architecture, quality standards, policies, and portal metadata, oversight of the DSF, determination of partnering rules and selection of partners, and so on.

The management team is supported by technical and administrative resources. These resources can be in-house or out-sourced, as the occasion dictates.

Technical support is responsible for the implementation and support of the portal, for consolidating online offerings, and for helping with the customization of new members sites. Technical support also maintains the system architecture and can participate in the metadata definition process

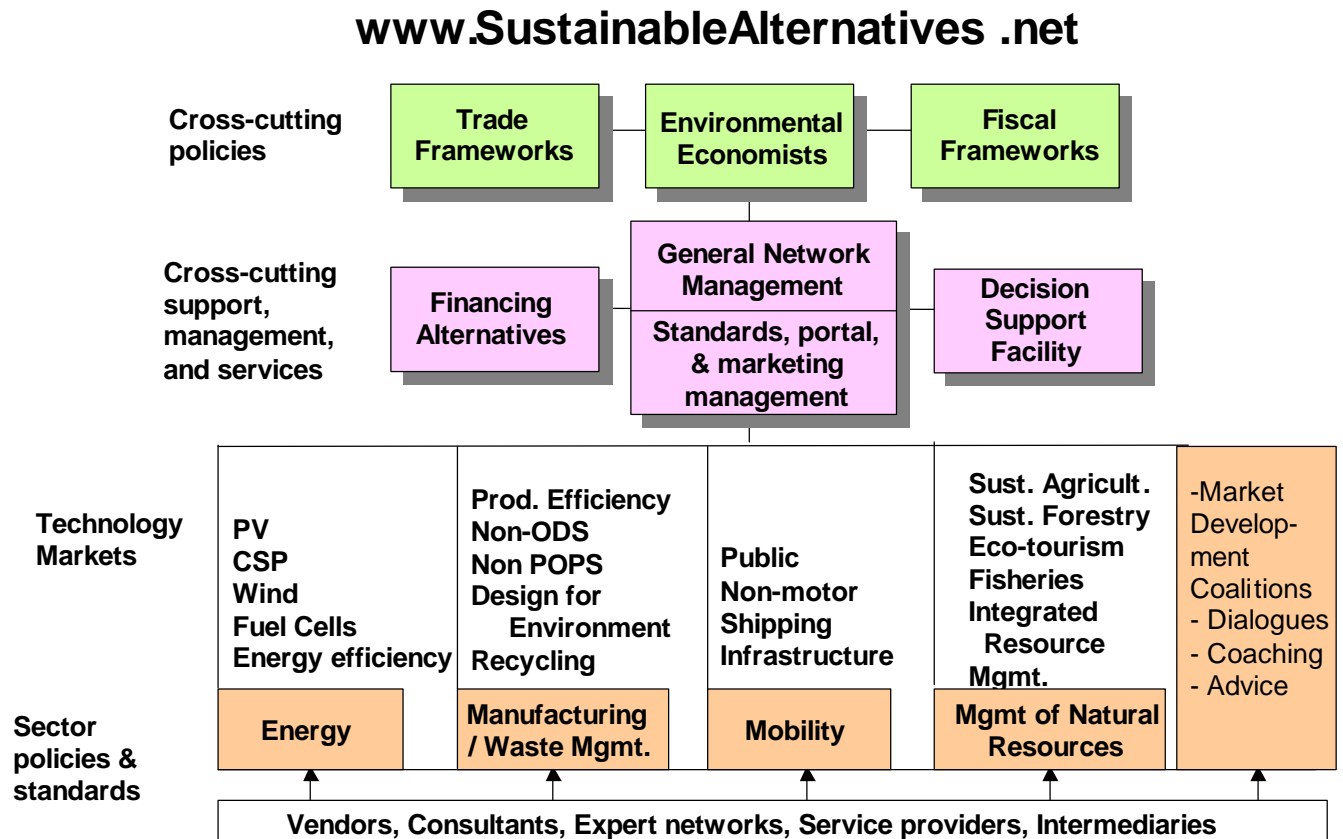
if this exercise is deemed to add appropriate value at some time in the future.

Administrative support is required for the development of protocols, marketing strategy, implementation plans, collection of monitoring data, and other activities. Administrative support is also required for the signing up and validation of new members, for supporting the SANet management team with logistical support, and for managing the day-to-day issues and concerns associated with the network.

A seven member Advisory Board, in the process of being constituted, will provide strategic direction. Representatives of the Advisory Board are being sought from industry, government, and inter-governmental organizations with experience in networks and e-business strategy. Describe how the SANet will work.

The SANet Funds administrator (described above) will be responsible for the distribution of SANet funds through the Decision Support Facility.

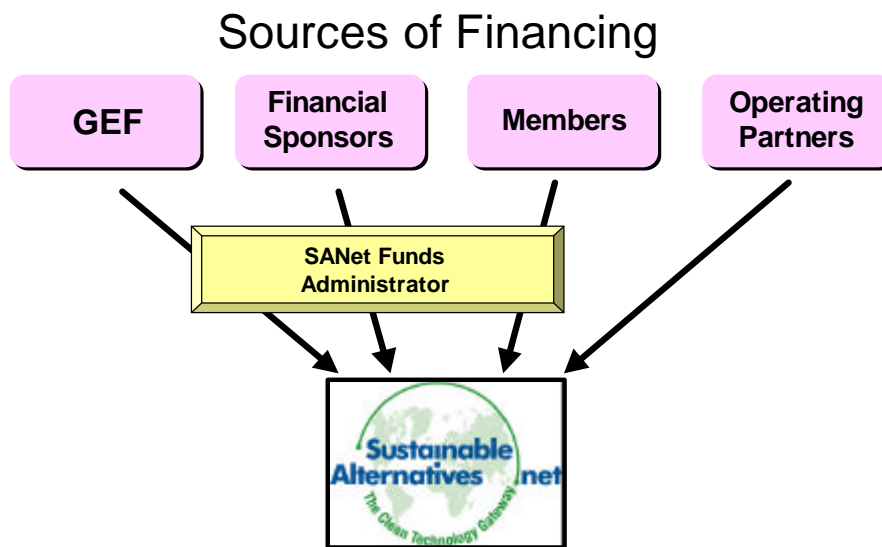
The Figure “www.SustainableAlternatives.net” presents some of the governance relationship as currently conceived.



4.3.2 Funding Sources

Annex C provides the incremental cost build up for the SANet. This section provides some discussion on the sources of those funds. At present, four sources of funding are anticipated for supporting the SANet. The Figure “Sources of Financing” depicts the flow of these funds through into the SANet.

It is expected that the GEF will contribute seed capital to the project. This capital will be sufficient to get the SANet defined and implemented in its pilot phase. Incremental contributions from the GEF will be expected to continue until approximately Year 6 of the project. At that time, the GEF supporting sums will have begun to be replaced by funds from other



sources.

Next, it is expected that financial sponsors will contribute amounts to the SANet that match or exceed the contributions of the GEF. Eventually, these financial sponsors may replace the GEF funds entirely, although at that point the SANet would become a different kind of entity.

This brings up an important point about funding sources in the SANet. One of the values that potential members think the SANet can add is an impartiality when it comes to evaluating and recommending sustainable technology. This value does not necessarily mean that the SANet provide an extensive technology verification program. It does mean, however, that user will want to count on the reliability of the information provided on the SANet, a reliability that derives its being, at least in part, from the objectivity that should come from being a global, governing organization.

Such objectivity is immediately compromised if potential users were to find out, for instance, that a large chemical company made a donation of some significant amount of money into the SANet. It would be hard to

believe that judgements made about that company's technologies could be made objectively. Therefore, sources of funds from partners (the 3rd source) and members (the 4th source) become fairly problematic.

Therefore, SANet managers must err on the side of caution when planning to take direct funds from partners or members. On the other hand, partners are already contributing funds to members of the SANet community in the form of services offered, information gathered and stored on the Internet, and so on.

4.3.3 Business Operations Required for Support

A business process is a sequence of activities that act upon a specified set of inputs and transforms them into a set of outputs. In order to support the SANet over time, a number of business processes are required.

Many of these business processes have already been discussed in other sections of this plan. This section describes the processes that are necessary to identify and enlist partners, manage members, get portal data entered and exchanged, develop and maintain the necessary links with other networks, ensure the quality of the system and SANet services, be responsive to end-users needs, and evolve the SANet over time, among other processes.

Much of the responsibility for these services will initially lie with the SANet management team. Eventually, the services might be out-sourced, either to groups within the GEF/UNEP partnership, to support groups outside GEF/UNEP or even to operating group partners with capacity to provide the necessary services.

SANet Accounting

Accounting for the expenditure of SANet funds will be an important element of the SANet management team's ability to report back meaningful to the network's advisory groups. Questions that pertain in this area include:

- ?? What system needs to be set up for the maintaining of financial records?
- ?? What plan is needed for support of periodic financial analysis?
- ?? Who will maintain the measurements necessary to ensure adequate release of funds as necessary over time?

Insurance

While liability may not be a major concern at present, the SANet will be dealing with a number of issues that brush the liability issue and that therefore raise questions related to insurance, including,

- ?? Is any insurance necessary?
- ?? Are there any liabilities that GEF/UNEP can incur as a result of sponsoring the SANet?
- ?? Does the intellectual capital that we are asking people to contribute to the SANet raise any intellectual property rights issues?

Services Quality and Information Systems Assurance

One of the values -added that the SANet can provide, at least in the minds of some participants in one of our information -gathering workshops, is the objectivity of an impartial judge. It is possible for this attitude to lead to the belief that the SANet seal provides a stamp of approval for technologies and services present on the site.

Similarly, the information within the SANet will only be as good as the people who enter and maintain it. Some element of review must be put in place that will regulate the entry of new information into the SANet, ensuring that the information and links correspond to the SANet objectives.

Questions for this issue include:

- ?? Who will be responsible for monitoring the quality of the organizations providing services to SANet users?
- ?? What rules will be in place to guide quality assurance activities?
- ?? Is technology verification within or outside the reach of the SANet? (Verification presents enormous difficulties. A passive approach to verification would be indicated initially because of the difficulty or establishing an effective system of this type.)

Security

Some level of security must be established for the SANet. These levels will be determined and implemented during the start -up period. However, they must be maintained over time and this will be one of the functions of the technical support group. Questions are:

- ?? What levels of security are required?
- ?? Who are the first users of the SANet and will they have special permissions on the network?
- ?? Who will be the security manager?

Developing SANet Standards

The development of SANet standards will be one way that the technology of a network to become too diffuse is controlled and managed.

Configuration Management

Changes to the SANet portal must be managed over time. Making sure that the current version is always operational may be one of the most difficult services for the SANet to provide, especially because of the current concept that distributes responsibility for the SANet to operating partners. Questions will include:

- ?? Given the pace of change and the type of information we have been exchanging, how much CM is required?
- ?? Who is the configuration manager for the site?
- ?? What CM software, if any, is the one that could help manage this process?

4.3.2 *Technical Operations Requirements*

A number of technical operations requirements will need to be met to support SANet 3, the Internet portal. For the most part, these requirements will be the responsibility of the technical administrator. However, in the decentralized model, multiple partners could be operating platforms that support some of the portal information. Therefore, technical support may be required from other partners as well as the technical administrator.

Technical support requirements include:

- ?? *System administration*: system and software upgrades and integration of the backbone portal with other UNEP and other partner clearinghouses and technical platforms.
- ?? *Backup and recovery*; standard practices for ensuring that system failure does not jeopardize the SANet's ability to provide business value.
- ?? *Disaster recovery*: planning for recovering from more catastrophic damage to the system, again in conjunction with overall SANet planning.
- ?? *Error fixing and general maintenance*: standard attention to changes due to programming errors or requirements mistakes that lead to corrective maintenance.
- ?? *SANet enhancements*: the incorporation of new features based on the requests of users as they work with the GPE.

5.0 Technical Architecture of the SANet

5.1 Overview

The envisioned site architecture for the SANet will consist of two major segments. The first segment will be a business -to-business (B2B) portal site built on Microsoft technology. The second segment will be a peer-to-peer (P2P) tool built on a new P2P platform called Groove, which was produced by Groove Networks Inc.

This chapter describes the two segments of the of the SustainableAlternatives.net system architecture and discusses their relationship to the functional requirements of the site. The chapter contains the following sections:

Functional Requirements of the Site lays out the major functional requirements required to achieve the Sustainable Alternatives Network's business goals.

Site Layout and Functionality provides a summary site map and the relationship of site functions to the various parts of the site.

B2B Portal Site System Architecture provides a summary description of the process used to select our recommended system architecture and summarizes our recommendation.

Peer-to-Peer System Architecture provides a brief summary of the P2P platform strengths and explains the relationship between this architecture and that of the B2B portal.

5.2 Functional Requirements of the Site

Working with UNEP/GEF, a number of user requirements for the SustainableAlternatives.net site have been developed. Seven overarching user requirements have driven the current technology plan. Specifically, the site must:

1. Be database driven (e.g., active server pages [ASP] because of UNEP preference for Microsoft solutions) to allow information to be tailored to the user and ease site maintenance.
2. Be relatively resource and band -width light to accommodate lower -end computer equipment and modem connectivity.
3. Be low maintenance because of limited resources and relatively low revenue potential.
4. Allow for distributed content management.
5. Provide a platform for participants with low IT competencies and/or infrastructure to provide services/products to the network.
6. Be capable of organic growth with minimal advertising requirements.
7. Be able to collect information and “remember” past activity. This will involve placing cookies and storing information about the user activity patterns in a database.

In addition, we have identified a number of functional requirements that are necessary to fulfill all of the goals of the site. These functional requirements and their relationship to the stages of the technology transfer process are presented below in Table 1. This linkage is important because the facilitation of the technology acquisition process is the central goal of the Sustainable Alternatives Network.

Table 1: Functional Requirements of SustainableAlternatives.net

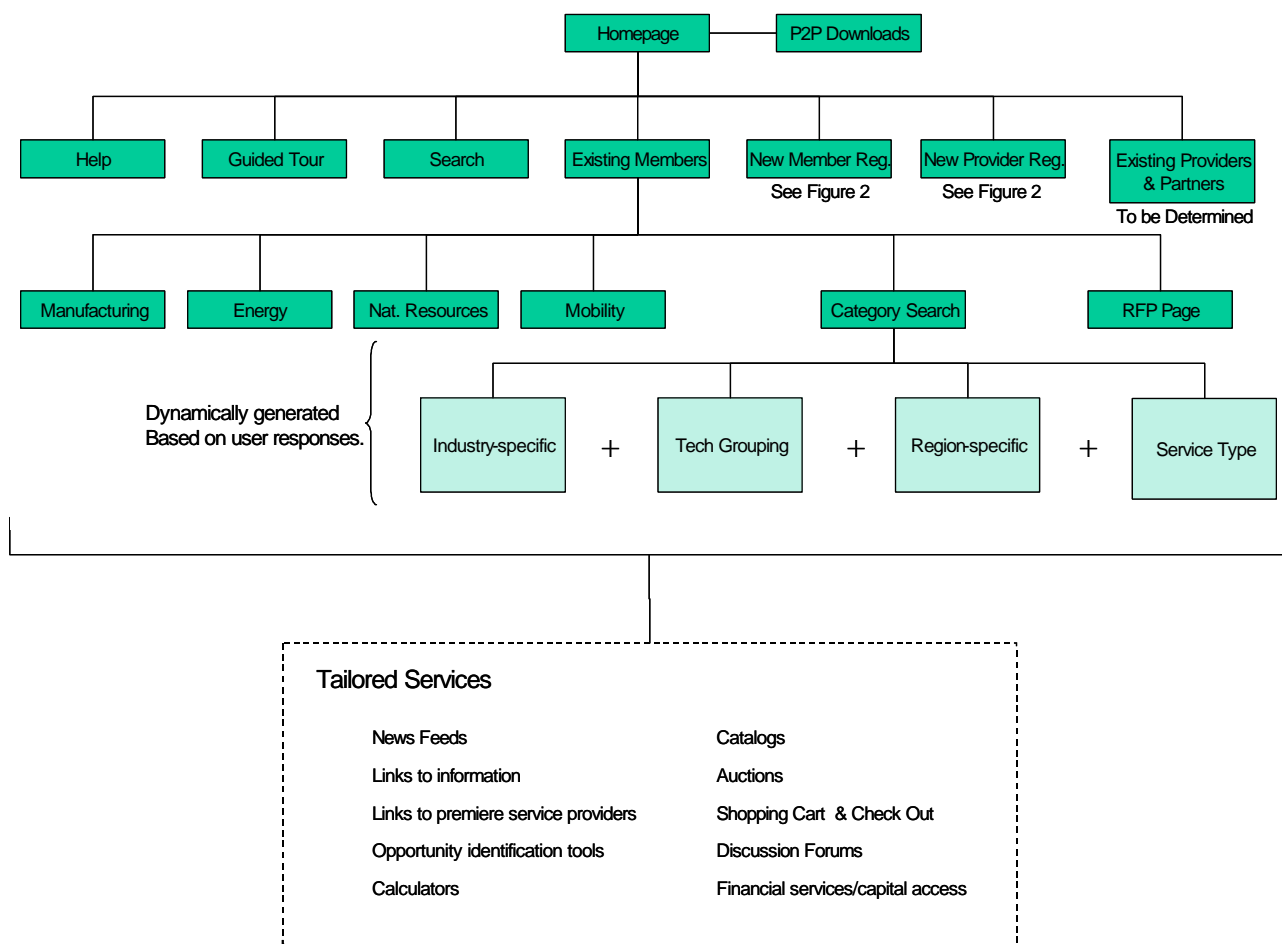
Functional Requirement/Site Feature	Technology Acquisition Life Cycle Stage
News feed or third -party provider of frequently updated information	Awareness
Email distribution lists and newsletters	Awareness
Calculators for selecting preferred technologies	Motivation
Database of case studies relevant to individual industries, technology types, and countries/regions	Motivation
Database of import/export restrictions and other regulatory incentives/disincentives	Motivation
RFP submittal service to get additional help from service providers	Motivation
Keyword search engine (to include P 2P network)	Identification, Evaluation, Selection
Category search (to include P2P network)	Identification, Evaluation, Selection
Possibly direct links into vendor catalogs	Identification, Evaluation, Selection
Additional calculators to assist decision making related to identified technologies	Identification, Evaluation, Selection
Direct access to experts and peers through a peer -to-peer platform	Identification, Evaluation, Selection
RFP submittal service to get additional help from service providers	Identification, Evaluation, Selection
Direct access to experts and peers through a peer -to-peer platform	Identification, Evaluation, Selection
RFP submittal service to get additional help from service providers	Identification, Evaluation, Selection
Access to relevant product vendor catalogs and product offerings	Identification, Evaluation, Selection

Functional Requirement/Site Feature	Technology Acquisition Life Cycle Stage
Discussion group through a traditional site or through a peer-to-peer platform	Feasibility
Benchmarking database	Feasibility
Standard online application that would be filled out once by the applicant and sent to multiple capital lenders (including Sustainable Alternatives Risk Sharing Fund)	Financing
Database of information on special financial incentives available by technology and region	Financing
Links into existing B2B marketplaces	Acquisition
Direct online catalogue sales of services/merchandise through the site	Acquisition
Reverse auction and/or RFP functionality	Acquisition
Facilitation of direct, secure sales linking buyers and sellers. Could include partnerships with: <ul style="list-style-type: none"> ?? Escrow firms, ?? Customs handling firms, ?? Package delivery firms 	Acquisition
Links into existing training sites (if they exist)	Installation/Use
Possible training programs on the site itself (a sustainable technologies distance learning college with content submitted by subject area experts)	Installation/Use
P2P linkages to experts or peers with similar experiences with the specific equipment (i.e., communities of practice, technical support services)	Installation/Use
RFP submission service for obtaining bids from installation providers	Installation/Use

5.3 Site Layout and Functionality

The figure “Proposed Site Map for SustainableAlternatives.net” depicts the major elements of the technical architecture for the SANet portal. The roadmap shows some of the services to be provided by the portal —a search engine, membership and partner registration, category search, and so on. Not all services that will eventually be added to the SANet are yet identified. For instance, two additional services, a news abstract and a conference and events calendar emerged from the consultation workshop conducted as part of this project.

Figure 1: Proposed Site Map for Sustainable Alternatives net

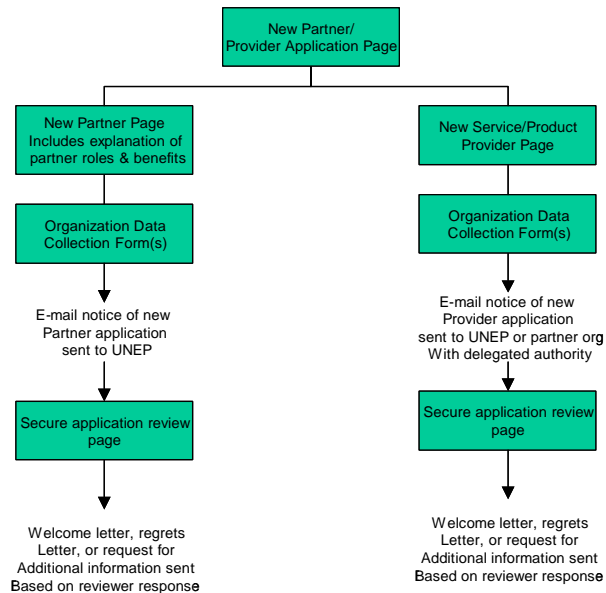


As discussed above, this site will provide personalized content to each user based on the relevant industry, the type of service or product of interest, relevant geographic location, and so on. The information necessary for making the decisions about what is important to each member or partner will be gathered during the initial membership registration.

In this way, the feature described above will be dynamically incorporated into the web site and into the individual member's personal preferences file. Existing members logging into the system will be introduced directly into their marketplace to get the news there, participate in any ongoing decisions, find new information, and contact some specialists for help with specific issues.

In addition to the site features listed in Table 1, a feature that provides additional functionality that facilitates the partner/vendor application and approval process will be built into the site architecture. This feature is presented in Figure 2.

Figure 2: New Partner & Provider Application Processes



5.4 B2B Portal Site System Architecture

Web-based systems are typically divided into several levels, or tiers, that are designed to insulate the various layers of data and business logic from the others and thus provide a higher level of security to the system as a whole.

System platform decisions can be divided into four stages:

1. Selection of a database platform
2. Selection of a platform for programming business logic
3. Selection of an application server
4. Selection of web interface or client features

At each stage of the platform selection process, there are numerous solutions that could be employed. For each of the four tiers, a number of decision criteria are generally applied to determine an optimal system design for a particular web-based application. These include:

Prototyping speed – the ability to get an early version of the system up and running quickly.

Ease of deployment – this includes several factors including the inherent user-friendliness of the platform and the existing hardware/software infrastructure of the organization.

Cost – this should be based on the total cost of ownership, including development, deployment, as well as operation and maintenance costs.

Connectivity – the ability to connect a large number of users to the system simultaneously and efficiently.

Security – the ability to provide robust, data -level or user-level security.

Maintainability – this includes the extent to which the system is compatible with existing infrastructure, is adaptable to future infrastructure changes, and is familiar to the organization’s IT staff.

Reporting capabilities – this refers to the extent to which reporting is integrated into particular platform or the ease with which it can be supplemented using an external reporting solution.

Number of Users – includes both the total number of users and the number of expected concurrent users.

Scalability – the ability of the system to grow and adapt over time as the needs and demands placed on the system increase.

Long-term viability – extent to which the operating system is platform independent (e.g., open source; not tied to a particular software vendors products).

The ultimate system selection decision should weigh these various strengths and weaknesses against the specific system requirements and capabilities of the organization. Taking into consideration all of these factors and UNEP’s use of Microsoft technologies for its existing sites, a system architecture has been selected for the B2B portal that is based on Microsoft technology.

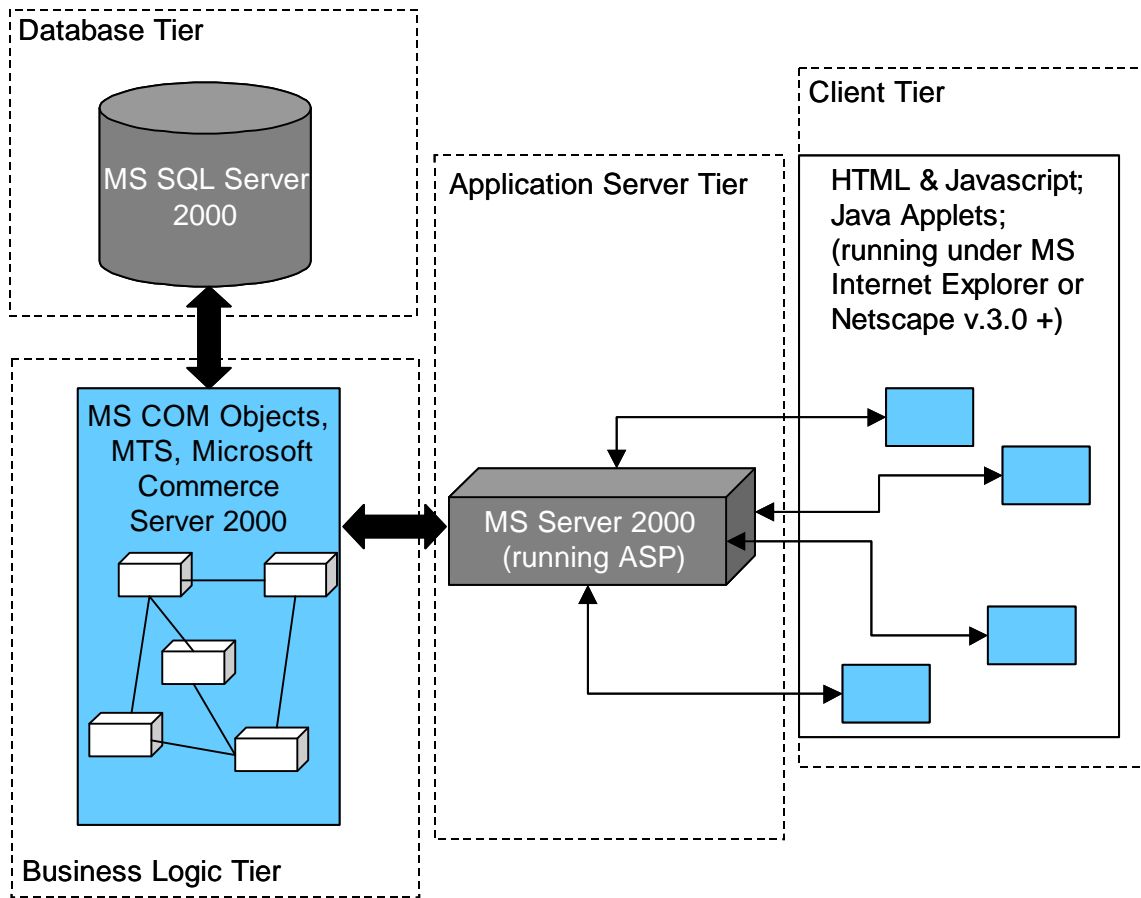
An overview of the proposed system architecture is presented in the figure “Proposed System Architecture for the Sustainable Alternatives.net B2B portal” presents the major components of the system. Because of the anticipated complexity of the system (i.e., providing direct access and content management to multiple vendors and operations partners) a more detailed system design will be required prior to full -scale implementation.

The recommended approach is to use the Microsoft Commerce Server 2000 because it is specifically designed for quickly developing e -commerce sites that provide tailored, rich -content experiences for trading partners and buyers. Much of the business logic that will be required to run SustainableAlternatives.net is contained within Commerce Server out -of-the-box. Additional functionality can be added or adapted much more rapidly than would be the case without Commerce Server.

5.5 Peer-to-Peer System Architecture

In addition to the more traditional B2B portal described above, ICF is proposing to incorporate a peer -to-peer (P2P) element into the overall site architecture. For businesses, a peer -to-peer and peer -to-Web solution can provide secure, online working relationships with key customers and partners, enabling individuals to respond in real time to critical incidents and opportunities, and reduce time -to-decision and time -to-resolution.

ICF has selected a new technology called Groove as the recommended P2P platform for the sustainable Alternatives Network. Groove is based on a peer computing architecture, providing communication among individuals via the Internet without the need for a central server. This decentralized approach to computing gives individuals the control, security and privacy they require, and enables closely -knit groups to collaborate on a broad range of activities within secure, shared virtual spaces, in real -time, or at different times. When integrated with transaction, customer service, sales force automation, knowledge management, or any other centralized business system, Groove adds a “person-to-person interaction layer” that extends far beyond what’s



possible with more traditional web technologies.

The use of the P2P platform has several distinct advantages for an undertaking such as the Sustainable Alternatives Network, particularly as an enhancement to the more traditional B2B site:

- ?? Users communicate directly with other users, without requiring a server
- ?? Reduces reliance on the B2B server infrastructure and availability
- ?? No additional network administration costs incurred

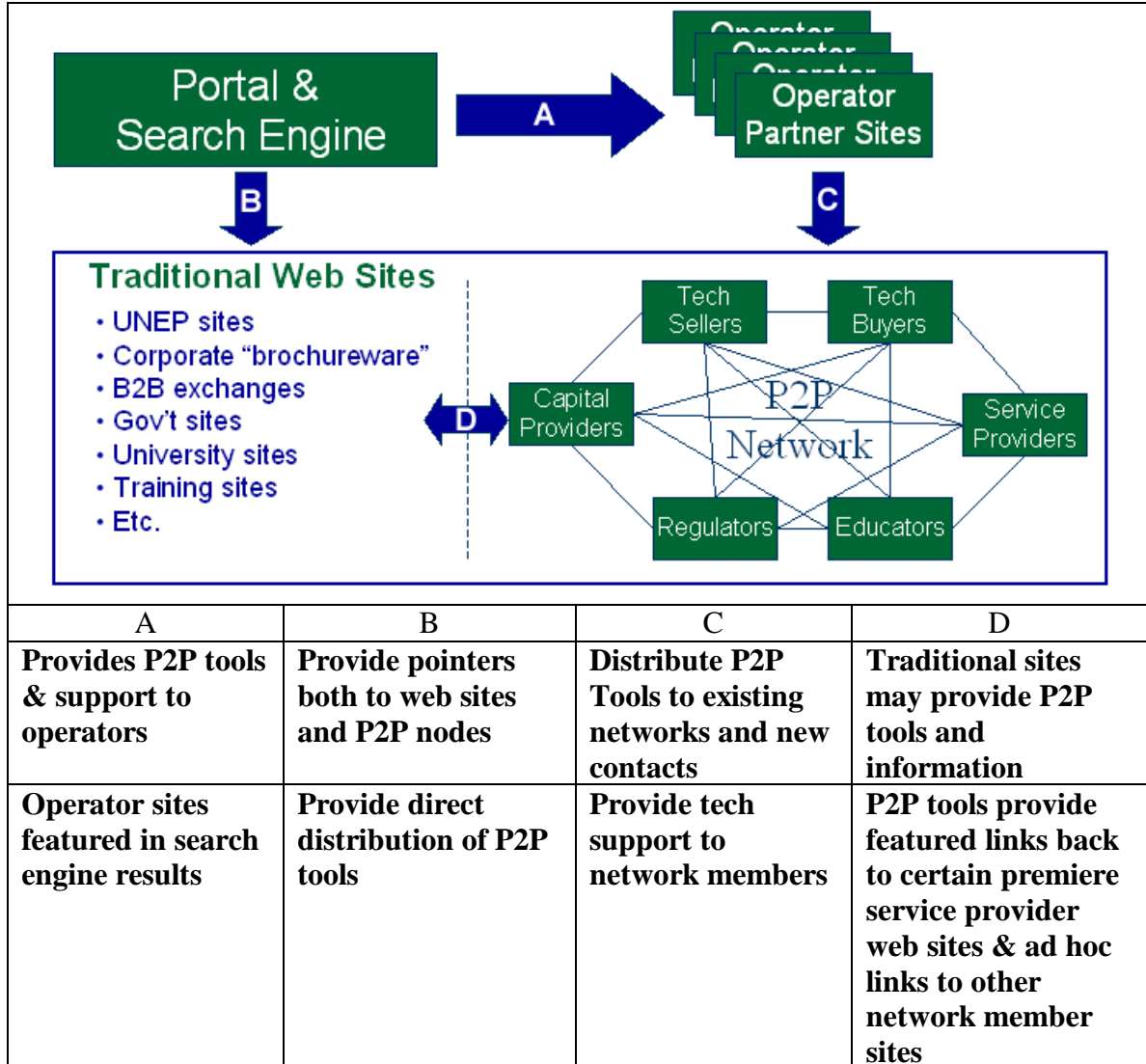
- ?? Facilitates rapid adoption – dispersed organizations can easily and directly interact with each other
- ?? Existing, dispersed networks can be readily drawn together to allow for resource leverage.

The relationship of the P2P network to the network's partner organizations and the traditional B2B site are presented in Figure 4. The utility of the Groove platform can best be understood through the following examples.

Example 1: A company owner in India visits sustainablealternatives.net. He uses the category search features of the B2B portal to identify Indian experts and vendors of clean production technology. The search generates a customized page that provides the business owner with various links to information, partner sites, and vendors. It also generates a list of ongoing discussion groups, seminars, and other P2P activities that may be of interest to him. He is intrigued by the idea of directly collaborating with experts and other business owners, so he downloads the P2P software from the B2B site. Following his discussion with one of the professors on the P2P network, he decides that he should circulate a request for proposal to the numerous experts that he has identified. He follows the link back to sustainablealternatives.net, fills out the RFP creation form, and selects the vendors from whom he wishes to invite bids. When he receives the vendor bids, he quickly identifies the strongest consultant in the region and hires him to begin an opportunity assessment of his facilities. The business owner and the consultant are so pleased with the Sustainable Alternatives P2P platform that they set up a separate private room for meetings and project management activities as the opportunity assessment contract moves forward.

Example 2: A Sustainable Alternatives operating partner in a developing nation posts a downloadable copy of the P2P tools on their own web site. The operating partner (e.g., an agricultural trade association) has a large group of member organizations. These members and others with interests in that region's agricultural market regularly visit the site. While visiting the site, one of the organization's members who is interested in sustainable agricultural alternatives downloads the P2P tools and discovers other like-minded individuals around the world. Also he discovers that he can informally discuss his options with technology experts, consultants, educators, vendors, investors, and implementer/installers. After holding a few direct discussions with members of the P2P network, he learns about the many opportunities available at sustainablealternatives.net. He follows the link to the B2B portal, registers and then purchases several products that were recommended to him during a P2P chat. He is so satisfied with his experience that he provides input into the Sustainable Alternatives benchmarking database so that other visitors to the site can benefit from his experiences.

Figure 4: Relationship of P2P Tools to B2B Portal and Partner Organization Sites



6.0 The SANet Marketing and Outreach Plan

The Marketing Plan provides justification of service demand, market potential, market size, segments and trends. Obviously, in the case of the Sustainable Alternatives Network, the marketing plan will have a number of targets, including: GEF Council and UNEP management, potential financial operating partners, technology buyers, and provider members of all types. Each type of stakeholder will have to have a separate outreach strategy defined for them.

Unless members are attracted to the SANet portal, the SANet will wither. Therefore, a well-thought out marketing strategy is essential. It is not enough for the site to subscribe to various Internet cataloging services. The type of involvement required to make the SANet a success will require a full array of outreach activities.

It is anticipated that the core SANet management group will devise the overall strategy, develop marketing and outreach materials and so on, during the start-up period. The core team will also spur the implementation of the plan. However, it is expected that partners will participate in the marketing and outreach effort, thereby increasing the effectiveness and reach of the activities.

6.1 Target Market

The SANet has a number of target stakeholders:

- ?? Financial sponsors: SANet will need active financial sponsors with an interest in funding activities that lead to the adoption and use of sustainable technologies. Sponsors will want to know where their money is being spent and how effectively it is being employed. Monitoring and feedback systems are key issues for inclusion in marketing materials.
- ?? Operating partners: Key operating partners are required for running the SANet. Early discussions have identified a number of potential teaming partners but during the growth period (Year 2) we anticipate the need to triple the number of partners. Partners will have to see the SANet as adding strength to the partner's own efforts.
- ?? Provider members: Without products and services, the SANet will fold. Attracting the right set of providers is a paramount concern. Providers will want to know how they will profit from their involvement with the SANet.
- ?? User members (buyers): the ultimate user is the buyer. Getting the potential buyer into the marketplace is half the battle. Marketing materials must be geared to get the buyer in to position to buy. Marketing materials may also accentuate the decision-making process, conveying information as well as thinking skills in the marketing materials themselves.

6.2 Competition

The SANet needs to add value to current efforts that exist throughout the sustainable alternative technology community. Competition comes from a number of angles.

First, there are a great number of other government sites about topics closely related to the SANet. Through demonstration, the SANet must show how it is different and the value that it brings, and it must do this in the shortest possible time frame. Otherwise, existing sites will be likely to become competitors rather than contributors.

Second, there are large vendors who can attempt to force their own technology into the developing countries with no intent to oppose the SANet but with no attempt to use it to allow users to compare their technology with another company's.

6.3. Promotion

The marketing strategy developed during the Start-up period will have to answer the following questions:

Describe how the message will be delivered to SANet customers.

What targets and time frames, promotional material, and time lines are required for your advertising campaign.

What advertising and outreach approaches will be used to spread the message of the SANet to its various users? Address these and any additional promotional strategies.

?? Paid advertising: ads, listings, tradeshow.

?? Publicity: media features, reviews.

?? Direct mail: (Consider cost vs. return).

?? Community involvement: (Targeted "volunteerism").

?? Internet related methods.

7.0 SANet implementation

The following implementation plan covers the first two years of the SANet—the Start-up year (Year 1) and the Proof of Concept year (Year 2). The activities in the implementation plan correspond to the line items and costs in the Project Brief and the Incremental Cost Build -UP.

7.1 Phased Implementation Strategy

The SANet will be implemented in three main phases:

Phase I (May 2001 – April 2002): Start Up

Phase II (May 2002 – April 2003): Proof of Concept

Phase III (May 2003 – April 2008): Implementation

7.1.1 Phase I:

In Phase I, the emphasis will be on setting up the core information technology infrastructure for the Internet Portal, designing the procedures for the Decision-Making Facility, and implementing the first phase of the marketing plan to attract users. In the start-up phase, GEF funding would be more than matched by co-financing brought by those with candidate proposals to the DSF. Financial sponsorship would be sought from Foundations and other independent sources of funding.

Key activities and measures in Year 1 include:

1. Articulate and communicate a clear vision for the SANet. The current vision, while effective enough to get the project started, is too diffuse to meet the needs of a sustainable enterprise. We must, through the experience of the first year, be able to focus in on a vision that has a great deal of substance and intuitive appeal.

Measurements of success:

Acknowledgement on the part of members/partners that the vision is clear and can be easily conveyed by them in their marketing efforts for the SANet.

2. Successfully establish several key marketplaces and document the operational mechanics involved in establishing them. The successful marketplace efforts must help to define the rules required for consistent expectations on the part of SANet staff and SANet stakeholders. If the SANet management staff changes expectations and scope on a regular basis, SANet partners will soon get frustrated and leave the project. The rules developed during the establishment of the first marketplaces should be usable in the establishment of future ones.

Measurements of success:

?? Partnership and member rules established and tested (at least 4 marketplace operating teams are in place—two practice areas and two cross-cutting).

?? Traffic volume increasing at the site.

?? MOU agreements established with several partners for key clusters.

3. Establish the Decision Support Facility and prototype the services it will offer, ensuring scalability, usability, and accountability. Integrate the DSF with (or use?) UNOPS Decision Support Facility. By the end of the year, money is passing through the DSF at an increasing pace. Along with the establishment of the DSF and the resolution of the legal arrangements to be made between the funds administrator and the SANet team, the rules for use of the DSF must also be established. At this time it will be necessary to specify the role of the partners in helping locate potential users of the facility and directing them to the facility.

Measurements of success:

?? Arrangements are in place with Decision Support Fund manager.

?? Weekly processing rate of deals is increasing.

?? Instruction materials are in place on the SANet for how to qualify, access, and use the DSF.

4. Get the SANet 3, the Internet Portal, into place and functioning in a number of marketplaces (at least four prototype areas, as well as a number of other administrative support areas, such as the links to the DSF, required for smooth functioning).

Measurements of success:

?? Prototype for at least one of the four prototype market places will include a Convention Negotiation Marketplace: This marketplace must demonstrate we can work effectively with other Convention partners and achieve cross-fertilization among Convention partners.

?? Links have been established with a wide range of members (financial, service, education, and product providers) for each marketplace. Other key stakeholders are involved, including a defined relationship with UNEP.net and other UNEP clearinghouses. Enable market forces to recognize and embrace GEF Values in the ongoing business market - driven business decision -making processes.

?? Potential users can get real time access to information and services.

5. Develop and execute the marketing/outreach strategy.

Measurements:

?? Targeted marketing materials exist.

?? Membership trend is increasing from targeted areas.

6. Resolve key content management issues—quality, certification of members, technology verification, etc.

Measurements:

?? Defined approaches exist for these issues and are available on the SANet.

7.1.2 Phase 2:

Upon verified client demand new clusters may be added to the network in phases II and III while management successful of network nodes would be fully transferred to interested partners. In Phase II, it is expected that some success will be realized from the fund-raising activities designed to obtain funding from independent financial sponsors. Revenue from users is expected to be minimal in this phase but will be important to monitor to demonstrate proof of concept and the business model that will ensure the Network's long-term sustainability.

Key activities and measures in Year 2 include:

7.1.3 Phase 3:

During the third phase, the Network is forecast to achieve break-even point and GEF financing will be phased out completely by the fifth year of operation. During this phase, financial sponsorship and revenue from online users will gradually replaced GEF funding. Technical support and marketing costs required to maintain the Internet Portal infrastructure would decline.

7.2 Risk Considerations for SANet Implementation

Implementing the SANet requires that any cultural or organizational considerations that could be barriers to system success be actively managed. This section discusses some of the major considerations that will influence the completion of the SANet objectives.

Absorptive Capacity of SANet Users

The technical proficiency of the people expected to use the SANet.

Management Commitment

Managers...

Organizational Boundaries

8.0 financial projections: proforma income statement and cash flows, financing needs

8.1 Summary Of Financial Needs

Discuss the approach to funds used

8.2 Pro Forma Cash Flow Statement (Budget)

Reference the Annex

8.3 Four-Year Income Projection

Reference the Annex

8.4 Sustainability Analysis

The sustainability break-even point is the point at which the SANet becomes self-sustaining, that is, the moment when the expenses of the network exactly match the sales/contributions volume. In the case of the SANet it will probably best be expressed in total dollars or revenue exactly offset by total expenses. This analysis can be done either mathematically or graphically. Revenue and expense figures are drawn from the four-year income projection.

Terms of Reference – UNEP/DTIE Project Manager

A Project Manager post at the UNEP Division of Technology Industry and Economics office in Paris will be responsible for the management of the project and report to the Deputy Executive Director, and on a day to day basis to the Director of DTIE with overall guidance from the Executive Coordinator of the UNEP GEF Coordination office.

- ?? During implementation, the UNEP Project Manager will work closely together with GEF's Implementing and executing partners. The project manager's efforts will focus on leveraging existing efforts in the area of sustainable alternative technology instead of duplicating such efforts. The Project Manager will link to and build upon existing global and regional technology transfer and investment promotion programs specifically those mentioned in the Project Document.
- ?? Upon Council approval of this proposal, the Project Manager will finalize negotiations with interested partners to determine specific roles and contributions to the network in accordance with the principles outlined in sections of the Project Document.
- ?? The Project Manager will directly or indirectly (through partners) monitor and manage the ongoing activities of the network partners.
- ?? Taking into account the anticipated large number of small scale transactions (it is estimated that in its initial year the network will establish partnership relations with about 6 organizations and may support up to 6 pre-investment feasibility assessments prior to critical decision making). The Project Manager will supervise the United Nations Office for Project Services (UNOPS) as a strategic management partner and network transaction center.

?? The Project Manager will be responsible for provision of timely reports on the progress of the project to UNEP and the GEF Council as well as the GEF Project Implementation Review, and other M& E activities.

Terms of Reference - Manager Partner Relations

Under the supervision of the Project Manager the Manager for Partner Relations contributes to the implementation of UNEP-GEF Strategic Partnership: Technology Transfer Networks (SANET). More specifically the incumbent will:

Help implement the UNEP -GEF Networks project by:

connecting key public and private sector stakeholder groups who influence technology transfer within, between and to recipient countries

- ~~///~~ facilitating informed technology investment and policy decision making with the view to promote increased market uptake of sustainable alternatives that help to protect the global environment
- ~~///~~ identifying network partners and integrating their services in SANET decision support framework, and managing partner relationships
- ~~///~~ preparing outreach material, progress reports and project documents

Specific activities according to the above functions will include, but not limited to:

- ~~///~~ Reaching out to and co-ordinating with global and regional technology transfer partners/client support centers thus facilitating access to SANET's decision support mechanisms;
- ~~///~~ Directing the customization of existing services to GEF client needs and integrating them into a comprehensive package decision support tools that will be targeted to specific regional needs.
- ~~///~~ Preparing, processing and supervising the implementation of partnership agreements and consulting contracts (MoAs, MoUs, ToR etc.)
- ~~///~~ Monitoring the project accounts
- ~~///~~ Organising necessary coordination meetings and operational dialogues
- ~~///~~ Drafting of progress reports, project documents, brochures and outreach material
- ~~///~~ Outreach to prospective network sponsors and fund raising
- ~~///~~ Monitoring of client needs and development of new SANET products and services

Technology Transfer Networks

Budget in UNEP Format

	2001	2002	2003	Total
	US\$	US\$	US \$	US \$
10 PROJECT PERSONNEL COMPONENT				
1100 Project Personnel Title Grade				
w/m				
1101 Project Manager	80,000	180,000	100,000	360,000
1102 On Line Coordinator	40,000	110,000	50,000	200,000
1198 Prior years' adjustment	0	0	0	0
1199 Total	120,000	290,000	150,000	560,000
1200 Consultants (Description of activity/service) w/m				
1201 Outreach / mobilisati on	30,000	30,000	30,000	90,000
1298 Prior years' adjustment	0	0	0	0
1299 Total	30,000	30,000	30,000	90,000
1300 Administrative support				
1301 Admin support	30,000	60,000	30,000	120,000
1398 Prior years' adjustment	0	0	0	0
1399 Total	30,000	60,000	30,000	120,000
1600 Travel on official business				
1601 Project Personnel travel	55,000	85,000	55,000	195,000
1698 Prior years' adjustment	0	0	0	0
1699 Total	55,000	85,000	55,000	195,000
1999 Component Total	235,000	465,000	265,000	965,000

20 SUB CONTRACT COMPONENT

2100 Sub-contracts (cooperating agencies)				
2101 UNOPS Decision Support Facility	450,000	840,000	670,000	1,960,000
2198 Prior years' adjustment	0	0	0	0
2199 Total	450,000	840,000	670,000	1,960,000
2200 Sub-contracts (supporting organizations)				
2201 Portal implementation	160,000	180,000	40,000	380,000
2202 Tech Support	25,000	40,000	40,000	105,000
2203 Regional Support & Maintenance	97,000	212,000	144,000	453,000
2298 Prior years' adjustment	0	0	0	0

2299 Total	282,000	432,000	224,000	938,000
2300 Sub-contracts				
2301 Consultants	49,000	50,000	23,000	122,000
2398 Prior years' adjustment	0	0	0	0
2399 Total	49,000	50,000	23,000	122,000
2999 Component Total	781,000	1,322,000	917,000	3,020,000
99 GRAND TOTAL	1,016,000	1,787,000	1,182,000	3,985,000