

**NATIONAL ADVISORY COUNCIL ON INNOVATION
(NACI)**

***CORPORATE BUSINESS PLAN
2004***



INNOVATION FOR A BETTER FUTURE

NATIONAL ADVISORY COUNCIL ON INNOVATION

CORPORATE BUSINESS PLAN

2004

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INNOVATION FOR A BETTER FUTURE

FOREWORD

BELIEVE IN INNOVATION

The National Advisory Council on Innovation (NACI) approved this corporate business plan as its business framework for 2004 at its meeting on 26 February 2004. This corporate business plan represents an operationalisation of the Council's strategic plan (i.e. a governance plan), but it does not specify the ground plans of individual projects and initiatives (i.e. management plans). It is important to acknowledge that we are executing our statutory mandate in a dynamic environment that may from time to time require us to adjust its course – which we will do, if and when necessary.

Basic co-ordinates and plotting the course

One of the first substantive outputs after the establishment of NACI was the collaborative report with the National Science and Technology Forum (NSTF), which convincingly showed the strong relationship between innovation and growth. NACI was founded on the premise of that relationship and continues its work on the validation thereof. That report served as an important co-ordinate for the direction reflected in this corporate business plan.

The plan set out in this document also accounts for new developments in the national system of innovation. We intend to be sensitive to new developments, especially the following two:

- The approval of the National Research and Development Strategy (NRDS)
- Progress with the science and technology mission of the New Partnership for Africa's Development (NEPAD).

Another important co-ordinate considered in the drafting of this plan was the recommendations contained in the NACI review.

NACI has over the past year or two risen to the challenge of monitoring the performance of the National System of Innovation (NSI). This will be taken further this year by taking stock of the results of the first decade of democracy. The new innovation policy – and the establishment of NACI – was founded on the commitment that science, technology and innovation should contribute to the development of our country. NACI has an obligation to take stock of the extent to which this commitment has been realised.

Commitment to the importance of innovation

The best designed plans for steering the business of a body such as NACI are essential, but experience shows that another critical factor is that the people involved in the execution of such plans must believe in the inherent value of what they are doing. In this regard, this document also serves as a powerful public commitment to the continuous role of science and technology – and therefore of innovation – in the growth of the economy and the improvement of the quality of life of all South Africans.

With the interests of South Africa at heart, NACI, believing in itself, and trusting in the benefits of science, technology and innovation, accepts the challenge laid out in the National Advisory Council on Innovation Act (Act 55 of 1997) and dedicates itself, through this corporate business

plan, to the accomplishment of national objectives, such as the improvement of the quality of life of all South Africans and sustainable economic growth.

Dr Sibusiso Sibisi
Chairperson

14 March 2004

CHAPTER 1

STATUS AND STRUCTURE OF THE CORPORATE BUSINESS PLAN – 2004

This corporate business plan is intended as an overarching document that:

- Builds on the corporate business plans of previous years and their successful execution
- Summarises the medium term strategic plan of the National Advisory Council on Innovation (NACI) as background to the activities during 2004
- Presents a set of corporate objectives, programmes and activities, as well as a time frame for achieving these
- Identifies and briefly motivates the resources required for the attainment of the key objectives
- Highlights the climate that it will endeavour to foster for its work.

It is generally accepted that a corporate business plan should be both a dynamic and guiding document. This means, firstly, that allowance should be made for modification in the light of unforeseen changes in the environment in which NACI operates. NACI should, as a statutory advisory body, have the latitude to address new requests stimulated by a rapidly changing environment. The counterpoint to its dynamism is, of course, that a corporate business plan – indeed any business plan – represents a commitment by the organisation to attaining specified objectives with the instruments and resources at its disposal. The present corporate business plan has been drafted with both these criteria in mind.

Each current and new programme and project will be managed in terms of a business plan drafted for that specific programme or project.

Structure of this document

This document consists of 13 short chapters, forming four sets, the contents and rationale of which are as follows:

- Chapter 2 offers selected perspectives on the likely evolution of the innovation landscape in which NACI will have to operate over the next two years.
- Chapter 3 summarises the development of NACI since its establishment and its relations with other role players in the field.
- Chapters 4–6 offer an overview of what could be described as a summary of a strategic plan.
- The core of the corporate business plan is summarised in Chapters 7–11.
- Chapter 12 presents a model for evaluating the success of the implementation of all the plans enunciated in this document (i.e. a framework for evaluating the performance of NACI).
- The final chapter represents a short and powerful commitment by Council to its statutory mandate.

Inputs to this corporate business plan

This document is primarily based on:

- The Corporate Business Plan of 2003 and experience in implementing it over the course of the last year
- The results of an audit of NACT's performance between 1998 and 2002
- A comparative analysis of corporate strategies and business plans of peer organisations abroad
- The current programme of NACT
- Proceedings of the South African Reference Group on Women in Science and Technology (SARG)
- Discussions with and recommendations by councillors, including inputs by the Executive Committee at its meeting on 5 February 2004
- Direct and indirect comments by various role players in the NSI (National System of Innovation).

CHAPTER 2

THE NATIONAL SYSTEM OF INNOVATION IN A DYNAMIC ENVIRONMENT

Introduction

Having appropriate management practices in place allows a national system of innovation to cope effectively with issues both internal and external to the science, technology and innovation base.

The following perspectives are intended to provide the context within which NACI expects to operate over the next year or two. These perspectives are neither rigid nor absolutely deterministic. Should elements in the environment change over the course of the year, the implications of such changes would have to be accounted for in this corporate business plan for 2004. Likewise, many intermediate elements in the environment could also influence the business of NACI, but they have not been included in this chapter.

The perspectives in this chapter have been brought together from various sources, such as the studies conducted by NACI over the past four years, government reports, other published sources, international trends, a commissioned contribution, the mass media and interviews with well-informed opinion leaders.

In retrospect: 1994–2004

The past ten years saw fundamental changes taking place in virtually all aspects of life in South Africa. The following are some of the more salient and relevant changes that serve as the backdrop against which the future will unfold:

- A new constitution, incorporating a bill of rights, and over 780 pieces of new legislation have redefined the constitutional nature of South African society.
- A dedicated ministry and national department of science and technology were established in 1994, under the auspices of which a new white paper and a range of acts and amendments to acts and other official policy documents on various aspects of the NSI and more than 30 bilateral agreements on science and technology (S&T) have been produced.
- All publicly funded research and development (R&D) organisations have been reviewed, and second rounds of reviews of many have recently taken place, or will shortly be undertaken.
- Higher education policy and systems have undergone far-reaching changes, the most important probably being the current merging of a number of institutions, which will reduce the total number from 21 to 15.
- Gross domestic expenditure on R&D (GERD) has increased from slightly more than R4 billion in 1991 to more than R5 billion in 2001 (constant 1995 Rand). As a percentage of GDP, however, GERD declined from 1.04% in 1991 to 0.69% in 1997, and increased to 0.76% in 2001. The initial sharp decline was due largely to the termination of strategic R&D missions of the pre-1994 government. Research productivity reflects a mixed image, highlighting both positive and negative aspects.
- The role of S&T in development has been significantly highlighted by its explicit inclusion in the final implementation plan of the World Summit on Sustainable Development (WSSD) in Johannesburg on the one hand and the appointment of a dedicated S&T advisor to the

NEPAD secretariat on the other. The appointment of a commissioner for S&T within the AU also augers well for the future.

Political environment

The international political scene remains volatile and unpredictable. In a globalising world, South Africa would not, and dare not, isolate itself from the international scene and would, by definition, be open to global developments. On the negative side, the possibility of international events such as 11/09, the Madrid train bombs in March 2004 and the Iraq war, as well as world reactions to such events, cannot be ruled out. These have already had visible effects on, for instance, the mobility of foreign research workers in the USA, and it is conceivable that there could be further ripple effects, which might also impact on South Africa.

The April elections in South Africa dominated the domestic political scene during the earlier half of the year. The importance of science and technology for the development of the country was given new impetus by President Mbeki's announcement on 28 April 2004 of a separate Ministry of Science and Technology, headed by Minister Mosibudi Mangena and Mr Derek Hanekom as the Deputy Minister. This important decision is in line with the President's earlier support for research and development in his 2004 State of the Nation Address. On that occasion he said that the country would continue to focus on the growth and development of a modern, affluent "first economy" in order to generate resources to meet the challenges of its underdeveloped "second economy". This, he said, would require further and significant investments in infrastructure, skills development, scientific and technological research, development and expansion of the knowledge economy, growth and modernisation of the manufacturing and service sectors, etc.

The implied imperative for science and technology to address the major challenges of South Africa should be clear. In this regard, cognisance should be taken of the government's review of its performance over the past ten years and future challenges, *Towards a Ten Year Review*. While government concluded that it "has adequately met its objectives", it cautioned that "if all indicators were to continue along the same trajectory ... we could soon reach a point where the negatives start to overwhelm the positives". The overarching approach required to address this challenge is the consolidation of democracy "with measures aimed at integrating all of society into a growing economy from which they can benefit".

The imperatives for the NSI are, firstly, to specify systemically and dynamically how S&T can contribute to development and growth and, secondly, to focus appropriate capacities on those challenges to which it can reasonably be expected to contribute.

Economic environment

In the macroeconomic environment, moderate to strong recovery lies ahead in the OECD area, according to the latest composite leading indicators (CLIs), used for the prediction of economic growth. The six month rate of change of OECD countries, for instance, ranged between 0.8 and 1.7 points.

In South Africa, however, the issues of low rate of economic growth and limited foreign direct investments (FDIs) remain an overriding concern. The economy has been turned around during the first decade of democratic government from a negative growth rate in the decade before 1994 to an average annual growth rate of 2.8% since then, although the ideal would have been 6%. FDI has averaged around 1% of GDP per year. A commensurate rate of domestic private investment is a necessary factor to accelerate growth. These issues are of importance for the NSI, as they are the natural mechanisms for technology transfer. This is receiving attention from, among others, the Governor of the South African Reserve Bank, who is committed to "moving the economy into a high growth path, increasing its competitiveness and efficiency".

The following are some of the challenges that the medium to long term economic scenarios pose to the NSI: national priorities as an important set of inputs to the NSI agenda; a critical analysis of the contribution of S&T to national priorities; S&T production under conditions of financial constraints; effectiveness and efficiency in the NSI; and conditions for the optimisation of strategic collaboration within the NSI.

Investment in science and technology

In the field of science, technology and innovation, the knowledge intensity of OECD economies has continued to increase in recent years. Investment in R&D rose in 2001 and 2002, as did investment in software. In 2001, OECD countries allocated about US\$645 billion to R&D. R&D expenditure rose annually by 4.7% in OECD countries over the period 1995–2001. Growth has been even higher in the USA at 5.4%. R&D intensity in Europe reached 1.9% of GDP, which was below the Lisbon target of 3%. Most of the rise in R&D expenditure resulted from higher business investment. This pattern also applied to major non-OECD countries (mostly competitors of South Africa).

The South African government has, in the wake of the release of the National Research and Development Strategy (NRDS), increased the allocation to S&T, although not to the extent that the NRDS really requires. The medium term expenditure framework shows that the budget of the Department of Science and Technology (DST) is planned to increase by 12% in 2004/5 and 18% in 2005/6.

One implication is clear: the NSI community will have to consider seriously how the benefits of science and technology can be promoted, given that the National Treasury is increasingly asking for proof of outcomes and the impact of investment in new undertakings, including S&T and R&D infrastructure.

Human resources

The human resource base is expanding in the OECD area. Forty-five percent of young people now enter university. However, entry rates vary from over 60% in Finland, Sweden, Hungary and Poland to around or below 25% in Mexico, Turkey and the Czech Republic. In the case of South Africa, the corresponding percentage is 15%.

The human resource base in the OECD area is further enhanced by a record number of people moving into the area in search of jobs and to join their families. In the USA, more than 201 000 new H-1B visas were approved during 2001, in addition to 130 000 renewals. In the UK and Ireland, 81 000 and 36 400 work permits respectively were issued to highly skilled individuals during 2001. The upward trend appears to have continued during the ensuing years. In South Africa, the trend is in the opposite direction: a net loss of highly skilled persons, as shown in a recent NACI/Human Sciences Research Council (HSRC) study. This reality is confirmed by a recent OECD report, which states that nearly 9 000 South African health practitioners are working in Australia, Canada, New Zealand, the UK and the USA – this figure represents 17% of the corresponding labour force in South Africa. This touches on the question of the provision of scarce skills. In contrast to public opinion, the recent *Human Resources Review – 2003*, published by the HSRC, shows that the picture with regard to scarce skills in South Africa is not one-dimensional, and that a differential perspective is required in identifying areas of critical scarce skills.

In the foreseeable future, the NSI will be threatened by the possibility of system failure in the form, firstly, of the quality of university entrants and, secondly, an overload of the higher education system by being overstretched through efforts to adjust to the National Plan for Higher Education, the new funding framework, the demands of the South African Qualifications Authority and the merging of institutions.

The medium to long term effects of these factors are further complicated by the implications of HIV/AIDS on the NSI (in terms of capacity building, continuity and productivity). These issues will have to be considered very carefully, and the South African Universities Vice-Chancellor's Association (SAUVCA) and Mandela/HSRC reports can serve as valuable starting points in this regard.

The NRDS correctly identifies the human resource base as one of key pillars of the NSI. The selective scan in the preceding paragraphs shows that South Africa does not compare favourably with comparator countries, that the gap between supply and demand seems to be widening, and that this gap is subject to the interaction of a range of complex variables. A better understanding and more detailed exploration of social capital and the associated dynamics in the context of South Africa is essential for appropriate policy and strategy development.

NEPAD

Progress can be expected in the course of the next year or two in the implementation of the plan of action of the NEPAD Ministerial Conference on S&T. The plan has the prospect of kick-starting science and technology on the continent, but that will depend to an important extent on the capacity within the secretariat, the support of the South African Department of Science and Technology and political progress in pursuing NEPAD goals such as good governance and economic development.

Cross-cutter

A major cross-cutter in accounting for in the NSI over the short to medium term is, positively, optimal utilisation of appropriate information and communications technology (ICT) and, negatively, the risk of massive digital disruption and other forms of cyber crime and terrorism.

The innovation system in the post-modern era is characterised by strategic alliances, problem-oriented as opposed to disciplinary orientations, networks as opposed to intra-institutional laboratory ventures, and virtual as well as face-to-face interaction and co-operation. Access to and optimal utilisation of the latest advances in ICT are necessary conditions for productive participation in this new globalised 'laboratory'. The extent to which the majority of role players in the NSI have successfully crossed this digital threshold, and the associated consequences, require the serious attention of all concerned.

The above condition of an effective digitised innovation network poses an Achilles heel to the future of innovation, both locally and internationally. Cyber threats, whether intentional or unintentional (e.g. spam), are real and have the potential to disrupt both the NSI and the entire economic system. The intrusiveness of bulk, unsolicited electronic messages, for example, has raised questions about the future development not only of e-commerce and e-mail marketing, but also of e-government. It is easy to realise the effects that such phenomena would have on a scientific post-modern community, increasingly characterised by collaborative networks.

Conclusions

One of the main characteristics of the nature of the current international S&T system – variously described as post-modern, characterised by Mode 2 knowledge production, with a strategic science orientation, etc. – is its openness to the wider social, economic and political environment and the resultant need to account for changes in those environments. The South African scene is further complicated by the mix of developed and developing characteristics. This chapter has highlighted a selection of potentially important developments that could be expected over the short to medium term. These range from immediate domestic matters, such as the allocation of ministerial portfolios after the April elections, to catching up with digital backlogs and appropriate processes, to international political and economic developments such as globalisation

and international tensions. The common denominator for the NSI, it would seem, is its readiness to remain relevant and its simultaneous ability to strengthen its core competency by producing quality scientific work of merit in a way that promotes international collaboration. The interface between these three – relevancy, quality and technological advancement – should be an important focus of role players in the innovation policy space over the next five years or so.

CHAPTER 3

NACI IN CONTEXT

This corporate business plan represents a formal strategic operationalisation of the NACI Act (Act 55 of 1997) and serves as a guide to the work of the Council until March 2005. This plan will serve as a set of co-ordinates for the new Council that will take office in the course of the year. The first corporate business plan for NACI was approved at the beginning of 2002, and since then corporate business plans have provided the framework within which the Council has operated. It may be useful briefly to take stock of the performance of NACI during its first four years, with a particular focus on 2003, and to use the lessons learnt as the point of departure for the 2004 corporate business plan.

NACI: 1998–2003

The current Council came into operation in 1998 in what could be described as an “advisory vacuum”, since its predecessor, the Science Advisory Council, had been abolished in 1994. Looking back over the first five years, it would be fair to conclude that the first period after the establishment of NACI was primarily used to:

- Mobilise the expertise available among its councillors and create sufficient synergy among them to realise NACI’s potential
- Establish a portfolio of studies as the core of NACI business
- Develop an annual corporate business plan for guiding NACI business
- Steadily increase NACI advice to the Minister
- Commission a review of NACI performance during its four years of operation.

Review of NACI

In 2002, the Council commissioned a review of NACI’s performance since its inception in 1998. The review panel (comprising Prof Gevers, Dr Badat, Mr Mullin and Mr Hunt) commented very favourably on the development of NACI over the previous three and a half years, commending the programme and the approach to core functions. In view of these positive conclusions of the review panel, NACI continued in 2003 on the course it had set in the previous two years. The following three cautionary notes by the review panel are taken into account in this corporate business plan:

- The need to orientate research towards policy development rather than towards knowledge production *per se*
- The need for a balance between the scope of the annual programme and available resources
- The need for NACI not to be perceived as being a mere extension of a government department.

In summary, the review report provided important co-ordinates for the development of the 2004 corporate business plan.

From 2004 to 2007

Past and present can become inhibiting or facilitating factors in planning for the future, depending on the motivation of councillors, the amenability of the responsible Minister to advice, and the

constantly changing context in which NACI has to operate. The second Council was appointed in March 2004 and is composed of 12 new councillors and ten councillors appointed for a second term of office. This composition offers a dynamic mix of continuity, combined with which the Council will undoubtedly put its particular stamp on the direction and content of NACI for the next four years. This corporate business plan offers a set of co-ordinates that will assist the new Council in rendering advice on the contribution of innovation to economic growth and the continuous improvement of the quality of life of all South Africans. In this regard, NACI is committed to working in collaboration with all relevant role players in the NSI.

CHAPTER 4

BUSINESS DEFINITION

The National Advisory Council on Innovation

The National Advisory Council on Innovation (NACI) is a statutory organisation established by Act of Parliament (Act 55 of 1997) to advise the Minister of Arts, Culture, Science and Technology, and through him the government of South Africa, on the role and contribution of innovation (including science and technology) in promoting and achieving national objectives. These national objectives include the improvement of the quality of life of South Africans and the promotion of sustainable economic growth and international competitiveness.

The South African Reference Group on Women in Science and Technology (SARG) is a permanent sub-committee of NACI, following approval by Cabinet in February 2003. SARG is mandated by the National R&D Strategy (NRDS) and South Africa's National Policy Framework for Women's Empowerment and Gender Equality to develop gender mainstreaming strategies. The resultant implications for various facets of NACI's strategic plan (such as its mission and values) can be found in the strategic plan of SARG.

The concept of innovation

Innovation is defined in the NACI Act (1997: Section 1 (vi)) as “the process of transforming an idea, generally generated through research and development, into a new or improved product, process or approach which relates to the real needs of society and which involves scientific, technological, organisational, or commercial activities”.

This definition clearly shows that the concept of innovation – and hence the mandate of NACI – covers the entire innovation chain and not only the subset of S&T activities, as is often thought.

Statutory mandate

The mandate of NACI is to generate advice directed at, among others, the:

- Co-ordination and stimulation of the National System of Innovation (NSI)
- Promotion of co-operation within the NSI
- Structuring, governance and co-ordination of the S&T system
- Revision of the innovation policy
- Strategies for the promotion of all aspects of technological innovation
- Identification of R&D priorities
- Funding of the S&T system.

Mission

This statutory mandate translates into the following mission, approved by Council in 2002:

NACI will strive to become a relevant, prominent, credible, proactive and responsive advisory body to the Minister on national matters concerning innovation, including science and technology, thereby contributing to the achievement of the national objectives of South Africa. NACI will give effect to its mission by utilising accountable scientific approaches and the best available resources. NACI's ideal is to be seen as the premier source of innovation policy advice.

This mission statement finds expression in the motto of NACI:

Innovation for a better future

Vision

NACI has committed itself to the following vision:

NACI, as the key source of science and technology advice to government, will successfully promote S&T as the primary driver behind South Africa's economic and social development.

Values

The following values underlie all activities of NACI:

- Innovation directedness and relevance to South Africa
- South Africa first
- Consultation with and involvement of all councillors in the activities of NACI
- Proactive rather than reactive actions to give effect to its statutory mandate
- Strategic project-specific partnerships
- Fast delivery of advice and related services
- Meeting deadlines and increasing outputs significantly
- Relevance, high quality and integrity of information produced
- Integrity and credibility of NACI
- Financial accountability.

Strategic objectives

The strategic objectives of NACI are to continuously monitor and review the NSI in order to generate informed advice aimed at:

- Positioning science, technology and innovation as the key drivers for economic growth and the improvement of the quality of life of all South Africans
- Mobilising innovation to improve the country's international competitiveness
- Aligning national R&D priorities with key national priorities
- Optimising the performance of the NSI, including the contribution of women.

Distinctive competency

The following six key areas of competency are prerequisites for NACI to establish itself and maintain its status as a key advisory council in the domain of innovation:

- **Networking capabilities:** NACI is in a position to canvas co-operation and support from all stakeholders in the NSI, both locally and internationally.
- **Specialised advisory committees:** The Minister can appoint national advisory committees to advise the ministry on issues of special importance and designate such committees as advisory committees of NACI. The South African Reference Group on Women in Science and Technology (SARG) is such a national advisory committee, and it places NACI in a unique position to address the position and role of women in the NSI.

- **Evidence-based advice:** NACI has the necessary configuration of skills to base its advice on appropriate evidence, especially that which is generated through research.
- **Technical excellence:** It is important for NACI to have the policy analysis acumen to allow it to:
 - Identify key policy issues for further investigation
 - Analyse these issues to determine their relevance in the South African context
 - Identify capable service providers
 - Analyse the outputs of the service providers to ensure quality delivery
 - Convert outputs of studies into relevant policy advice.
- **Project management capabilities:** NACI has the required project management skills and systems to allow efficient management of all studies, ensuring that they are delivered according to the brief and within the time schedule.
- **Contextualisation of advice:** Given its position in the policy advice space, NACI will also seek to contextualise its advice in a way that would account for all significant factors. It is to be expected that consensus might not always exist on salient issues in the NSI, given, *inter alia*, the complexities of the web of NSI stakeholders. If and when necessary, and on the basis of all relevant evidence, NACI might have to take positions not aligned with those of certain significant stakeholders. By its nature as an advisory council, NACI will not operate in an activist way.

How does NACI operate?

NACI gives effect to its statutory mandate by the following mechanisms:

- Canvassing the views of relevant stakeholders and constituencies
- Soliciting the views of experts
- Commissioning research-for-policy
- Utilising advice rendered by its national advisory committees (e.g. SARG)
- Making submissions to the Minister and government
- Briefing specific interest groups
- Disseminating information through publications, conferences and seminars
- Promoting dialogue among interest groups

Types and levels of advice

Requests for advice or self-initiated advice will not necessarily all follow similar routes of development, in that different methodologies may have to be followed. NACI differentiates between various categories of advice, as indicated in Table 4.1.

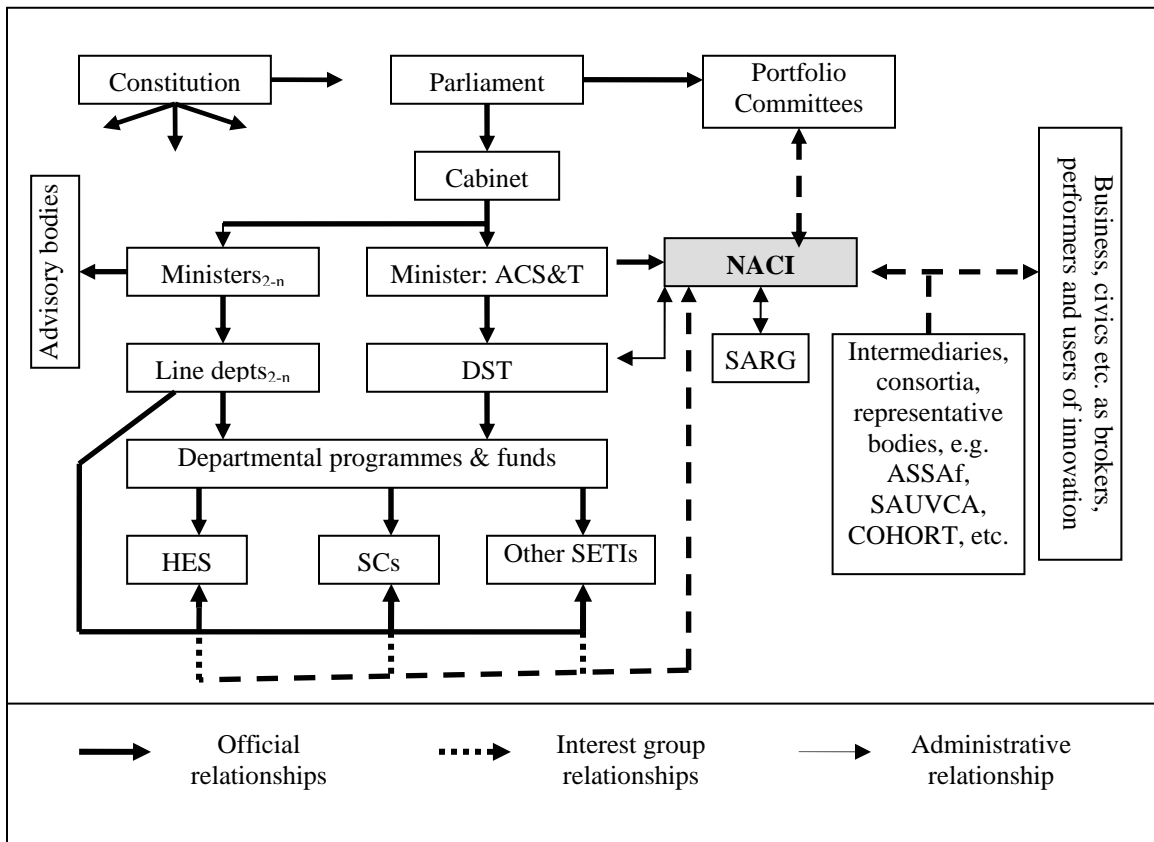
Table 4.1: Typology of advice

Category of advice	Typical issue	Time frame	Methodology
<i>Quick response advice</i>	Unexpected events	Immediate to very short term	1. Expertise of councillors 2. Expertise within NACI networks 3. Internet, etc.
<i>Researched advice (RA)</i>	Issues in S&T system and structure	±3–6 months	Commissioned research
<i>Airborne Warning and Control System (AWACS) advice</i>	Looking beyond the horizon and anticipating future developments	One year +	Think-tanks; futures studies, etc
<i>Annual advice (AA)</i>	Annual overview of the state of S&T in South Africa	As programmed	Combination
<i>Briefings</i>	Salient issues in the NSI	Two per year	Evidenced-based advice to portfolio committees and other forums
<i>Mixed forms of advice (MA)</i>	Variable	±1 month	Information sources

The function of research in NACI's business

NACI is committed to basing its advice on the best available information, which will often require research. Two important qualifications should be attached to this point of departure. Firstly, research is not seen as the end goal for NACI – it is an input to policy. NACI undertakes research as research-for-policy. NACI usually releases the research reports it has commissioned. Secondly, the process of policy development in general has to take many non-research factors, such as affordability and political agendas,

Figure 4.1: NACI's position in the NSI



into account, and it follows that there would often not be a one-to-one relationship between a research report and the end product, namely a policy or strategy – research is but one of the inputs to policy and strategy development.

Partial representation of the NSI

The position of NACI in the NSI is mapped in Figure 4.1 (note that the relationships between intermediaries and the business sector, on the one hand, and other components of the system, on the other hand, are not shown in this figure).

CHAPTER 5

CURRENT PORTFOLIO OF PROJECTS – 2004

Research-for-policy is mentioned several times in this corporate business plan as being one of the important bases for developing advice. The arrangement is that the staff of the Secretariat would undertake small studies, but that comprehensive projects would be contracted out. In the latter case, internal staff co-ordinate the projects (in terms of such aspects as finances, time schedule and reporting to Council).

Fourteen studies have been completed since NACI was established in 1998, and three were suspended. (SARG itself has completed one comprehensive study since its establishment in 2003.) Table 5.1 offers an overview of the 2004 portfolio of projects. The table does not reflect the SARG programme, which can be found on its website (www.sarg.org.za).

Table 5.1: Portfolio of projects

Evidence-generating studies

Short title	Code	Strategic focus	Advice type*	Target date
Databases	02/11	Identification, location and quality of relevant innovation databases in South Africa: access to information over short term. Completed, but to be maintained on an ongoing basis.	RA	Continuous
Competitiveness measures	02/06	Assessment of development-sensitive competitiveness measurement. Supplement to International Competitiveness Report	RA	06/04
Tax incentives	02/13	Reconsideration of policy for stimulating investment in R&D in the business sector	MA	04/04
Optimising S&T contribution to development (NEPAD)	02/02	Identification of factors facilitating or inhibiting the S&T contribution to development in Africa and strategies to improve same	MA	11/04
Provincial innovation policies and systems	04/01	Overview of provincial strengths and weaknesses and optimising relationship between central government and the provinces	RA	11/04
Optimal human resources for a productive NSI	04/02	<ul style="list-style-type: none"> • Development of a reliable profile of demand and supply as a basis for the development of an appropriate human resources strategy • Modelling the dynamics of the interactions between contextual factors and human resources 	RA	05/05
A model for evidence-based policy development	04/03	Identification of key elements and models for evidence-based policy development for optimising the policy development process	MA	09/04
NSI after ten years of democracy	0404	Stock-taking of progress and policy changes during the first ten years after apartheid as a guide for the next decade	AA	07/04

* See Table 4.1, in which the types of advice are defined

Innovation promoting projects

Short title	Code	Strategic focus	Target dates
Regional visits	02/18	Community awareness of NACI	March & Sept 2004
Newsletter	02/19	Regular information dissemination	March, Aug, Oct & Feb 2005
Conferences	02/23	Dissemination and validation of information	March, May & Nov 2004
Postgraduate Innovation	02/24	Recognition of innovation by postgraduates	October 2004
Annual report	02/27	Public accountability and statutory requirement	May 2004
Websites and innovation portal	02/28	Dissemination of information	Ongoing

Performance assessment

Short title	Code	Strategic focus	Target dates
NACI performance	04/05	Assessment of performance against mandate and objectives	August-December 2004
Indicators to assess the performance of NSI	04/06	Objective index of performance at systems level	February 2005

CHAPTER 6

KEY CORPORATE GOALS AND TIME FRAMES

A core set of corporate objectives and goals is listed in this chapter. These objectives and goals have been generated against the background of the parameters identified in earlier chapters, especially the mechanisms to optimise the effectiveness of NACI and the portfolio of current projects. The objectives are listed and briefly outlined, after which a time frame is superimposed upon them to yield the essence of the programme for 2004.

Corporate objectives

- ***Quick response advice***

These inputs to the Minister will typically be information/advice on very salient issues that the Minister would request over the very short term or that NACI provides on its own initiative. While it is not possible to be certain of the number of requests to expect, NACI nevertheless prepares itself to respond to as many requests as it may receive.

Provision is made for a **minimum** of five such quick response inputs.

- ***Researched advice***

NACI's portfolio of studies complies with the following criteria:

- A national priority
- A ministerial request
- A need for new policy inputs
- Part of the mandate of NACI
- Available resources.

The general project design requires that the particular reference groups will convert the research report into a meaningful input to the Minister. In the course of 2003, a minimum of four research-based inputs will be made to the Minister.

- ***Airborne Warning and Control System (AWACS) advice***

It will be recalled (cf. Chapter 4) that this category of input deals with anticipated events and/or developments that lie beyond the time horizon. Different methodologies are available for generating this category of input, but they can all be subsumed under the futures study label. It should be noted that these projects would involve the top visionaries and thinkers in the country.

One AWACS advice will be submitted in the course of the year.

- ***Conferences***

Three conferences are planned for the year, namely:

- Dynamic balance between supply and demand of human resources for a productive NSI
- Appropriate innovation systems for developing countries

- The utilisation of research findings.

In addition, two NACI seminars will be hosted, the themes of which are still to be finalised.

- ***International liaison***

A wealth of experience has been accumulated on the form and content of the work of advisory bodies similar to NACI. In 2002, NACI started to access the international network to facilitate the proactive exchange of information and sharing of best practices.

This process was significantly accelerated in 2003, especially through international participation in NACI conferences.

One dedicated NACI delegation is planned for 2004, while it is also anticipated that NACI will host at least one delegation from abroad. Regions that could be considered are North Africa and Central and South America.

- ***Media communication***

NACI could play an important role in the mainstreaming of science, 'technologising' of society and raising of public awareness of S&T. Such a role could take two forms, namely: stimulating media coverage of S&T in general and publicising NACI's own work in particular. NACI commits itself to doing both in an accountable way during the course of 2004.

At least four specific media releases are planned.

- ***Network management***

NACI is committed to establishing, maintaining and strengthening its network with South African bodies involved in innovation policy. Such bodies include the National Science and Technology Forum (NSTF), the Academy of Science of South Africa (ASSAf), the South African Universities Vice-Chancellor's Association (SAUVCA) and the Committee of Technikon Principals (CTP). Where appropriate, NACI will enter into project-based agreements (memoranda of understanding) with interest groups.

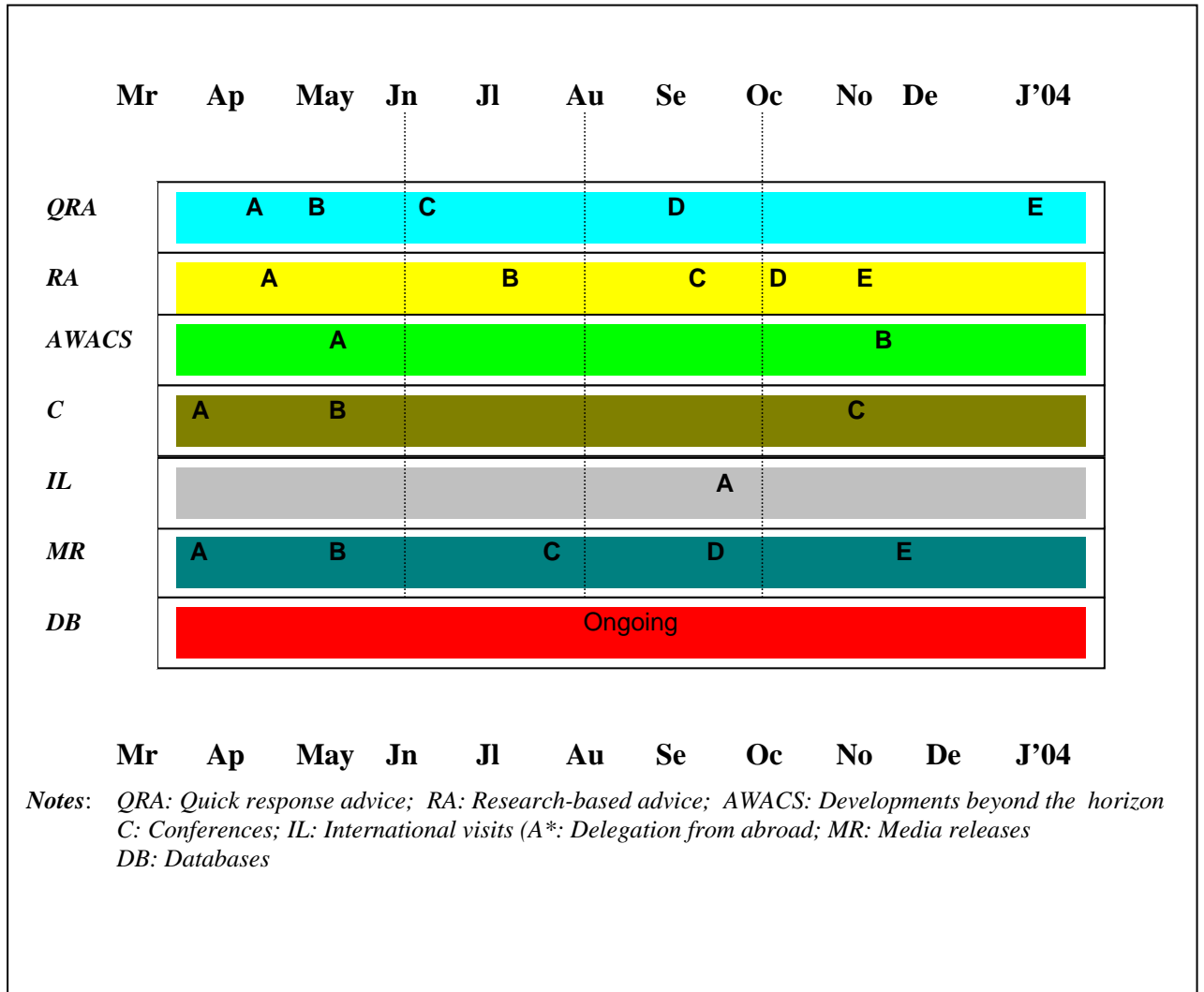
- ***Databases***

The effective functioning of NACI requires direct access to reliable databases. A database of South African contacts has been updated, and the meta-database of databases on S&T indicators was completed in the latter half of 2003. NACI will support initiatives to develop databases of individuals and institutions involved in S&T policy work in Africa.

Scheduling objectives

Figure 6.1 offers an overview of the target dates for the completion of the identified tasks.

Figure 6.1: Scheduling of corporate goals



CHAPTER 7

OPTIMISING THE EFFECTIVENESS AND EFFICIENCY OF NACI

In the previous chapter, the NACI Act was operationalised in terms of its mission statement and the core values associated with that mission. In this chapter, the focus moves to operational mechanisms that should increase the effectiveness of NACI. A distinction between five facets of NACI's mode of operating would be useful here, namely: councillors, advisory committees, meetings, project management and types/levels of advice.

Councillors

The strength of a council such as NACI is clearly its councillors – as indicated in Section C of the NACI Act. It follows that the expertise represented in councillors should be tapped to the fullest possible extent, and the following mechanisms are expected to optimise the utilisation of councillors and their expertise:

- Councillors will enter to an agreement with the Minister on their expected contribution to the work of the Council.
- Councillors will be allocated specific sectors (business, higher education and government) on which to concentrate.
- Opportunities will be created for councillors to participate in NACI activities, both directly and indirectly, and all inputs shall have equal weighting.
- Councillors may periodically be requested to assist with specific tasks, such as accessing information and providing contacts (within reasonable limits).
- Each councillor shall serve on at least one project reference group (a reference group is a sub-committee of Council mandated to oversee a particular project).
- Councillors will be provided with the new publication, *Guidelines for Councillors*, which offers a concise overview of NACI policies and procedures.

Advisory committees

To optimise the effectiveness of the South African Reference Group on Women in Science and Technology (SARG), the following arrangement will apply:

- SARG will at all times be represented on both Council and its executive committee.
- SARG will draft and manage its own business plan and commission studies, and its annual business plan will be submitted to Council for noting.
- Policy and strategic advice emanating from the work of SARG will be approved by Council before submission to the Minister or other interest groups.

Meetings

Meetings normally represent the major mode of operation of an advisory council. However, meetings could be prohibitively expensive, if calculated in terms of the hectic schedules of councillors. The following guidelines – partly established practice, partly modifications of practices and innovations – will be followed:

- The current arrangement of four Council and ten Executive Committee meetings per year will continue.
- Duration of Council meetings: Two meetings of one day's duration each and two meetings of one and a half days' duration each. The latter will be structured so as to provide for interaction with relevant interest groups (e.g. SAUVCA).
- SARG will have three business meetings of one day's duration each and one of two and a half days' duration. The latter is designed to provide interaction with NACI and to include the international members.
- Meetings of reference groups will, where possible, be scheduled to coincide with plenary meetings in order to minimise additional trips by councillors.
- Teleconferencing will be utilised when feasible.
- The Minister will be invited to address at least one Council meeting during the course of the year.

The respective roles, functions and procedures of NACI itself and its sub-committees can be found in relevant internal policy documents and are summarised in *Guidelines for Councillors*.

Project management

The organisational philosophy underlying this corporate business plan is that of optimum participation in the business of NACI by all councillors (refer to the vision in Chapter 4). One potentially powerful way of giving effect to this philosophy is by involving councillors in steering projects through appointing them to reference groups (see *Guidelines for Councillors*). The main features of the way in which projects will be managed are summarised in Table 7.1, with an indication of SARG organs and their functions.

Table 7.1: Project management functions

Function	Responsible organ of NACI		Support
	<i>Council projects</i>	<i>SARG projects</i>	
Approval of priorities for the year	Council	Council	Administrative support provided by the secretariat
Approval of projects	ExCo	SARG Board	
Appointment of reference groups ¹ for projects	Council	SARG Board	
Operationalisation of projects (design, terms of reference)	Secretariat	SARG ExCo ²	
Resourcing	ExCo	SARG ExCo	
Recruiting service providers	Secretariat	SARG Secretariat	
Appointment of service provider	Reference group/ExCo	SARG ExCo	
Project execution	Secretariat/service provider	Service provider	
Project guidance	Reference group	SARG ExCo	
Approval of reports	Reference group	SARG Board	
Conversion of report into advice document	Secretariat	SARG ExCo	
Implementation (i.e. submission to the Minister)	Council	Council	

Notes: ¹ The functions of reference groups as well as procedures with regard to the release of reports are set out in the NACI publication, *Guidelines for Councillors*. All the administrative procedures followed by NACI can be found in the *NACI Policy Manual* and *NACI Procedure Manual*.

² The SARG ExCo consists of the Chair and Secretariat.

Type/level of advice

NACI' portfolio of generic advice types (see Table 4.1) allows for flexibility in formulating advice. The type of advice will be a function of factors such as urgency, existing knowledge on the topic, available expertise in Council, etc. and in that way the effectiveness and efficiency of NACI will be optimised.

CHAPTER 8

RESOURCES: GENERAL CONSIDERATIONS

Chapters 8–11 offer a specification of the key resource requirements to make NACI work efficiently and effectively in terms of human resource requirements, infrastructure and financial resources. The availability of resources for an advisory council such as NACI is a necessary, but not sufficient, condition for the attainment of corporate objectives. To take the methodological paradigm somewhat further, various moderator variables have to be in place to facilitate the attainment of those objectives. This chapter offers a listing of the more important ones internal to NACI itself, and as such addresses all components of NACI.

Belief in self

Probably the primary moderator of success in an organisation such as NACI is the belief in the meaningfulness of its own existence – that it can make a difference, that it can add value to the NSI, that it is indeed involved in a function that is not, or cannot (or even, should not) be performed by other structures.

Involvement of all councillors

In terms of the NACI Act, the Council was appointed on the basis of the expectation that each individual councillor would make a unique contribution to the execution of the statutory mandate of NACI. NACI represents a unique configuration of professional experience and expertise. This corporate business plan is premised on the understanding that councillors' experience and expertise will indeed be available to the programme in the course of the year.

Open communication channels within NACI

Involvement of all councillors presupposes open communication channels and informed communication between the Minister and NACI, between the Executive Committee and Council, between the Chair and the CEO, etc. The key in this incomplete list of relationships is 'between' (i.e. the flow must be in both directions). An implication of this ideal is that all documentation of NACI (e.g. ExCo and SARG agendas and minutes) should be available to all councillors.

Standard procedures

The facilitation of standard administrative and other activities requires that NACI have access to documented, accountable and approved standard administrative procedures. A manual of procedures was compiled in 2003 and is now available.

Co-operation between the Chair and the Secretariat

The Chair is by definition expected to be an initiator. The Secretariat represents the executive arm of Council and is often expected to initiate submissions in consultation with the Chair.

Optimum managerial autonomy

The effective and efficient execution of this plan requires that NACI operate with optimum management autonomy, while observing official rules contained in policies and procedures such as the King Commission, the Public Finance Management Act, GAAP and others. A set of delegations of functions from the CEO to the Head: Secretariat should be ready before the start of the 2004/5 financial year.

Core professional staff

Implementing this business plan requires a competent executive arm, and it is therefore essential that NACI be staffed by professional, committed and experienced staff – as would be appropriate for a ministerial advisory council.

Separation of interests

NACI should ensure that it is regarded as an autonomous advisory body. This ideal requires, among other things, openness, fairness and accountability in obtaining services from outside agencies. Perceptions of any conflict of interest should be avoided at all costs.

CHAPTER 9

HUMAN RESOURCES

This chapter first offers points of departure, a description of the types of functions that NACI staff will have to perform (main elements of job descriptions) and person qualities required, followed by a provisional organogram (Figure 9.1) showing the structure of the Secretariat.

Points of departure

The following points of departure guide the staff structure of the Secretariat:

- The permanent staff complement should be as small as is functionally possible.
- The Secretariat will rely on project-specific contract appointments and secondments to address additional needs that will arise from time to time.
- The structure should allow for flexibility and adjustment to changing circumstances and resource sharing, and should be sufficiently flat.
- The staff should be appropriately qualified and skilled, but provision will be made for capacity development.
- The staff structure (see Figure 9.1) should be established in the course of 2004.

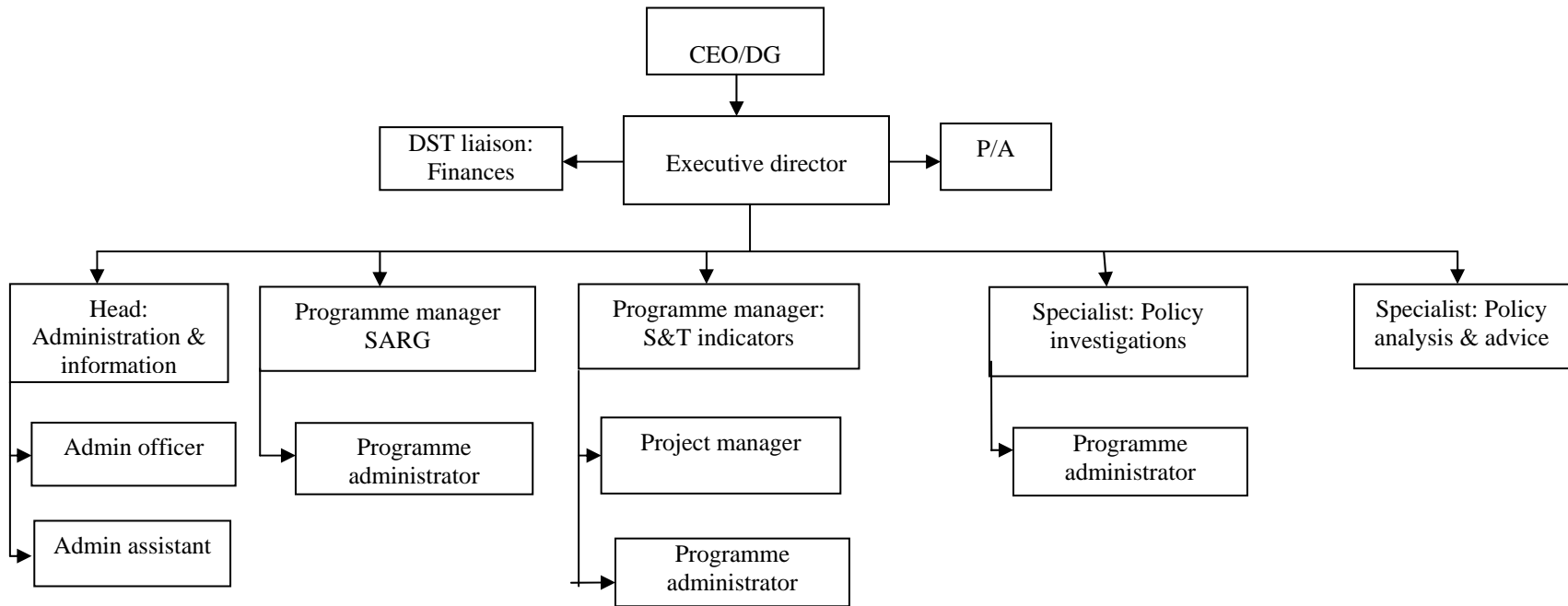
Functions and requirements

Key posts, their job descriptions and person requirements are reflected in Table 9.1.

Table 9.1: Posts and associated key performance areas

Post	Key functions	Person requirements
Executive director	Professional executive service to Council and strategic and intellectual support to the Chair	Managerial experience in R&D environment and understanding of S&T policy domain
Programme manager	Initiation of all aspects of projects (conceptualisation, terms of reference, design, appointment of service providers, etc); conversion of reports into advice	Postgraduate degree; relevant experience in research and policy environment; commitment to quality
Specialist	Identification of innovation priorities, evaluation of relevant information and conversion of information into advice	Relevant postgraduate qualification; experience; experience in analysis of scientific information; understanding of government processes
Project manager	Co-ordination and administration of projects, including financial control and monitoring of progress, etc.	Relevant higher education qualification; experience of project administration and organisational skills
Head: Information and administration	Overseeing of all financial and administrative functions; external communications	Relevant higher education qualification; proven experience
Programme administrator	Administrative support for programme managers; secretariat for reference groups	Communication and organisational skills; academic background; ICT skills
Personal assistant	Secretarial support for executive director and senior staff	Organisational, communication and ICT skills

Figure 9.1 Staff structure of NACI



CHAPTER 10

RESOURCES: INFRASTRUCTURE

It is not usually necessary to dwell on the infrastructural resources that an organisation such as NACI requires – simple multiplication of the number of staff by a unit of the particular equipment or infrastructure, corrected by available funds, should provide the answer. It may, however, be worth considering the unique mission of NACI, namely to advise the Minister on matters related to innovation. It is suggested in this chapter that NACI should reflect its involvement in the field of innovation.

Specific requirements

- **ICT**

Notwithstanding an upgrading of Internet lines in the course of 2003, NACI is still experiencing many problems in its Internet linkages, which will require concerted attention during 2004. Apart from the standard equipment one has come to expect, such as fast data lines, the following are scheduled to receive urgent attention:

- Reliable and fast electronic systems
- Easy access to tele- and audiovisual conferencing facilities
- Appropriate hardware and software.

- ***Dynamic web site and support***

In the course of 2003, the NACI website received just over 100 000 hits. The commitments listed in Chapters 6 and 7 will put increasing pressure on the nature and quality of the NACI website. The site has been redesigned, and new content categories have been included to provide information to a wider audience to accommodate these pressures. The innovation portal will receive priority attention during 2004. Web technology will further be used to increase the e-profile of NACI through the availability of key information online, such as an online newsletter and e-mail subscription lists, which will be actively managed.

- ***Administrative facilities and processes***

By definition, NACI cannot afford to be subject to non-optimal administrative processes. These processes should be marked by short turn-around times and quality service, albeit fully accountable in terms of financial and related controls. The management of increasing volumes of information in 2003 has made this component of NACI a priority for 2004.

- ***Accommodation***

In June 2002, the Secretariat of NACI moved to its current premises in the Didacta Building. The premises satisfy most of the current needs to the extent that the building also houses other members of the NSI community and offers limited conference facilities.

CHAPTER 11

FINANCES

Background

- The NACI budget was administered as a line entry in the budget of the Department of Arts, Culture, Science and Technology (and later in the budget of the DST) during its first three years of operation. The first budget was approved by Council in March 2002.
- In July 2003, NACI obtained the services of the Director: Financial Administration of DST for two days per week, and this arrangement has expedited financial administration and facilitated interaction with the DST.

Budget: 2004/5

The detailed budget for the 2004/5 financial year represents a separate document, the key features of which are the following:

- The budget has been drafted on the understanding that all the costs of NACI should be reflected.

The budget will be inserted after approval by Council on 27 May

The budget is summarised in Table 11.1.

Table 11.1: Budget 2004/5

Item category	Budget 2004/5 ('000)	Notes
NACI approved		
DST grant: human resources		
A. Remuneration		Including <i>per diem</i> allowance of Councillors. packages of Secretariat staff, contract workers
B. Accommodation		Contract with SAASTA
C. Mission support services		Publications, conferences, regional seminars, overseas visits, etc
D. Projects – current		Including R1 million for SARG
E. Projects – new		
Result		

CHAPTER 12

PERFORMANCE EVALUATION

In terms of its mission (see Chapter 4) NACI has to be the primary reference point on innovation policy in the country. NACI is further committed to the effective execution of its statutory mandate. These commitments challenge NACI to identify an approach for a self-regulatory assessment of its annual performance.

Finding an approach suitable for the evaluation of the performance of a statutory advisory council is not as simple a task as it may initially appear. After critically considering various approaches, it was decided to use a dynamic performance monitoring system rather than a methodology that focuses primarily on quasi and actual quantification of inputs and outputs and neglects the interactions between the various components of the business process and the context within which it operates. This approach has been adapted from literature on the so-called comprehensive evaluation cycle. This approach consists of the following interrelated processes, namely: strategic planning, operational execution and outcome evaluation. These are summarised in Table 12.1.

Table 12.1: Dynamic performance monitoring system

Perspective	Key questions	Action	Performance area	Reference
Strategic	Has NACI done the right/appropriate things in the context of the year under review?	Prioritisation	1. Alignment with principal's agenda 2. Alignment with other government bodies 3. Leadership and direction to NSI priorities	Government
Tactical	Has NACI done the right things right?	Implementation	1. Best practice 2. Overhead efficiency	Peers and networks
Results	Were the effects functional?	Assessment	1. Fulfilment of statutory functions 2. Outcomes and impact of advice	NACI Act Strategic plan Operational context
Strategic	Any changes in priorities and direction required for the new financial year	Prioritisation/Repositioning	Outcomes-target differentials	Strategic plan Networks

The following annual schedule will be followed in years 1, 2 and 3 (bearing in mind that the Council serves a four-year term of office):

- The Chair and CEO will draft a self-assessment report in August.
- Council will submit the self-assessment report to a small independent review team for validation in September.
- A validation of the NACI self-assessment report will be conducted by a small independent review team on an annual basis. The following issues (in accordance with the principles of the Balanced Scorecard) will receive in-depth attention in the validation:
 - Stakeholder perspective
 - Financial perspective

- Organisational (and transformation) perspective
- Learning and growth.
- The validation report with recommendations will be a set item on the agenda of the November meeting of Council in years 1, 2 and 3. A full report with a Council response will be submitted to the Minister after the November meeting (i.e. before the beginning of the next financial year).

In the fourth year, an expert panel will be commissioned to undertake a fully-fledged evaluation of NACI's performance during the Council's full term of office. The Council will be invited to respond to the report, and its response will be included in the report submitted to the Minister in November of the fourth year.

CHAPTER 13

COMMITMENT

The National Advisory Council on Innovation believes that science, technology and innovation are not only the backbone of the nation, but also indispensable sources of national advancement. National investment in science, technology and innovation and an effective and efficient utilisation of the resultant new knowledge separates stagnant economies from growing ones and losers from winners – in short, successful from unsuccessful nations.

With the interests of South Africa at heart, NACI, believing in itself, and trusting in the benefits of science, technology and innovation, accepts the challenge laid out in the National Advisory Council on Innovation Act (Act 55 of 1997) and dedicates itself, through this corporate business plan, to the accomplishment of national objectives, such as the improvement of the quality of life of all South Africans and sustainable economic growth.

NACI has over the past four years accumulated valuable experience and shown that it can make significant contributions to strategy and policy development, and we intend to build on that experience.

Thus, NACI unconditionally commits itself to the search for the most appropriate advice for the Minister of Arts, Culture, Science and Technology. Using the available expertise and resources, NACI shall pursue its mission by utilising accountable scientific approaches and the best available resources in the national interest.

This task can only be accomplished through the dedication, loyalty and commitment of NACI and all other stakeholders.

Appendix A

NACI Councillors: 2004–2007

Name	Position	Organisation
Prof Calie Pistorius - Chair	Vice-chancellor & Principal	University of Pretoria
Dr Rob Adam – CEO	Director-general	Dept of Science and Technology
Ms Luci Abrahams	Director: LINK Centre	University of the Witwatersrand
Dr Ntuthuko Bhengu	Executive Director	Afrika Biopharma Investments
Prof Cheryl de la Rey	Deputy vice-chancellor	University of Cape Town
Mr Alan Hirsch	Chief director	President's Office
Mr Fairoz Jaffer	Chief Executive Officer	Abnoba Information Dynamics
Dr Steve Lennon	Executive director: Resources & strategy	ESKOM
Mr John Marriott	Advisor	SASOL Synfuels International
Prof Tshilidzi Marwala	Associate Professor: School of Electrical & Information Engineering	University of the Witwatersrand
Dr Khotso Mokhele	President and CEO	National Research Foundation
Dr Nhlanhla Msomi	Chief Executive Officer	Lifelab East Coast Biotechnology Regional Centre (ECOBIO)
Dr Francis Petersen	General Manager: Research & Development	MINTEK
Dr Johannes Potgieter	Chief director: Innovation & Technology	Department of Trade and Industry
Mr Geoff Rothschild	Director: Corporate Marketing & Communications	Johannesburg Security Exchange
Mr Thero Setiloane	General Manager: Marketing	AngloGold
Dr Sibusiso Sibisi	President and CEO	CSIR
Dr Mala Singh	Executive director: Higher Education Quality Committee	Council for Higher Education
Dr John Stewart	Consultant: Technology, environment, safety and sustainable development	
Dr Nthoana Tau-Mzamane	President and CEO	Agricultural Research Council
Prof Jennifer Thomson	Professor: Molecular and Cell Biology	University of Cape Town
Dr Nombasa Tsengwa	General manager: Safety, Health and Environment & Land management	Kumba Resources

Appendix B

Members of SARG Board: 2003–2006

Name	Position	Organisation
Ms Luci Abrahams - Chair	Director: LINK Centre	University of the Witwatersrand
Prof Cheryl de la Rey	Deputy vice-chancellor	University of Cape Town
Ms Nicole Dewandre	Director: Women in Science Division	European Union
Mrs Catherine Didion	Executive director	American Women in Science
Prof John Duncan	Dean of Research	Rhodes University
Ms Tina Eboka	Executive vice-president	CSIR
Prof Sharon Fonn	Professor	University of the Witwatersrand
Ms Erika Johnson	General manager: Systems Operations	Eskom
Dr Bongani Khumalo	Chairperson	Transnet
Ms Allyson Lawless	Director	AST Engineering
Dr Stephen Lennon	Director: Resources & Strategy	ESKOM
Prof Lydia Makhubu	President	Third World Organisation of Women in Science
Dr Shirley Malcom	Director: Education and Human Resources	American Association for Advancement of Science
	Vice-chancellor	University of Swaziland
Prof Valerie Mizrahi	Service Director: MRC/NHLS/Wits Research Unit	University of the Witwatersrand
Ms Zuki Munyai	Chief executive officer	Muvhango Technologies
Ms Bongwiwe Njobe	Director-general	Department of Agriculture
Ms Khungeka Njobe	Director: Environmentek	CSIR
Ms Susan Nkomo	Chief executive officer	Office of the Status of Women, President's Office
Prof Tebello Nyokong	Professor: Chemistry	Rhodes University
Dr Elizabeth Rasekoala	Director	African Caribbean Network of Science and Technology
Dr Helen Rees	Director: Reproductive Health Research Unit	Chris Hani Baragwanath Hospital
Prof Jennifer Thompson	Professor: Molecular and Cell Biology	University of Cape Town

Appendix C

List of acronyms

AA	Annual advice
ACS&T	Arts, Culture, Science and Technology
AIDS	Acquired immune deficiency syndrome
ANC	African National Congress
ASSAf	Academy of Science of South Africa
AWACS	Airborne Warning and Control System
CEO	Chief executive officer
CLI	Composite leading indicators
COHORT	Committee of Heads of Organisations of Research and Technology
CSIR	Council for Scientific and Industrial Research
DST	Department of Science and Technology
ExCo	Executive committee
FDI	Foreign direct investment
FEST	Foundation for Education, Science and Technology
GAAP	Generally accepted accounting principles
GDP	Gross domestic product
GERD	Gross domestic expenditure on R&D
HEQC	Higher Education Quality Committee
HES	Higher education system
HIV	Human immunodeficiency virus
HSRC	Human Sciences Research Council
ICT	Information and communications technology
MA	Mixed forms of advice
MRC	Medical Research Council
MTEF	Medium term expenditure framework
NACI	National Advisory Council on Innovation
NEPAD	New Partnership for Africa's Development
NHLS	National Health Laboratory Service
NRDS	National Research and Development Strategy
NRF	National Research Foundation
NSI	National System of Innovation
NSTF	National Science and Technology Forum
OECD	Organization for Economic Co-operation and Development
PMFA	Public Finance Management Act
R&D	Research and development
RA	Researched advice
S&T	Science and technology
SARG	South African Reference Group on Women in Science and Technology
SAUVCA	South African Universities Vice-Chancellor's Association
SC	Science council
SETI	Science, engineering and technology institution
USA	United States of America
WSSD	World Summit on Sustainable Development