



2005 ANNUAL REPORT

2006 ACTION PROGRAMME

General Meeting of 6 December 2005

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I / 2005 Annual Report

I. CONTINUATION OF THE PROJECT MANAGER CONSULTANT (PMC) SERVICE ON THE BASIS OF A “RÉUNION ENERGY PROJECTS & DEVELOPMENTS” GIS (GEOGRAPHICAL INFORMATION SYSTEM)

ACTION No. 1 *Managing 30 active Project Manager Consulting Contracts in 2005, including at least 15 new ones*

⇒ 2005 PROGRAMME: 30 ACTIVE PMCs INCLUDING 15 NEW ONES

What is the PMC concept?

The Project Manager Consultant (PMC) service was defined during the first years of ARER as support to Project Managers to help them integrate the energy dimension into their development, construction or transport projects. The action consists in (i) making business stakeholders such as engineering firms and contractors specially commissioned by Project Managers generate feasibility, planning and engineering studies, (ii) applying to potential sponsors for government energy subsidies with fully prepared application dossiers, then (iii) implementing renewable energy and energy control devices in the territory of Réunion in line with the general energy self-sufficiency political objective set for the island in PRERURE (Regional Programme for Renewable Energy and Rational Energy Use).

Assessment and evaluation of Energy Control (EC) and Renewable Energy (RNE) generated power

Since the beginning of ARER's PMC activity, 165 PMCs have been registered in our Intranet database. They are classified in terms of activity status (active, suspended, abandoned, completed) and PMC family (Construction, RNE, EC, Global Energy Strategy, Development Project, Town Planning Document Support).

83 PMC projects were listed as active in 2005 and 25 new PMCs were processed. No PMC was considered completed. 17 projects were suspended. The remaining projects were considered as abandoned or to be reactivated on the basis of new government subsidy patterns.

PMC specifications can be accessed on ARER's Intranet (PMC database) as project management tools and information synthesis overview. Intranet versions of project descriptions and progress reports are well edited on the whole; some still need to be improved.

However not all projects are quantified in terms of financial scale, survey and investment, power performance, RNE-generated kWh (RNE Megawatt Plant), installed storage capacity and intermittent energy regulation.

Our summary assessment to date is as follows: for the 2006-2010 period the 83 projects represent 15 megawatt potential power saving in terms of EC (essentially thermal comfort, low-energy equipment and SWH [solar water heating]) and RNE (essentially PV). The ARER team is currently in the process of quantifying these potentials and producing criteria grids to be used according to the relevant PMC family:

- **Construction:** integration of PERENE (Energy Performance of Buildings), HEQ (High Environmental Quality), CASADD (SD House), EC and RNE and, more rarely, energy storage.
- **RNE:** biogas from Refuse Burial Sites, wind farms, micro power dams, etc.
- **EC:** differed cold storage, SWH (Solar Hot Water), electric equipment renewal campaign, etc.

For the first three families, power assessment, consumption and production as well as installation planning can be calculated rather easily. Calculation can be made in line with assessment methods used for PRME (Regional Energy Control Plan) and PRERURE studies. The issue of equipment life must be evaluated.



For the following PMC families, which are breeding grounds for important projects but where development is a middle- or long-term process with gradual build-up, evaluation grids are still to be fine-tuned in terms of methods:

- **Global energy strategy**: local authorities' or major groups' multi-annual action plans, property management —incentive for flow management creation and implementation of property flow follow-up (water, energy, waste, telecommunications, property equipment renewal cycle for upkeep and maintenance, etc.), large building energy strategy, etc.
- **Development projects**: solar-powered industrial and housing estates, business parks, slum replacement projects, etc.
- **Town planning document support**: support for the setting up of SCOT (Land Development Consistency Plan) and various urban and land development plans.

Lastly, the following actions have been added on that project management basis (not counted in the figures above). They represent an energy saving potential to be assessed as per a grid to be set up:

- **System developments**: wave energy, geothermics, SD houses, blocks of flats and hotels.
- **Publications**: CASADD guide, PV procedure guide, large building SHW guide, etc.
- **Training**: PERENE, integration of solar systems in construction, etc.
- **Applied R&D (ARER PFRD [Training and R&D Centre] placement theme)**

The ARER team's self-set objective is to make all those data available as methods, capturing tools and results, by late January 2005.

Project control, methods & quality: changes to be made

All those varied, significant PMC projects (be they successful or not) are a precious capital. We are banking on our experience to develop our know-how for more efficient and proactive performance. Basic work is in progress at ARER to improve our in-house processes as well as cooperation with project managers and financiers, so that we can be fully operational for ARER's ambitious—but necessary and realistic—2006 PMC programme.

Setting up a quality charter and adequate tools within ARER: in line with assessment Action No. 4 below, our internal tools, methods and quality control processes are being changed. All those elements will be revised and implemented by late 2006. ARER technicians will then be responsible for implementing the overall quality charter aimed at making ARER teams more efficient and ensure consistency of all our PMCs.

- **PMC Intranet operative base management**:
 - Adapting and integrating economic and financial performance capturing grids with respect to PMC families
 - Providing reading access to project managers and financiers
- **Setting up an FTP server**
 - Classification plan and thesaurus
 - Specifications library accessible via FTP server
 - Library containing agreements with project managers
 - PMC project opinions and analyses library, with multi-criteria analysis tools for findings/feed back from engineering firms and contractors (compliance matrix)
- **Managing budgets for local authorities and companies involved in PMC projects**
- **Data storage and backup**
- **Interfacing with the technical reference document entitled "Energy Self-Sufficiency Strategy for Islands and Regions 2000-2005-2015-2025-2050: An Answer for Island Territories' Adaptation to Climate Change."**
- **Internal quality control cycle; engineering methods and project consistency**
- **External quality control cycle and performance evaluation**
- **ARER technician training**



Regarding co-operation with project managers: See Action No. 4 to be renewed.

Regarding co-operation with financiers and PRME: See Actions No. 2 and 3 and future organisation including PRERURE 2005 guidelines. On the basis of such tools, a joint PRERURE/PRME/SIDELEC/ARER GIS system could be set up to generate a comprehensive view of energy actions currently implemented in Réunion. This would serve as a general database necessary for energy output and consumption monitoring, Negawatt station, Megawatt station and storable power.

ACTION No. 2

Pursuing improvement of co-ordination with other stakeholders, notably through the organization of monthly meetings with other energy stakeholders and creation of a joint database for all Réunion Island project managers

⇨ 2005 PROGRAMME

A series of regular meetings was attempted between the ARER team and PRME stakeholders. In 2005, PRERURE surveys were started for short-term operations, and organisation methods between energy stakeholders were defined. These methods, to be implemented in 2006, are expected to improve stakeholder cooperation efficiency significantly.

ARER's Intranet PMC base can be accessed by PRME stakeholders. This project base could become PRME stakeholders' tool, then a common tool for monitoring PRERURE projects.

ACTION No. 3

Giving clear details of financial aid available to project managers linked to the CME (Energy Control Committee) by publishing reports on public subsidies granted during the last 5 years together with a map of aid recipients. Publishing a government subsidy procedure guide once the one-stop shop and sole contact person issue has been clarified. In the first stage the document will be used within ARER and with Energy partners

⇒ 2005 PROGRAMME – NOT APPLICABLE TO ARER

Taken over by ADEME as requested by ADEME's December 2004 General Meeting. Production of this analysis of government aid allocated in recent years and projects that actually led to investments provided useful lessons to improve overall PMC processing performance. The PRERURE system described in 2005 is likely to provide an overall organisation that can address those issues.

ACTION No. 4

Systematically assessing method and results by exploiting the questionnaire sent by ARER to all PMC contacts

⇒ 2005 PROGRAMME

Reviewing PMC methods used, looking for improvement opportunities, trying to achieve more activity efficiency and better coordination with financiers. Very few questionnaires were returned. This action is to be redefined; external quality control, technical support procedure, assessment and training for ARER PMC activity are to be implemented.



	Average Mark	33 & 54	9 & 32	78
GENERAL ASPECTS	8.0	5.3	9.4	9.2
Level of information received on project	9.0		9	9
Quality of technicians' advice	9.0		9	9
Return and service completion time	8.3	7	9	9
ARER's reactivity	8.0	4	10	10
ARER's follow up of your project	8.0	5	10	9
TECHNICAL ADVICE	8.6	6.8	9.8	9.2
Quality and relevance of ARER's proposals	8.7	7	10	9
Were reports easy to understand?	8.7	7	10	9
How clearly were reports presented?	8.3	6	10	9
Were reports easy to exploit?	9.5		10	9
Technicians' technical capacity	8.7	7	9	10
ECONOMIC AND FINANCIAL ADVICE	9.5		10	9
Financial structuring advice	9.5		10	9
RELATIONAL ASPECT	9.2	8.0	10.0	9.7
How did you get on and collaborate with our technicians?	9.7	9	10	10
How easy was it to contact the technician in charge of your project?	8.3	6	10	9
Personnel's availability and curtesy	9.7	9	10	10
PMC SERVICE GENERAL SATISFACTION LEVEL	8.6	6.7	9.8	9.3

ACTION No. 5

Helping to pre-design One-Stop Shops for project managers by making government subsidy data and standard application files available in EIEs (Energy Info Centres)

⇒ **2005 PROGRAMME: ACTION RENEWED**

A regular conference cycle has been set up with the ADEME team. The PRME sent the Energy Control Committee's (CME) 2005 programme for exclusive use within ARER. The PRERURE scheme described in 2005 is likely to provide an overall organisation that can address those issues. EIEs are destined to become resource centres for project managers.

II. A NETWORK OF OPERATIONAL DEMONSTRATION SITES (DMOs) WITH TECHNICAL, PERFORMANCE ENHANCING AND POPULARIZATION PUBLICATIONS, LED BY ARER IN CONNECTION WITH CONCERNED PROJECT MANAGERS

DEMONSTRATION SITE FOLLOW-UP SHEET

Micro Region	Utility Group	District	Place (Demo Site)	Negotiation status	Verbal agreement for Charter implementation	Charter sent	Charter signed	Data sheet drafted	Sheet accessible on website
NORTH	CINOR	Saint-Denis	Regional Council	Agreement being closed	Yes	Yes	No	Yes	Yes
			CROUS	Agreement being closed	Yes	Yes	No	Yes	No
			SIDR	Agreement being closed	Yes	Yes	No	Yes	No
			Wood Frame House	Agreement closed	Yes	Yes	Yes	Yes	No
			CCE	Under way (Contact made)	Yes	No	No	No	No
			Roland Garros Airport	Potential	No	No	Yes	No	No
			Cosinus Building	Agreement being closed	No	Yes	No	Yes	No
		CHD Gen. Hospital	Agreement being closed	No	No	No	No	No	
		Sainte-Suzanne	Goyaviers School	Potential	Yes	Yes	No	Yes	Yes
		Sainte-Marie	Espérance School	Agreement closed	Yes	Yes	Yes	Yes	Yes
			Solar-heated swimming-pool	Agreement being closed	Yes	Yes	No	No	
Micro	Utility	District	Place	Negotiation status	Verbal	Charter	Charter	Data	Sheet



Region	Group		(Demo Site)		agreement for Charter implementation	sent	signed	sheet drafted	accessible on website
WEST	TCO	Saint-Leu	Tamarin II SEMADER Housing Project	Potential	Yes	Yes	No	No	No
		Saint-Paul	GIORDANO Solar Water Plant	Agreement closed	Yes	Yes	Yes	Yes	Yes
			Vue Belle Lycée	Agreement closed	Yes	Yes	Yes	No	No
		Le Port	Sustainable Dvpt Station	Under way (Contact made)	Yes	Yes	No	Partly Oct 05	Yes
			DIJOUX Solar Water Plant	Potential	Yes	Yes	No	No	
La Possession	EDENA Plant	Agreement closed	Yes	Yes	Yes	Yes	Yes		
Micro Region	Utility Group	District	Place (Demo Site)	Negotiation status	Verbal agreement for Charter implementation	Charter sent	Charter signed	Data sheet drafted	Sheet accessible on website
SOUTH	CIVIS	Saint-Pierre	GHSR Gen. Hospital	Agreement closed	Yes	Yes	Yes	Yes	Yes
			IUT	Agreement being closed	Yes	Yes	No	Yes	No
			Ambroise Volland Sec. School	Under way (Contact made)	Yes	Yes	To be decided in Board Meeting	Yes	No
		Saint-Louis	Saint-Etienne Technical School (PV installation)	Agreement being closed	Yes	Yes	Pending	Pending	No
	Petite Ile	Les Platanes School	Agreement closed	Yes	Yes	Yes	Yes	Yes	
	CCSUD	Etang-Salé	Atelier des Sables	Under way (Contact made)	Yes	No	No	Pending	No
Le Tampon		Trois Mares Lycée	Agreement closed	Yes	Yes	Yes	Yes	Yes	

Micro Region	Utility Group	District	Place (Demo Site)	Negotiation status	Verbal agreement for Charter implementation	Charter sent	Charter signed	Data sheet drafted	Sheet accessible on website
EAST	CIREST	Saint-André	Saint-André Lycée	Under way (Contact made)	Yes	Yes	No	Yes	Yes
			Bras des Lianes Micro Power Dam	Under way (Contact made)	No	No	No	Yes	No
			Bois Rouge Plant	OK for info dissemination but no visit (Seveso site)	Yes	No	No	Yes	No
		Sainte-Rose	Wind Farm	Under way (Contact made)	No	No	No	Yes	No

ACTION No. 1

Systematically assessing methods and results: exploitation and study of evaluation questionnaire and identification of expectations regarding demonstration network

⇒ 2005 PROGRAMME: DATA PROCESSING

Very few questionnaires returned. See analysis below. This action is to be redefined; external quality control, technical support procedure, assessment and training for ARER PMC activity are to be implemented.

ACTION No. 2

5 work sites launched: Saint-Pierre IUT, Regional Council Hall and 3 solar-powered schools (in principle)

⇒ 2005 PROGRAMME: ACTUAL COMMISSIONING OF THOSE DEMONSTRATION SITES - REVIVAL OF MRST'S ENERGY STRATEGY PROJECT - CONTINUATION OF EC-RNE ACTIONS IN REGIONAL COUNCIL HALL

See demonstration site follow-up details in Table.



The **Regional Council Hall** PV farm is now operative. The other EC aspects of the building are still to be dealt with. Relevant Regional Council services have been approached. An action programme for 2006 will be led in partnership with the Flow Manager (the position is being created in the Réunion Regional Council).

The **Saint-Pierre IUT** site is under way and all lead installations will be operative at the end of the first quarter of 2006. New installations and technologies are envisaged (Solar air conditioning, hydrogen and fuel cell, etc.).

The energy strategy of **MRST** (Regional Centre for Science & Technology) is stalled owing to a dispute between the building contractors and the property owner as a result of numerous defects. The building is energy-wasteful and its air-conditioning system is in a poor state, but it has good potential for solar technologies and the Regional Council intends to upgrade it as an HEQ building.

ACTION No. 3 **Setting up different sites so as to present the whole range of Clean Energy Technologies, formalize an agreement with owners of existing sites and create the first operational site network**

"In theory, diversification projects in addition to Saint-André HEQ Lycée and Bras des Lianes micro power dam, solar water heating and differed cold storage in SIDR social housing blocks, Sainte-Rose wind farm and EDENA mineral water bottling plant could be negotiated with relevant property owners."

See table of demonstration sites.

⇒ 2005 PROGRAMME: ORGANIZING VISITS OF THOSE SITES USING DATA SHEET PUBLISHED AS PAPER-BASED COPY AND DOWNLOADABLE ON OUR WEBSITE

ACTION No. 4 **Publishing the chart and data sheet of Energy Réunion demonstration sites. Including these sites into DRIRE's "Industrial Tourist Guide"**

⇒ 2005 PROGRAMME: INCLUDING DEMONSTRATION SITES INTO DRIRE'S INDUSTRIAL TOURIST GUIDE

A proposal letter was sent by ARER to DRIRE (Regional Agency for Industry, Research and Environment). To date there is no tourist guide of that kind. The chart of Energy Réunion demonstration sites is available.

A performance data acquisition survey could be carried out in 2006 to complement site technical data sheet (survey by Regional Council as property owner). Data thus gathered can then be exploited by the University of Réunion and energy professionals.

ACTION No. 5 **Proposing that all demonstration sites sign the chart, and organizing animation and discovery visits of these sites with support from the ARER team and the mobile Energy Info Centres (EIE) ("Four Winds Bus")**

⇒ 2005 PROGRAMME: DRAFTING METHODS, PUBLISHING DATA SHEETS AND IMPLEMENTING A VISIT PROGRAMME WITH SITE MANAGERS – SUPPORTING 2005 EVENTS AND TRAINING SCHEMES

- Charter to be sent to various partners for signature: see Follow-up Table
- Site technical data sheet publication to be continued: see Follow-up Table
- Demo site sheet dissemination in demo sites and relay points
- Analyzing document flows in each site
- Data sheet publishing method to be defined
- Setting up a demonstration site attendance figure follow-up system accessible on the Internet



III. PURSUING THE STRUCTURING OF THE EIE NETWORK AND RELEVANT TOOLS AND TEAMS, TO BE MUTUALIZED WITH SUSTAINABLE DEVELOPMENT NETWORKS

ACTION No. 1 *Pursuing the publication of advertising documents in Creole in partnership with ADEME and other stakeholders*

⇒ 2005 PROGRAMME:

- WORKING OUT A GUIDE ON “ENERGY & LOCAL AUTHORITIES”
- SD-ADAPTED PRIVATE HOUSE FLYER, PRACTICAL GUIDE FOR THE GENERAL PUBLIC (USING DATA FROM POSTERS AND 3-MIN QUESTIONNAIRE) AND CHOICE OF DISSEMINATION POINTS
- FINALIZING AND UPDATING THE EIE REFERENCE DOCUMENT
- EC REFERENCE DOCUMENT
- H2 REFERENCE DOCUMENT
- CD-ROM: ALL DOCUMENTS DOWNLOADABLE FROM WEBSITE

Two guides were finally published in 2005:

- CASA DD General Public Guide (3,000 copies) and the “Partners’ 3-Minute” Questionnaire.
- PV Procedure Guide (1,000 copies)

The EIE technical reference document, EC technical reference document and “Energy and Large Buildings” Guide were updated for internal use but not published. These documents will be used for ARER’s website 2006 overhaul. The H2 reference document is postponed until the first structuring works of the “Hydrogène Réunion 2006” Group (set up on 21 September 2005) are completed. The Guide of Solar Hot Water for Réunion Island Large Buildings was pre-designed by the PFRD in 2005.

ACTION No. 2 *Organizing reception areas in existing and future EIEs with exhibitions and demonstration equipment*

⇒ 2005 PROGRAMME: STRUCTURING TO BE CONTINUED ON THE BASIS OF WELL-DEFINED EQUIPMENT STANDARD AND FUNCTIONS

2005’s first quarter was devoted to drafting the equipment and function programme, including specific features of each EIE and cost estimates for related works and supplies. A Project Manager was appointed to complete layout plans and signage of EIE premises. Preliminary studies were produced for the North, HUB, IUT and West EIEs. These documents are to be complemented by a marketing and advertising drive leading to general signage of our activities. Fund-seeking must be organized for the works of each EIE.

ACTION No. 3 *Making EIEs available to other sustainable development stakeholders so as to optimize EIE operation; in particular by organizing relay presentations of other Réunion Island sustainable development sectors and stakeholders*

⇒ 2005 PROGRAMME: INCREASING PARTNERSHIP WITH THE ISLAND’S SUSTAINABLE DEVELOPMENT STAKEHOLDERS



A group of Réunion Island stakeholders is being set up to pool means and organize a sustainable development network. Some documents are already available in our EIEs, especially on CIVIS's (South-West Districts Utilities Group) waste recycling campaign. More entities are to be added to the group.

ACTION No. 4 *Pursuing the structuring of the PIE (Energy Information Booth) network in partnership with ADEME and other entities so as to have 4 EIEs by 2006 (one per micro-region), as scheduled in ARER's 2001-2006 development plan*

⇒ 2005 PROGRAMME: SETTING UP AND OPERATING THE WEST EIE AND PRE-DESIGNING THE EAST EIE

West EIE

As per a decision of ARER's Board of Directors dated 29 March 2005, the West EIE was located in Saint-Leu with financial investment support by TCO (West Districts Utilities Group). The first phase of works was completed between June 2005 and October 2005 and operation started in mid-November 2005. The second phase of works is already scheduled but has been delayed awaiting Building Permit for façade layout and exterior signage.

East EIE

In agreement with Directors, the objective is to install the East EIE in Saint-Benoît. The Saint-Benoît Municipality and CIREST (East Districts Utilities Group) have been contacted in view of a financial and operational partnership: the East EIE cannot be opened and structured without them.

ACTION No. 5	<u><i>Planning the scheduled route of the "Four Winds Bus" early in the year as well as available exhibition circuits</i></u>
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⇒ 2005 PROGRAMME: SAME AS 2004

Programme established according to ARER's detailed plan listing exhibition opening times and locations. To be continued with the help of the future officers' team.

ACTION No. 6 *Mobilizing environment officers to present the Four Winds Bus and exhibitions*

⇒ 2005 PROGRAMME:

- FORMALIZING AND SUCCESSFULLY IMPLEMENTING OFFICER TEAMS TRAINED IN OUR EIEs DURING OUR EVENTS, IN SCHOOLS AND ON THE MOBILE BUS
- SETTING UP EXHIBITIONS, PLANNING EXHIBITION VENUES AND OPENING TIMES (2 EXHIBITIONS PER MONTH) – DEFINING ACTIONS WITH RELEVANT STAKEHOLDERS: DRAC (REGIONAL CULTURAL AFFAIRS BOARD) FOR MEDIA CENTRES, CRDP (SCHOOL DOCUMENTATION CENTRE) AND LOCAL EDUCATION AUTHORITY FOR SECONDARY SCHOOL LIBRARIES – OBJECTIVE: ONE MEDIA CENTRE AND ONE SECONDARY SCHOOL PER MONTH, AS WELL AS RELAY POINTS MENTIONED ABOVE

Officers: an Energy Officer training course was held in September 2005. A fine-tuned definition of the officers' team was produced and introduced into ARER's 2006 action programme with the view of setting up a team of 12 Commercial Energy Officers present on ARER's EIEs.

Exhibitions and opening times: numerous exhibitions on renewable energy are available at ARER's or ADEME's. Some can be viewed in solar-powered schools, Roches Maignres Lycée EC centre, and Saint-Pierre media centre. All available exhibitions are presented on ARER's website. Planning work was done to circulate exhibitions and organize opening times. However no operational implementation followed. This work will have to be taken over by



the future officers' team in collaboration with Sciences Réunion and various associations like "Petits débrouillards" (Little Smart Ones).

ACTION No. 7 *Improving marketing and increasing advertising of EIEs*

⇒ 2005 PROGRAMME

- **DEFINING THE EIE RELAY POINT NETWORK INCLUDING DEMONSTRATION SITES AND OTHER STAKEHOLDERS, AND FORMALIZING THE APPROACH (DIALOGUE WITH ASSOCIATIONS AND PROPOSED ENTITIES)**
- **CONTACTING LOCAL MEDIA AND DEFINING MEANS REQUIRED TO START A SERIES OF REGULAR ADVERTISING ACTIONS IN 2005 THROUGH ENERGY COLUMNS ADAPTED TO THE LOCAL CONTEXT AND AIMED AT VARIOUS TARGET PUBLICS: SCHOOLCHILDREN, GENERAL PUBLIC, PRIVATE INDIVIDUALS, PROFESSIONALS, LOCAL AUTHORITIES, GENERAL-INTEREST AND SPECIALIZED PRESS, LOCAL AUTHORITIES' AND GUILD, AGRICULTURAL AND COMMERCIAL CHAMBERS' NEWSLETTERS**
- **CREATION OF AN "ENERGY INFO BOX" AND "ENERGY INFO RELAY POINT" ON THE WEBSITE**

Micro Region	Utility Group	District	Place (Relay Point)	Negotiation status	Verbal agreement for Charter implementation	Charter sent	Charter signed	Mentioned on website	
WEST	TCO	Saint-Leu	Town Planning Dept	Agreement closed	Yes	Yes	No	Yes	
			Botanical Conservatory	Under way (Contact made)	Yes	Yes	No	No	
			Stella Matutina Museum	Under way (Contact made)	No	No	No	No	
		Trois Bassins	Town Planning Dept	Potential	No	No	No	No	No
			Town Planning Dept	Under way (Contact made)	Yes	No	No	No	No
		Saint-Paul	CMA (Guild Chamber)	Potential	Yes	No	No	No	No
			Réunion Island Aquarium – St Gilles	Agreement being closed	Yes	Yes	No	No	No
			St-Paul Media Centre	Agreement being closed	Yes	No	No	No	No
		Le Port	Town Planning Dept	Under way (Contact made)	Yes	Pending	No	No	No
La Possession	Town Planning Dept	Potential	No	No	No	No	No		
Micro Region	Utility Group	District	Place (Relay Point)	Negotiation status	Verbal agreement for Charter implementation	Charter sent	Charter signed	Mentioned on website	
SOUTH	CIVIS	Saint-Pierre	Town Planning Dept	Agreement closed	Yes	Yes	Yes	Yes	
		Petite Ile	Town Planning Dept	Agreement being closed	Yes	Yes	No	Yes	
		Cilaos	Town Planning Dept	Agreement closed	Yes	Yes	Yes	No	
	CCSUD	Saint-Joseph	Town Planning Dept	Under way (Contact made)	No	No	No	No	
		Le Tampon	Maison du Volcan	Agreement being closed	Yes	Yes	No	No	
Micro Region	Utility Group	District	Place (Relay Point)	Negotiation status	Verbal agreement for Charter implementation	Charter sent	Charter signed	Mentioned on website	
NORTH	CINOR	Saint-Denis	Regional Council Hall	Agreement being closed	Yes	Yes	No	No	
		Saint-Denis	CAUE	Agreement being closed	Yes	Yes	No	No	
		Saint-Denis	ORA	Agreement being closed	Yes	Yes	No	No	
		Sainte-Marie	Town Planning Dept	Agreement being closed	Yes	Yes	Yes	Yes	
Micro Region	Utility Group	District	Place (Relay Point)	Negotiation status	Verbal agreement for Charter implementation	Charter sent	Charter signed	Mentioned on website	
EAST	CIREST	Saint-André	Town Planning Dept	Under way (Contact made)	Yes	Yes	No	Yes	
			CFA St-André (Guild Chamber)	Under way (Contact made)	Yes	No	No	Yes	

Relay Points generate a substantial flow of documents. Some 3708 various items of literature were handed out between May 2005 and November 2005 (total cost estimate: €4,970).



ACTION No. 8 *Organizing synergy with CAUE, ADIL, local authorities and other sustainable development stakeholders*

⇒ **2005 PROGRAMME:**

- **FORMALIZING WORK AND PLANNING ORGANIZATION FOR EDUCATIONAL ACTION FIELD STRUCTURES**
- **MOBILIZING MEDIA PEOPLE TO SPONSOR AWARENESS ACTIONS AND EVENTS**

ARER documents have been placed at the disposal of CAUE (Architecture, Town Planning & Environment Council). ADIL (County Agency for Information on Housing) wants to connect ARER's and ADIL's websites. Very few significant results have been obtained. Dialogue started with stakeholders must be developed.

ACTION No. 9 *Objective: 1,000 EIE contacts (Visitors in EIEs and calls on 0262 257 257)*

⇒ **2005 PROGRAMME: 1,000 CONTACTS, INCREASING THE NUMBER OF DOCUMENTS AND STRUCTURES PRESENTED IN OUR EIEs**

The number of people calling at EIEs and on 0262 257 257 is on the rise, but the 1,000 contact target (both in EIEs and on 0262 257 257) has not been reached. The new EIE to be opened in the West should help increase calls.

EIE Indicators: Calls at EIEs and on 0262 257 257

Year 2005	Total	Number per sector				FAQ (Frequently Asked Questions)
		North	South	West	East	
January	11	0	3	5	3	PV, Casa DD (SD House)
February	9	0	4	1	4	PV, Casa DD
March	30	8	11	10	1	PV, Casa DD
April	10	2	6	2	0	PV
May	65	34	31	0	0	PV, Casa DD
June	29	16	13	0	0	PV, Casa DD, Insulation
July	22	8	9	3	2	PV
August	38	6	24	6	2	PV
September	54	13	31	5	5	PV, SWH
October	35	6	18	7	4	PV, SWH, Casa DD
November	37	6	17	8	6	PV, SWH, Casa DD
December	15	5	8	2	0	PV, Casa DD
TOTAL	355	104	175	49	27	

REUNION ENERGY EVENT ATTENDANCE (EIE BUS) and EIE PROMOTION

Year 2005	Total	Number per sector				Theme
		North	South	West	East	
January	0					
February	25	11	7	7		"Energy Label" Salespeople training, Salespeople public
March	60		60			Schoolchildren on the "Renewable Energy" main theme plus Casa DD for Construction Economy Higher Technical Degree students
April	159		47	100	12	Schoolchildren/students & physics teachers
May	1,550	800		550	200	2005 Home Show, SD week promotion
June	333		43	230	60	RNE promotion
July	132	103		3	14	Energy & Local Authorities Seminar, PFRD, Mafate
August	30	30				Geothermics Symposium – ACER
September	102	15	15	72		Réunion Energy 2025 Perspective – Le Tampon APR
						Summer Forum: - Strategies for Energy Self-sufficiency in Island and Regional Territories 2000-2050



October	319		272	47		- Present and Prospective Assessment of Technological Sectors, Jobs, Training, and Research & Development - Control of Insular Energy Systems - Developing, Building and Transporting so as to Curb Annual Energy Demand Growth - Réunion Island's energy policy
November	330	253	77			Symposium, Science Festival, Promotion
December	170			30	140	Casa DD, Renewable Energy
TOTAL	3,210	1,212	521	1,051	426	

The number of EIE contacts through field promotions and “Réunion Energy” events is steadily increasing. Impact of such actions can be felt in the growing number of RNE and EC projects in Réunion Island as well as in frequent articles on energy in Réunion’s Internet and written press, radio and television.

IV. PROMOTING THE “ENERGY PROFESSIONS & TECHNOLOGY OBSERVATORY” (Obs), A TRUE RESOURCE CENTRE, AND MUTUALIZING CERTAIN ACTIONS WITH OTHER SUSTAINABLE DEVELOPMENT STAKEHOLDERS

ACTION No. 1 *Pooling ARER’s documentary centre with other stakeholders and putting book references online*

⇒ 2005 PROGRAMME: PUTTING THE DATABASE SHOWING AVAILABLE DOCUMENT REFERENCES ONLINE

Setting up documentary classification tools

The first step consisted in creating a Dewey classification-inspired theme thesaurus adapted to existing documents as well as ARER’s website diagram and various other documents.

A shelf mark system was set up to classify documents according to thesaurus entries and related computing tools.

Then two tools were defined and designed in collaboration with the computing service provider:

- A document-capturing tool making it possible to record documents in a dedicated SQL database.
- A document stock management tool for document stock follow-up (information literature and leaflets handed out in relay points and Energy & Sustainable Development Info Centres [EIEs]) was also set up.

Tool operation and development tests were conducted by the researcher and consulting technicians to guarantee proper operation.

Starting tool operation

Physical document storage before labelling required restoration and binding of some documents. Setting up document explanatory leaflets was the most time-consuming task.

ARER employees were trained in document registration. They are now qualified to carry on the job.

2,889 items were recorded on various supports (digital, paper, etc.). These include:

- reference books, theses and other studies,
- technical files,
- legal documents,
- directories,
- educational documents and CD-ROMs,
- general-interest and specialized magazines.



The last part of the assignment was the setting up of explanatory notices for document base and stock management notices (see annexes). Only a small number of shelf marks of documents downloadable from ARER's website were entered (this was done simultaneously for documents in book form such as the CASA DD Guide).

No document loan service is planned, but documents can be consulted on site. The document base and its related search engine will be put on line in November 2005; it will then be possible for the public to access all documents.

Fabienne M'SAIDIE, Line RIVIERE, Mathieu ACCADEBLE and EIE officers are in charge of organizing the decentralization of ARER's document resource centre in EIEs (including the PMC paper base). Data capture is in process and software is being tested.

Title	
Author	Surname, Name / ...
Summary	
Description	Number of pages; book height (x cm); illustrated/colour cover; colour/black illustrations; tables; graphs; sketches; plans; organisation charts
Document type	Printed text; manuscript; music score; map; video; sound track; electronic resource; on-line resource graphic doc; multisupport doc; 3D object; other
Support	File; CD-ROM; brochure; book; thesis; placement report; periodical; audio cassette; video cassette; audio CD; poster; binder; photo CD; drawing; slide; disket; DVD-ROM; video DVD; film; Internet; microfilm; multisupport; photograph; map; plate; electronic resource; transparency; box case; other
Condition	New / Good condition / To be scrapped
Language	French / English / German / etc.
Shelf mark	Number placed in front of the Thesaurus line. Then add the first 3 letters of the author's surname or the title's first 3 letters if there is no author. Indicate place (e.g. IOI, FRA, etc.) and function (periodical = (0); directory = (058)). Example of shelf mark: 13(0)ARE(FRA) for a French environment periodical.
Thesaurus	(Thesaurus describers)
Key words	(free describers)
ISBN	= International Standard Book Number (for books)
ISSN	= International Standard Serial Number (for periodicals)
Publisher	
Collection	Lists all works on the same subject
Collection No	Placed on book edge
Edition	(Ex: 5 th Edition updated)
Publication date	
Location	St Pierre IUT / North EIE / South EIE / East EIE / West EIE
Inventory No	Number given automatically when notices are created. Makes it easier to find a book during inventory.

Title	<i>Bienvenue dans 11 villes européennes – Echanges de bonnes pratiques</i>
Author	Energie-Cités / Système solaire / Quirion, Philippe / Louchard, Olivier / et al.
Summary	Seeing what has been done on the spot, gathering information meeting stakeholders who completed concrete actions and exchanges in 11 European cities.
Description	47 p.; 30 cm; illus. col. cover; black illus.; tables; sketches; plans; organisation charts; graph
Document type	Printed text
Support	Book
Condition	New
Language	English / French
Shelf mark	13 ENE (EUR)
Thesaurus	13 Sustainable development / Action indicators /
Key words	Environment / Europe / Action / Sustainable Development
ISBN	2-6534-546-4
ISSN	1234-7654
Publisher	ADEME / Energie Cités /
Collection	Visit catalogue /
Collection No	4
Edition	3 rd Edition
Publication date	2001
Location	St Pierre IUT

Validate resource



ACTION No. 2

Pursuing the development of ARER's websites; putting studies, analyses and standard specifications online

⇒ **2005 PROGRAMME:**

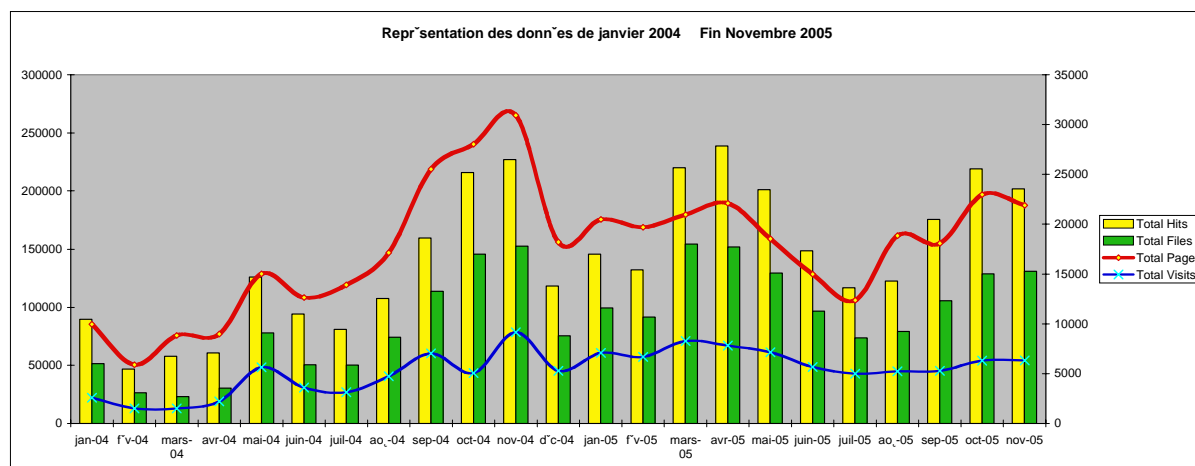
- CREATION OF A PAGE EXCLUSIVELY TARGETED AT THE PRESS AND A PAGE FOR OVERSEAS EIEs. REVIVAL OF LENERZIPEI.COM WEBSITE
- SPECIAL EIE AND ENERGY INFO RELAY POINT WEB PAGE
- CROSS BROWSING WEB PAGE

January 2004 to November 2005 hit statistics are shown below. Annual visit number is significant but now seems to level off or even slightly drop. The 2006 general overhaul of the ARER.ORG site should make all web surfers looking for information on energy happy.

Month	Total Hits	Total Files	Total Pages	Total Visits	Total ace or pdf doc downloading
Jan-04	89703	51669	9970	2600	4972
Feb-04	46941	26340	5903	1511	3965
Mar-04	57851	23068	8849	1508	3060
Apr-04	60764	30489	8969	2216	4971
May-04	126052	77947	15022	5650	7929
Jun-04	94278	50673	12654	3612	6150
Jul-04	80993	50412	13925	3138	7057
Aug-04	107759	74294	17161	4737	12058
Sep-04	159529	113786	25528	7032	16050
Oct-04	215859	145844	28033	5065	19888
Nov-04	226970	152691	30926	9159	25230
Dec-04	118310	75418	18184	5285	12926
Jan-05	145743	99500	20459	7096	17239
Feb-05	132286	91582	19674	6699	12815
Mar-05	220065	154396	20966	8278	10431
Apr-05	238752	151893	22089	7824	10222
May-05	201053	129558	18527	7156	7057
Jun-05	148788	96760	15005	5677	7671
Jul-05	116801	73832	12395	5004	8245
Aug-05	122503	79189	18835	5239	11198
Sep-05	175356	105593	18095	5279	7735
Oct-05	218997	128822	22973	6312	14205
Nov-05	201863	130952	21901	6344	12926
Per day	4759	3043	584	176	351
Total	3307216	2114708	406043	122421	244000



January 2004 to late November 2005 Data Graph



ACTION No 3

Running an Energy placement and job offer and demand service within ARER or in voluntary work structures (10 placements in 2004)

⇒ 2005 PROGRAMME: 8 TECHNICIAN TRAINEES (ONE PER EMPLOYEE), 1 COMPUTER TRAINEE. SYSTEM TO BE EXTENDED TO INTERESTED PARTNERS

Every year ARER's Research & Development placement centre receives trainees in the final stage of their studies in order to develop rational energy use and renewable energy themes for implementation in Réunion Island.

2005 trainees:

- **Jean-Yves ESPESO** (18 April – 16 September 2005) – 4-year student at ESE-IER Ecole Supérieure Européenne d'Ingénierie de l'Espace Rural [European School of Rural Engineering] – University Degree in Land Development & Environment Control, Poisy (Haute-Savoie). **Placement theme: "Biomass & Energy Inventory of Réunion Island, Energy Recovery Processes & Future Prospects"** – Supervisor: Patrice JULLIAN.
- **Nicolas LEBRUN** (28 March – 18 July 2005) – B.Sc student in "Energy Control & Renewable Energy Sciences & Technologies" at Lycée La Baronnerie, jointly with Université Catholique de l'Ouest and Université d'Etat à Angers (Maine-et-Loire) – **Placement theme: "Setting up a Database on Materials and Equipment Adapted to Réunion Island's Sustainable Development House Project"** – Supervisor: Anthony LUCAS.
- **Frédéric DAMBREVILLE** (4 July – 21 September 2005) – Undergraduate student at Institut de l'image de l'océan indien (ILOI) [Indian Ocean Image School] – **Placement theme: "Support to ARER's Database Management"** – Supervisor: Jérémie HOARAU.
- **Lois D'ABBADIE** (30 June – 18 August 2005) – Engineering student at Ecole Nationale Supérieure de Physique de Grenoble [Grenoble Higher School of Physics] – **Placement theme: "A Guide for Solar-Generated Hot Water in Réunion Island's Large Buildings"** – Supervisor: Christophe RAT.
- **Aurélien DUMONT** (18 May 2005 – 18 August 2005) – Graduate Engineering student in "Environment-Oriented Industrial Engineering" at Ecole des Métiers de l'Environnement, Bruz [School of Environment Trades] (Ile-et-Vilaine) – **Placement theme: "Setting up a Database on Materials and Equipment Adapted to Réunion Island's Sustainable Development House Project"** – Supervisor: Willy ARABOUX.
- **Jean Loup CLERMONT** (11 April 2005 – 29 July 2005) – Professional-Oriented B.S.C in Renewable Energy & Energy Saving at Ecole des Métiers de l'Environnement, Bruz [School of Environment Trades] (Ile-et-



Vitaine) – **Placement theme: “Setting up a Database on Materials and Equipment Adapted to Réunion Island’s Sustainable Development House Project”** – Supervisor: Olivier MAILLOT.

- **Frédérique RIMBERT** (7 March 2005 – 26 August 2005) – Student in Thermics & Energetics at Ecole Polytechnique de l’Université de Nantes [Nantes University Polytechnic School] – **Placement theme: “Energy Strategy for Large Public Buildings (Airports, Hospitals, etc.): Computer Tools & Methods for Energy Scenario Simulation”** – Supervisor: Idriss INGAR.
- **Jean-Bernard MICHEL** (7 March 2005-7 October 2005) – 2-year student at ENSIATE Enseignement supérieur d’ingénierie appliqué à la thermique et l’énergie [Higher School of Thermics & Energy-Oriented Engineering] (Paris), Joint curriculum with APAVE [Technical Safety & Quality Control Board] (Paris Agency) – **Placement theme: “Sustainable Construction Housing Project: Working out a Technical Reference Document for Réunion Island”** –Supervisor: Stéphanie LAPORTHE.
- **Pierrick BERNARD** (01 October 2005 – 31 March 2006) – Student at the “Department of Natural and Environmental Sciences – Mid Sweden University – S-831 25, Östersund, Sweden, Tel: +46 63 16 54 72 – Fax: +46 63 16 54 50 <http://www.ntm.mh.se/ecosud/Masters.pdf> - Formation: Master Ecotechnology & Sustainable Development – **Placement theme: “Environmental Hotel Management for Tropical Islands”** – Supervisor: Nicolas PICOU.
- **François GILLES** (15 October 2005 – 15 October 2006) – 3-year Business School student at ESC: Ecole Supérieure de Commerce [Bordeaux School of Management] – Talence (Gironde) – **Placement theme: “ARER’s Information & Communication Tool Promotion Strategy”** – Supervisor: Fabienne M’SAIDIE.

ACTION No. 5 **Defining the “Flow Manager” and “Energy Technical Adviser” job profiles and promoting the hiring of at least 3 Flow Managers in 3 Local Authorities**

⇒ 2005 PROGRAMME: INSOURCING FLOW MANAGEMENT SERVICES FOR AUTHORITIES INVOLVED IN THE CEP; TRAINING TECHNICIANS AND LOCAL CIVIL SERVICE ENGINEERS FOR FLOW MANAGEMENT PROBLEMS THROUGH CNFPT (NATIONAL CENTRE FOR LOCAL CIVIL SERVICE) AND OTHER PARTNERS WILLING TO JOIN IN

Job descriptions were sent to local authorities and AITF (Association of France’s Local Civil Service Engineers). Flow manager positions were advertised to authorities’ representatives during the symposium and local authority officials were trained in flow management techniques.

- Two CEP (Energy Sharing Consulting Service) PMCs are in progress in Saint-Leu and Saint-Paul. A Flow Manager (FM) was hired in Saint-Leu. A training scheme is being set up.
- County Council: implementation of a Flow Manager position was proposed and an FM was hired in 2005.
- The Regional Council is preparing the creation of an FM position in 2006.
- A Flow Manager training scheme could be set up.

ACTION No. 6 **Training 6 Energy, Environment and Sustainable Development Officers jointly with District Communities**

⇒ 2005 PROGRAMME: TRAINING 6 OFFICERS AND APPOINTING 6 OTHER OFFICERS

The training scheme (attended by 15 Officers—mainly from District Communities) was completed in September 2006.

District Communities should be approached to discuss future joint funding of the Commercial Officers’ team, a key element of ARER’s 2007-2013 development plan currently in preparation.

ACTION No. 7 **Updating and advertising the Réunion Island Energy Directory through the website, fleshing it out with Indian Ocean Energy data**



⇒ 2005 PROGRAMME: PURSUING UPDATING

Permanent process. Directory is registered with CNIL (National Data Protection Commission). To be updated in 2006 as part of ARER's website overhaul.

ACTION No. 8 **Updating the Réunion Island Renewable Energy indicator through the website**

⇒ 2005 PROGRAMME: PUBLISHING THE INDICATOR ON THE WEBSITE TWICE A YEAR

An indicator template was suggested within PRME. Researching data is a complex process. EC to be included in template. PRME application for box update financing is completed. The concept of a Réunion Island Energy Observatory (OER) was reactivated and structured by PRERURE surveys; ARER could be entrusted with its implementation following a decision of the PRERURE 2005 Steering Committee.

ACTION No. 9 **Advertising our resource centre and actions in Indian Ocean (IO) islands, remote EU regions (UPR) and European islands**

⇒ 2005 PROGRAMME: IMPLEMENTING JOINT PROGRAMMES WITH IO, UPR AND EU STAKEHOLDERS

Implementing joint programmes with with IO, UPR and EU stakeholders. A Coopener application was filed and an INTERREG application is being made. The November symposium is to be attended by IO, UPR and EU delegates. The hard part is collecting funds to pay for other island delegates' travel expenses.

ACTION No. 10 **Promoting new training schemes required for Renewable Energy and EC development in Réunion and other islands**

As a result of demand from Réunion Island's energy activity sector, the Saint-Pierre IUT prepared and submitted an application for job-oriented EC/RNE Bachelor's degree accreditation. This training scheme is intended to meet the requirements of energy sector companies.

The initial objective was to offer local training carried out by and for professionals. Syllabuses, targeted trades and technical quality of courses clearly depended on the degree of commitment of all Energy Control and Renewable Energy professionals. To provide skilled, quality training, the objective we set ourselves was that 80% of technological courses should be taught by local or national energy professionals.

Training organization and implementation was carried out in close collaboration between ARER and the University of La Réunion (Saint-Pierre IUT). A steering committee including representatives of each activity sector (public bodies, contractors, ADIR (Association for Industrial Development in Réunion Island), Chamber of Commerce, professionals, engineering firms) was set up and met 4 times (June, July, August, September). Each progress stage was approved by the Steering Committee and communicated to a broader list of partners. The application is in line with the findings of the Steering Committee and actual training needs expressed by all stakeholders.

Courses will be taught over one year (full-time) or 2 years (vocational training).

Curriculum as approved by the Steering Committee includes the following Teaching Units (TUs):

- TU1 (90 hrs): Efficient Use of Energy Systems
- TU2 (90 hrs): EC & Construction
- TU3 (90 hrs): EC – Industrial Processes & Energy Systems
- TU4 (90 hrs): Regulations, Standards, Taxation
- TU5 (90 hrs): Renewable Energy Sources
- TU6 (30 hrs): English, Communication
- TU7: Tutored Group Project
- TU8: 16-Week In-House Placement

ARER was asked to provide teaching for TU1, TU3 and TU5 modules.



V. SUPPORTING THE DEVELOPMENT OF ENERGY SECTORS IN RÉUNION ISLAND AND ISLANDS OF THE WORLD (DEV)

ACTION No. 1 *ARER continues to take part in the Réunion Geothermal project co-ordination centre*

⇒ 2005 PROGRAMME: STARTING THE SLIM HOLE DRILLING CAMPAIGN; TECHNICAL MEETINGS

A “Geothermal Meeting” was organized in February 2005 with various project experts so as to produce an overall re-interpretation of the potential of Plaine des Sables (and the whole Piton de la Fournaise area), an operating diagram of the geothermal basin as well as the exact location of the wildcat drilling area. The secondary target is to gather all studies carried out in Réunion Island and find out how they can be used efficiently. The meeting also served to establish contacts between the project experts and the appointed technical assistant so that the latter can fully grasp the knowledge level reached and the set targets.

Issuing a project newsletter covering the end of the resource assessment phase and presenting the following wildcat drilling phase to authorities and agencies involved (ONF [Forest Board], DRIRE [Industry, Research & Environment Agency], National Park Creation Board, EDF [Electricity Board], Volcano Observatory, Maison du volcan [Volcano Museum], etc.), local decision-makers and all interested parties.

The start of the slim hole drilling phase was approved during the February 2005 Geothermal Meeting. The Assistant Project Manager was appointed on the occasion. The finalized expert meeting was reported in a project newsletter covering the end of the preliminary exploration phase. The 2006 and 2007 slim hole drilling budgets have been earmarked by the Réunion Regional Council. A call for tenders for the selection of the general contractor is being prepared. The Geothermal Project FTP server is operational.

ACTION No. 2 *Support to preliminary research for Grand Comoro geothermics*

The island of Grand Comoro has an active volcano (the Karthala) whose structure is similar to Réunion’s Piton de la Fournaise. The Karthala has a surface geothermal activity characterized by many smoke and gas emanations. There are reasons to believe that its geothermal potential is substantial and that the temperature is high enough to allow power production.

For more than 10 years, the University of La Réunion Earth Sciences Laboratory (LSTUR) has carried out geology and vulcanology research on Comoran volcanoes and worked in partnership with the Karthala Volcano Observatory in Moroni.

Since 2001, the Réunion Regional Council, sponsoring the “Réunion Geothermics Projet,” has taken part in the implementation of joint development-oriented cooperation between Réunion Island and the Comoros.

The Réunion Regional Council has capitalized experience in local geothermal research since 2000, in particular through a University of La Réunion team, the Regional Council itself, a County Council Water Board engineer and ARER.

Power production capacity is currently well below the Comoros’ needs: only 5MW installed capacity for a population of over 600,000 in 1999 (Source: US Department of Energy). At issue is the choice of economic and social development that the country wishes to engage in. Numerous international aid donors are already mobilized in this important field, including the EDF (European Development Fund) and AFD (French Development Agency) for renewable energy development (See Annex).

⇒ 2005 PROGRAMME: INTERREG PROJECT STRUCTURING

Depending on the DRRT’s (Regional Representative for Research & Technology) decision for the funding of the INTERREG project, discussions should be resumed with Comoran partners to organize a forum on Geothermics in the Indian Ocean so as to implement the Karthala geothermal research development plan. The issue was re-activated by the Comoran Minister for Energy during the 2005 Réunion Energy Symposium.



ACTION No. 3**Supporting the launching of research prior to wave and stream energy tapping in Réunion and other islands**

Surveys on wave energy resource off Réunion's coasts may be of interest for other near islands having a similar potential and where electric power production systems can be connected to the general power grid. The Réunion Regional Council triggered off research on wave energy in September 2002. Methods for exploring Réunion Island's resource were fine-tuned in September 2003.

The Réunion Regional Council is organizing the corresponding call for tenders with the help of a competent semi-public company (SPC). Technology transfer should not be effected too early or hastily; it is imperative to secure guaranteed installed capacity and annual productibility, together with long-term monitoring and maintenance steered by an SPC or a private international developer operating the system.

ARER is providing support for technological monitoring and exploration of various technologies usable in Réunion Island in collaboration with other partners.

In 2004 ARER received Paul Byrne, a student trainee from the Rennes INSA (Institute of Applied Sciences) working on "A study of wave energy use on 3 locations along Réunion Island coasts: Sainte Rose Harbour, Gillot/Roland Garros Airport and the Saint-Denis Sea Front – Project manager consulting service for the launching of a wave energy resource survey steered by the Réunion Regional Council: Writing specifications for modelling and possible bathymetric measurements, compiling a list of engineering firms competent in wave energy prospecting, technological monitoring of existing offshore and onshore systems, study of technological progress and implementation cost assessment for various systems. Providing methodological support to a local wave energy conversion system developer."

⇒ 2005 PROGRAMME

- **PURSUE THE MODELLING CAMPAIGN AND LAUNCHING A CALL FOR PROPOSITIONS AIMED AT THE DEVELOPER**
- **PROPOSING THE APPROACH TO IO ISLANDS (UPR – EU)**

The modelling contract was allocated to BCEOM (Engineering Agency). Three Réunion sites have been pre-selected for the installation of power stations. The approach was presented to other island representatives during the 2005 Réunion Energy Symposium.

ACTION No. 4**Prefiguring an INTERREG IO-UPR cooperation scheme to develop EC and RNE with those islands**

The idea is to organize dialogue between various Réunion Island stakeholders with a view to setting up a cooperation team and identifying a RNE and EC development programme in IOC (Indian Ocean Commission) and UPR islands. The basic issue is how to organize the RNE-EC database and the Indian Ocean competence network.

In the first stage, we must implement the ways and means to make the knowledge and working tools of the "Energy and ARER's Energy Technologies and Energy Trades Observatory" available to energy stakeholders in Réunion Island, West Indian Ocean and remote EU regions (UPR). This resource centre is a key instrument for all those who want to get involved in "L'énerzi Péi" (local energy) at the service of sustainable development.

It should be easy to define, quantify and set up a joint INTERUPR-West Indian Ocean cooperation programme on local energy, heralding cooperation between various Réunion Island and Indian Ocean stakeholders.

In 2004, contacts were established between Indian Ocean and UPR energy stakeholders. The activities of ARER and of other Réunion Island energy stakeholders were presented to European institutions and potential partners. Specifications were drafted by a specialized consultant firm to help set up EU funding on the basis of ARER and its partners' action programme.

⇒ 2005 PROGRAMME: SUPPORTING THE SERVICE PROVIDER FOR EU FUNDING IMPLEMENTATION

A RESPIOI (Renewable Energy Sources Policy for Indian Ocean Islands) project was implemented in the framework of the COOPENER programme in partnership with the Comoros and Mauritius. Coopener application



was produced by ARER in-house and filed with EU services in March 2005. Short-listed for the negotiation finalization stage but not selected for end phase by the European Union. A programme change is envisaged: "Island NEWS 2000-2050" as well as "Islands Natural Energy Ways toward Self Sufficiency" together with the island network set up as a result of the 2005 Symposium.

ACTION No. 5

Pursuing coordination of Réunion's "Energy Law & Town Planning" work group through the development of consulting and information services aimed at integrating Energy and Network aspects in town planning or operational documents

⇒ **2005 PROGRAMME**

- **MONITORING 4 TOWN PLANNING SERVICES –AGENDA 21 ACTION**
- **PMC ACTION ON 4 TO 5 PLOT DEVELOPMENT PERMITS IN EACH OF THE 4 TOWN PLANNING SERVICES TAKING PART IN THE ACTION**
- **MONITORING RÉUNION ISLAND'S LOCAL URBAN DEVELOPMENT PLAN (PLU) IMPLEMENTATION, IN LINE WITH ENERGY SAVING TARGETS**

The 4 Town Planning Services are operational. "3-Minute Questionnaires" are available in addition to ADEME and ARER documents.

PMC investigation aimed at establishing solar-powered industrial or housing estates was successful: several industrial estate projects (ZAC) on the territory of Saint-Paul District are to be equipped in 2006. Other solar-powered estate projects must be investigated.

Saint-Leu and Saint-Paul PLU monitoring is under way as part of ARER's PMC policy.

ACTION No. 6

Organizing implementation of 24 RNE- and EC-equipped primary schools (one per District); all 550 of Réunion Island's schools are to be gradually equipped (June 2003 decision by ARER Board & General Meeting) (EEP / Positive Energy School project)

⇒ **2005 PROGRAMME: PROGRAMME CONCEPT TO BE CHANGED ON THE BASIS OF DEAT (ENVIRONMENT & TOURISM AUTHORITY) PROPOSITIONS. MERGING THE 24 SOLAR, POSITIVE-ENERGY SCHOOL PROGRAMME WITH THE HEAVY SOLAR SCHOOL UPGRADING PROGRAMME: INTEGRATING THERMAL COMFORT, EC, WATER MANAGEMENT AND RENEWABLE ENERGY TARGETS. EDUCATIONAL & INSTRUMENTAL SUPPORT. ONE SCHOOL PER DISTRICT. ANALYSIS AND SURVEY PHASES TO BE STARTED IN 2005.**

This programme is inspired by the initial 3 solar-powered school lead project. Additional target is to overhaul the schools in line with the PERENE (Building Energy Performance) tool and reach positive power balance (production higher than consumption).

Project Stakeholders' Organization (Extract from the Call for Applications)

ARER provides programme launching support and—as part of its object—consultant services. In particular ARER helps in drafting call for applications aimed at Districts and provides support to the programme's technical assistant.

The Réunion Regional Council leads the Steering Committee, takes part in all stages of programme launching technical approval and standard document drafting, and manages financial decisions.

DDE (Public Works Department) and ADEME take part as members of the PERENE work group.



Assistance to the Regional Council in the field of overhaul project expertise: To ensure that schools comply with project specifications (especially PERENE's), and therefore to approve the allocation of funds for the works, the Regional Council appoints a technical assistant (from an engineering firm) to provide expert opinion on overhaul projects.

History

January to March 2005: Project and application file preparation phase.

- Mid-April 2005: Call for applications sent by Regional Council to the 24 Districts. Application return deadline: 15 June 2005.
- June 2005: Preparing the expert opinion for the auditor who will help the Regional Council approve Districts' overhaul propositions—and therefore funding—and draft experience feedback. Published in newspapers end June 2005. Applications received.
- 27 June 2005: Steering Committee meeting for first study of application files submitted by Districts. 11 Districts filed an application: Bras-Panon, Le Port, Saint-André, Saint-Benoît, Saint-Denis, Saint-Joseph, Saint-Leu, Saint-Louis, Saint-Paul, Saint-Pierre, Le Tampon. La Possession sent a letter of intent but did not send a file, Sainte-Rose phoned to say they were interested but did not apply.
- 29 June 2005: ARER sent the reference programme to the 13 Districts as methodological support to help them organize project manager consultation or contract amendment.
- September 2005: Regional Council replied to Districts:
 - ❖ No reminder to those who did not answer.
 - ❖ One negative opinion: Saint-Pierre (Montvert-les-Bas School). Reason: school to be rebuilt, not overhauled.
 - ❖ In-principle approval for the other 11 Districts: Bras-Panon, Tampon, Saint-Joseph, Saint-Leu, Saint-Louis, Saint-Paul, Le Port, La Possession, Saint-André, Saint-Benoît, Saint-Denis. Certain details are requested (state type of overhaul, completion type, advice for wood boiler use, etc.).
- December 2005:
 - ❖ Auditor chosen following call for tenders is engineering firm IMAGEEN. Presented to Districts on 8 December 2005. Follow-up sheets to be completed by each project manager with go-ahead at each stage: Summary Pilot Study, Detailed Pilot Study, Planning, Work Site Preparation and Approval of Works Done. Auditor will work in collaboration with Districts and their project managers to prevent non-compliance on approval.
 - ❖ Auditor also has a monitoring task until the end of the first operation year.
 - ❖ During the meeting, Districts were reminded that ARER can provide advice as part of its PMC activity.
- To date:
 - ❖ Target set to Districts: operations to be completed in 2008 at the latest.
 - ❖ Auditor is also in charge of suggesting possible improvements to the Reference Programme worked out by the Technical Committee and sent to Districts by ARER on 29 June. ARER to discuss with Steering Committee and IMAGEEN on how to finalize the document and forward it to Districts as soon as possible.

⇒ **DECISION TO OPEN ARER TO NEW ACTIVITY FIELDS (29/03/05 BOARD MEETING)**

- **SUSTAINABLE CONSTRUCTION, HEQ, ENVIRONMENTAL MANAGEMENT METHODS, SUPPORT TO INDIVIDUAL HOUSE ADAPTED TO SUSTAINABLE DEVELOPMENT**
- **CLIMATE CHANGE CONCEPT**

MINUTES OF ARER 29/03/2005 BOARD MEETING (EXTRACT)



- “Promoting sustainable construction, Réunion Island’s HEQ and environmental management methods in support of and consultation with construction stakeholders. Organising a structured approach to support local, SD-adapted house construction business.”
- “Making the general public aware of climate change, explaining adaptation issues and impact mitigation in collaboration with France’s ONERC (Research Institute on Global Warming Effects).”

Preparation, organisation and progressive integration of these themes into ARER’s operational fields is carried out gradually. The new fields can now be found in the media centre and are included in the themes of the 2005 Réunion Events. The Private HEQ House action has been capitalized in this framework following PFRD’s 2002, 2003 and 2004 CASA DD work schemes.

ACTION No. 7 Promoting the SD-Adapted House business

In 20 years, between 1980 and 2000, overall energy consumption was multiplied by 2.5 and electric power consumption by 4. The same high increase is bound to continue, as population growth (1 million inhabitants in 2025) will require ever stronger energy needs. In this context, and pending the issuing of French Overseas Department power station regulations, precise determination of thermal and energy design for buildings is necessary. Under both ARER’s action programme defined by its Directors and the AGENDA 21 programme, ARER is responsible for organizing a campaign to promote thermal comfort and SD technologies in private house construction. The aim is to raise project managers’ awareness and prompt them to implement the concept of private houses adapted to their local environments, requiring little water and energy, generating little waste, producing and consuming solar energy, and cyclone-proof.

Actions: A general public guide was issued for the 2005 Home Show (3,500 copies printed). It has been distributed to all those willing to build a house adapted to Réunion Island’s sustainable development, and is used as contact support in EIEs. The Casa DD (SD House) Technical Guide is currently being prepared in collaboration with the CMA (Guild Chamber). A funding request was submitted to DDE under the SPIOM (Overseas Innovation Lead Sector) to set up a 4-Casa DD demonstration network (1 per micro-climate). The network will be operating once funding is granted (scheduled for early 2006). Several articles have been published in Réunion Island newspapers and Casa DD was reported in local TV news. ARER’s chairman has asked that a project contest be organized in 2006.

VI. MEETINGS, DEBATES, CONFERENCES... AND TRAINING: “21ST CENTURY RÉUNION ENERGY SEMINAR”

ACTION No. 1 Theme Seminars

⇒ 2005 PROGRAMME

- **DETAILED PROGRAMMES AND THEMES ARE DETERMINED IN CONSULTATION WITH RÉUNION ENERGY STAKEHOLDERS – TO BE ANNOUNCED AND PLANNED STARTING IN EARLY 2005**
- **FOUR THEME SEMINARS (EC, REVIEW OF RÉUNION PROJECTS, BIOMASS AND BIOGAS, SD-ADAPTED HOUSE)**
- **SYMPOSIUM: REVIEW OF RÉUNION’S ENERGY, EC, RNE AND BIOMASS PROJECTS**

Detailed programmes and themes are determined in consultation with Réunion energy stakeholders, to be announced and planned as of early 2005. Those events have been designed to underscore or support key actions by Réunion Energy stakeholders.

Energy & Private Individuals – 3 May 2005 – Home Show (ADPE Saint-Denis)

Gathering Réunion’s SD-Adapted Private House stakeholders to explain the House concept and related actions, together with traditional private house construction business stakeholders, with a view to unifying them in line



with an action programme. Presentation of the General Public Guide. ARER technicians were present in partners' booths.

- **Public:** 98 participants: students, engineers, architects, journalists, environment officers, local civil servants.
- **Partners:** Guild Chamber, Maisons Brick, SORECAR, CAUE.
- **Financial sponsors:** SORECAR, SOLELEC, Savings Bank, SOLAR Réunion, BP SOLAR, Guild Chamber.
- **Documents produced:** CASA DD General Public Guide, 3-Minute Questionnaire, PROCEDURE GUIDE for the installation of <36 kVa PV generators connected to the EDF power grid.

Energy & Industries – 1st June 2005 – EDENA Plant (La Possession)

This action was approved by DIREN (Regional Environment Government Agency) as a key action of the Sustainable Development Week. It consisted in experience feedback from the island's first installations, aimed at promoting and informing potential project managers. The seminar was organized in support of actions led by ADEME and ADIR jointly with Réunion Island industrialists. Industrialists present during the seminar exposed their energy-control policies. Several stakeholders such as EDF or ADEME, the industrialists' privileged partners, also presented existing financial or technical support systems.

- **Public:** 80 participants including industrialists, engineering firms and local authorities.
- **Documents produced:** a collection of all the seminar's Power Point presentations sent to ADIR and Guild, Agricultural and Commercial Chambers.
- **Partners:** ADEME, EDF, ADIR, EDENA, SANDERS, CRETE D'OR.
- **Financial sponsor:** DIREN.

Energy & Local Authorities – 1st July 2005 – Regional Council Hall (Saint-Denis). Local Authorities Faced with Global Warming

The event took place on 1st July at the Réunion Regional Council Hall. The aim was to discuss the role and issues of local authorities in connection with mitigation of and adaptation to climate change. The morning session was devoted to presentations on global warming, tools available to authorities (e.g. emission land registers, real estate asset energy management), and some Réunion key projects undertaken by certain authorities. In the afternoon, constructive discussions took place on two major themes with a contribution to the PRERURE additional study led by the engineering firm SERT:

- Role of local authorities in Réunion's energy policy,
- Place of energy in Réunion's land development and town planning policies.
- **Shown:** ONERC document on authorities' adaptation to climate change.
- **Public:** 69 participants: councillors, local authorities' technicians and engineers, municipality secretaries' representatives, architects' and town planning firms.
- **Partners:** Regional Council, County Council, ADEME, EDF, ONERC, ORA, AMDR, DDE, DIREN.
- **Financial sponsor:** Crédit Agricole Bank.

Energy & Biomass – 7 September 2005 – URCOOPA

A meeting of Réunion stakeholders on biomass energy recovery (biogas, energy-wood and biofuel) in Réunion, with a view to foster its development. Specific targets were the following:

- Updating knowledge on various biomass energy recovery methods.
- Presentation of the first key operations (bagasse-coal power plant, Rivière Saint-Etienne waste burying site biogas recovery, etc.).
- Progress report on PRERURE and PRME Biomass actions.



- Focus on the Energy-Wood survey carried out by ADEME Réunion.
- Defining the next work steps.

Documents produced: Recapitulation sheets on each major biomass energy recovery target (Word document).

Public: 72 participants: councillors, local authorities' technicians and engineers, municipality secretaries' representatives, architects' and town planning firms.

Partners: Agricultural Chamber, ADEME, Réunion Island Sugar Makers' Union, CIVIS, AD (Development Agency).

Financial sponsor: SRPP.

Delegates showed an interest in taking part in a biogas group.

“European Energy Policy for Islands and Regions” Symposium

- **“ENERGY AND SUSTAINABLE DEVELOPMENT FOR ISLANDS 2000-2005-2015-2025-2050” Summer Forum 26-28 October 2005 – Saint-Pierre IUT**

Event: 5 work groups to draft a technical reference sheet on “Strategies for Energy Self-sufficiency in Island and Regional Territories 2000-2005-2015-2025-2050 – A Response for Island Territory Adaptation to Climate Change” with support of experts from 10 different countries: South Africa, Madagascar, Mauritius, Comoros, Seychelles, Portugal, Spain, Denmark, United States (Hawaii).

Public: 242 participants in 3 days: representatives of foreign ministries, local authorities, government services, Guild, Agricultural and Commercial Chambers, scholars, teachers, engineering firms, various companies, students, associations.

Partners: University of La Réunion, Saint-Pierre Municipality, Ouest Concassage (showroom).

Financial sponsors: Réunion Regional Council, EU, ADEME.

- **Technical & recreational tour: Technical tour of demonstration sites (29 Oct 2005);**
Solar Rando (Hike) in Mafate: Visit of solar-powered hamlets (30-31 Oct 2005);
Visit of Grand-Coude (2 Nov 2005)

Public: Forum delegates (experts, etc.): 58 participants for the 3 tours.

Financial sponsors: Réunion Regional Council, CILAM.

- **“European Energy Policy for Islands and Regions 2000-2005-2010-2015-2025-2050” Symposium – 3-4 November 2005 – University of La Réunion / Regional Council Hall (Saint-Denis)**

Events: 4 workshops to formalize Summer Forum suggestions and set up potential cooperation schemes.

Public: 203 participants in 2 days: representatives of foreign ministries, local authorities, government services, Guild, Agricultural and Commercial Chambers, scholars, teachers, engineering firms, various companies, students, associations.

Financial sponsors: Réunion Regional Council, EU, ADEME.

Documents produced: theme publications and presentations to be included in the technical reference document “Energy Self-Sufficiency Strategy in Island and Regional Territories 2000-2005-2015-2025-2050 – A Response for Island Territory Adaptation to Climate Change” on 2 supports: digital (FTP site and dedicated website) and paper-based.



- **Recapitulation of abstracts and capitalized publications**

	Number of publications and/or papers presented orally at the Summer Forum available at ARER's	Total number of abstracts available in ARER's database (including ARER PMC or R&D files)	Number of total publications and/or presentations available in ARER's database (including ARER PMC or R&D files)
Group 1	17	19	19
Group 2	28	63	56
Group 3	8	23	20
Group 4	15	58	35
Group 5	23 (PRERURE 2005 action sheets)	37 (+ 16 PRERURE 2002 action sheets)	37 (+ 16 PRERURE 2002 action sheets)

MEDIA PLAY – THEME: "ARER-ENERGY 2005" – (1)

THEME	MEDIUM	EVENT	DATE
Presentation of the Casa DD concept at the Environment Seminar – 12.30 pm. RFO	TV	Other	Dec 05
Article: "Towards More Active Cooperation"	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Nov 05
Article on Mr Takahasi & Mr Bouchard	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Nov 05
Article: "Towards More Active Cooperation" (<i>Témoignages</i>)	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Nov 05
Article on Mr Takahasi & Mr Bouchard (<i>JIR</i>)	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Nov 05
Symposium "European Energy Policy for Islands & Regions" Towards More Active Cooperation	Réunion daily	Symposium "European Energy Policy for Islands & Regions"	Nov 05
Réunion Energy Forum 2005 – Réunion's Privileges	Réunion daily	2005 Energy Forum	Nov 05
Article on visit to Grand-Coude	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Nov 05
Article on visit to Grand-Coude – <i>Le Quotidien</i>	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Nov 05
Grand-Coude Aims at Self-Sufficiency – A Village Full of Energy	Réunion daily	2005 Energy Forum	Nov 05
Call for papers – <i>Le Quotidien</i> 10/10/05	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
Call for papers – <i>JIR</i> 12/10/05	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
Press release – <i>Témoignages</i> 15 & 16/10/05	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
2005 Symposium and Summer Forum presentation	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
Article "Two Missions for Clean Energy"	Réunion daily	Summer Forum	Oct 05
Article "Two Missions for Clean Energy" – <i>JIR</i>	Réunion daily	Summer Forum	Oct 05
Article: "How to Mitigate Superheat"	Réunion daily	Symposium "European Energy Policy for Islands & Regions"	Oct 05
2005 Réunion Energy Seminar – "Two Missions for Clean Energy"	Réunion daily	2005 Energy Forum	Oct 05
RFO radio interview – Presentation of the start of the Summer Forum and Symposium	Radio	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
Press release – <i>Témoignages</i>	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
"European Energy Policy for Islands and Regions 2000-2005-2010-2015-2025-2050" Symposium and Work Groups	Réunion daily	"European Energy Policy for Islands & Regions" Symposium	Oct 05
Call for papers – <i>JIR</i>	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
"European Energy Policy for Islands and Regions 2000-2005-2010-2015-2025-2050" call for papers	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
Wanadoo – Details on Summer Seminar and Symposium	Internet	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
Details on Summer Seminar and Symposium	Internet	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
<i>Exchange</i> digital newsletter – Details on Summer Seminar and Symposium	Internet	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
<i>MATERA</i> digital newsletter – Press release	Internet	"Réunion Is. Energy Policy 2000-05" Symposium	Oct 05
Survey launched for local hydrogen sector set-up – Hydrogen instead of oil	Réunion daily	Energy for companies and industry	Sep 05



Energy cost control – Saving with Casa DD	Réunion daily	Energy for private individuals	Sep 05
ARER – 2005 Energy Forum – Energy policy: Local Authorities at the Forefront	Réunion daily	2005 Energy Forum	Sep 05
Survey on Cane Bioethanol – Local fuel for Réunion cars?	Réunion daily	Energy for private individuals	Sep 05
Energy & Biomass Forum	Radio	Energy for companies and industry	Sep 05
Energy & Biomass Forum	Radio	Energy for companies and industry	Sep 05
TECSOL's digital newsletter – Details on Summer Seminar and Symposium	Internet	"Réunion Is. Energy Policy 2000-05" Symposium	Sep 05

MEDIA PLAY – THEME: "ARER-ENERGY 2005" – (2)

THEME	MEDIUM	EVENT	DATE
Bioclimactic houses: environment-friendly and cost-efficient	Réunion daily	Energy for private individuals	Jul 05
Article: "ARER's Advice" – <i>La Voix du Sud</i>	Saint-Pierre bi-monthly	Energy for private individuals	Jul 05
ARER – 2005 Energy Forum – Energy policy: Local Authorities at the Forefront	Réunion daily	Energy for large buildings	Jul 05
2005 Energy Forum	Réunion daily	Energy for large buildings	Jul 05
"Solar Water Heater" business contract – Investing in Sustainable Development	Réunion daily	Energy for private individuals	Jun 05
Renewable Energy – ARER looking for "Energy Partners" in 2005	Réunion daily	Energy for large buildings	Jun 05
ARER's advice on comfortable, energy-efficient house	Réunion daily	Energy for private individuals	Jun 05
Article: "ARER looking for Energy Partners in 2005" – <i>Témoignages</i>	Réunion daily	Energy for companies and industry	Jun 05
ARER, ADEME, EDF and ADIR want to show that it is in the best interests of companies to reduce energy consumption	Réunion daily	Energy for companies and industry	May 05
Tomorrow: my house...	Réunion daily	Energy for private individuals	May 05
A few minutes' report on Casa DD in preparation of the Sustainable Development Week (30 May – 5 June)	TV	Energy for private individuals	May 05
A few minutes' report on Casa DD in preparation of the Sustainable Development Week (30 May – 5 June)	TV	Energy for private individuals	May 05
A few minutes' report on Casa DD in preparation of the Sustainable Development Week (30 May – 5 June)	TV	Energy for private individuals	May 05
A cost-efficient house adapted to Sustainable Development	Réunion daily	Energy for private individuals	May 05
Casa DD (Home Show)	Radio	Energy for private individuals	Apr 05
Casa DD	TV	Energy for private individuals	Apr 05
Casa DD (Home Show)	TV	Energy for private individuals	Apr 05
Réunion's BEST network	Réunion daily	Energy for companies and industry	Apr 05
From private house to industry: 5 ways of saving power – Energy in focus	Réunion daily	Energy for private individuals	Apr 05
Announcement of the 2005 Energy Forum on ARER's Wanadoo website	Réunion daily	"Réunion Is. Energy Policy 2000-05" Symposium	Apr 05
Sustainable Development: ARER presents the 2005 Energy Forum	Réunion daily	2005 Energy Forum	Apr 05
5 ARER Events – Promoting Renewable Energy	Réunion daily	2005 Energy Forum	Apr 05
Energy saving: Pay less tax	Réunion daily	Energy for private individuals	Apr 05
With ADEME, EDF and the Regional Council: Save energy and pay less tax	Réunion daily	Energy for private individuals	Apr 05
Geothermics: Drilling will provide better knowledge of the volcano	Réunion daily	Other	Apr 05
Geothermics in Piton de la Fournaise: Start drilling!	Réunion daily	Other	Apr 05
Réunion Geothermics Project: Where geothermal wildcatting and research promotion meet	Réunion daily	2005 Energy Forum	Apr 05
12 April 2005 Standing Committee meeting: Renewable Energy: Great expectations for geothermics, new impetus for solar power	Réunion daily	Energy for private individuals	Apr 05
3 rd -Millennium housing in Réunion Island – Visit of C@ase du Futur (Tomorrow's House)	Réunion daily	Energy for private individuals	Apr 05
Renewable Energy: What are the best solutions for Réunion Island?	Réunion daily	Energy for companies and industry	Apr 05



Saint-Pierre: ARER round of inspection – Phasing in with the EU Commission	Réunion daily	Other	Apr 05
Regional Council Standing Committee: Energy control in focus	Radio	2005 Energy Forum	Feb 05
Yesterday at the Regional Council – For better not for worse – Official opening of IPCC work “Let’s act before tragic events take place”	Radio		Feb 05

ACTION No. 2 Organizing 5 training schemes in 2005

As an approved training institution, ARER organized 6 training schemes and conducted 5 of them.

ARER organizes vocational training schemes aimed at Réunion Island professionals, using freelance professionals as teachers.

Energy control and renewable energy for large buildings

This training scheme was implemented at the request of CNFPT. Subject: “Energy control and renewable energy in local authorities’ land and building assets.” Course objectives: – To give technicians the practical and technical means to assess energy control possibilities as part of their assignments. – To provide information needed for technicians to make appropriate decisions in terms of renewable energy and asset management.

Duration: 21 hrs.

Target public: local authorities’ technical staff, technicians, officers and engineers. Course taught on 15-17 June 2005 by F. GARDE from Saint-Pierre IUT. 15 trainees.

Implementing PERENE reference document for buildings

The course on “Implementing PERENE reference document for buildings” is aimed at providing data on how to construct buildings that are both comfortable in terms of temperature and energy-efficient. Course objectives: – To present the notions of Energy Control. – To develop awareness of the PERENE tool and ECODOM seal of quality. – To facilitate thermal comfort and energy control integration in construction or upgrading projects. – To give practical tools to start a construction or upgrading project at the end of the training.

Duration: 21 hrs.

Target public: local authorities’ technical staff, technicians, officers and engineers; private sector: R&D firm and company engineers and technicians, technical control staff, architects, etc.

Course to be taught by N. FERJANI from Imageen engineering firm.

Action project implementation: Course was scheduled for 5-7 July but was postponed to 20-22 September (not enough registered persons). It was finally cancelled in September because registered trainees could not attend for professional reasons. Course will be taught in 2006 if ARER is granted ESF-DDTEFP (European Social Fund-Labour, Employment & Vocational Training Department) funding.

Solar system integration in buildings

Designing, implementing and operating solar systems for large housing projects and service/industrial buildings. Objectives: – To provide technical skills for solar hot water production, PV power production and solar air conditioning systems. – To give technicians notions, principles, concepts and practical tools.

Duration: 21 hrs. – Date: 19-21 July 2005.

Target public: local authorities’ technical staff, technicians, officers and engineers; private sector: R&D firm and company engineers and technicians, architects, technical control staff.

Trainer: TECSOL

13 people registered, including 3 ARER trainees. A site visit was carried out in an SIDR (Réunion Public Housing Company) building for trainees to visualize what they learned in the theory course.



Energy and sustainable development officers

Water, energy and waste in households and districts: the case for Réunion individual house adapted to sustainable development. Specifications take into account needs expressed by local authorities for their officers' professional development. Objective: – To be capable of explaining basic notions of sustainable development. – To popularize concepts for better dissemination of information to the general public. Duration: 21 hrs. Date: 14-16 September 2005. Place: Roches Maires Technical School EIE.

Target public: Environment associations' officers and employees.

Trainer: V. CHALLE from IODDE

21 people registered: TCO, CIVIS, CINOR, CCSud (District Utilities Groups) officers + one freelance trainee.

ARER technicians teach modules in the Saint-Pierre IUT's Vocational Bachelor's Degree (full-time higher education)

Building climatology, thermal comfort and thermal design in a tropical climate: courses for Vocational B.Sc in "Project Management – Speciality: Habitat & Environment"

Teaching modules of the Saint-Pierre Civil Engineering IUT Technical B.Sc. One 10-hr module is in building climatology, thermal comfort and thermal design in a tropical climate. Another 12-hr module includes presentation of tools available in Réunion Island for the construction of thermal- and energy-efficient buildings (PERENE, ECODOM, CASA DD). After that, students are required to carry out a PERENE-compliance study of a building (private house, block of flats, etc.). A site visit is included in the programme to help students visualize what concrete solutions can be implemented, especially in a bioclimactic design context. Type of work: Project Manager training: Civil Engineering IUT – University of La Réunion.

Trainer: Stéphanie Laporte

The first teaching module is completed. A written assignment has been handed in. Results are satisfactory (Class average mark: 14.50/20; lowest mark = 09.50, highest = 18.50). The second module is in progress. Tool presentation is finished. Students are currently working in groups on a comfortable, energy-efficient house (students can choose existing plans or design their own). Each group works on a different climate zone and develops one specific aspect in detail (PV installation, heating solutions, etc.).

"Renewable Energy Systems and their Integration in Insular Energy Systems": Renewable Energy course for Vocational B.Sc in "Project Management – Speciality: Habitat & Environment"

Course for one module of the XXXXX Licence Professionnelle de l'IUT de Génie Civil de Saint-Pierre. This 11-hr module describes "Renewable Energy Systems and their Integration in Insular Energy Systems": Why are renewable energy sources the necessary tools for adaptation to climate change in our islands and how can they be implemented? Course comprises 5 project management-oriented chapters:

1. Strategies for energy self-sufficiency for adaptation to climate change in island and regional territories 2000-2050.
2. Present and prospective assessment of technological sectors, jobs, training, and R&D.
3. Control of Insular Energy Systems.
4. Developing, building and transporting so as to curb annual energy demand growth.
5. Réunion Island's energy policy 2000-2025-2050 – Organizing stakeholders, procedures and funding.

Trainer: Christophe RAT

Module completed in December 2005. Students were asked to take part in the 3 workdays of the Summer Forum.



VII. OUR PARTNERS IN 2005

ARER Statutory Members in 2005:

Réunion Regional Council, ADEME, EDF, CESR (Economic and Social Committee), CCEE (Culture, Education & Environment Council), CIVIS, Saint-Leu, SAVE Programme, Félix Guyon / Bellepierre General Hospital

ARER Members in 2005:

SIDR, CIREST, TCO, Guild Chamber, Mamoudzou Municipality, Saint-Paul Municipality, Mascarin Botanical Conservatory, Petite-Ile Municipality, SAPHIR, SORECAR, Mairie de Sainte-Suzanne, Sciences Réunion, SETB, Association Technopole de la Réunion (Science Park), Saint-Denis Municipality, Saint-Louis Municipality Social Services, Saint-Pierre Municipality.

2005 PFRD Partners:

SORECAR, SOLELEC, Solar Réunion, Guild Chamber, Paul Moreau Lycée (Bras Panon).

2005 Partners:

DRIRE, DIREN, BP SOLAR, SOLELEC, GIORDANO, Solar Réunion, TCO, Savings Bank, Guild Chamber, French Post Office, SORECAR, SETB.

EVE 2005 Partners:

University of La Réunion, Saint-Pierre University Institute of Technology, Crédit Agricole Bank, Solar Réunion, Solelec, Post Office, Savings Bank, Association Technopole de la Réunion, SRPP, Ouest Concassage, Regional Council, ADEME, INTERREG, SODICO.

Demonstration Site and “Energy & Sustainable Development” Info Relay Point Partners in 2005:

Trois-Mares Lycée, Cilaos Municipality, Saint-Pierre Municipality, Saint-Leu Municipality, L’Espérance Primary School (Sainte Marie), Flacourt solar-powered swimming-pool (Sainte-Marie), Aquarium de la Réunion, Maison du Volcan, CAUE, Association Technopole de la Réunion, Vue Belle Professional School (La Saline), Pierrefonds household waste sorting site (CIVIS).

Training Partners:

TCO, CNFPT, ESF, DDTEFP.

PMC Partners:

Saint-Benoît Municipality, Association Technopole de la Réunion, OBSERV’ER, L’Espérance Primary School (Sainte Marie), Sainte-Marie Municipality technical services, Crèche Gaspard (Sainte Marie).



II / Some milestones from ARER's 2001-2006 development plan

Extract from the pre-design file approved by the 11 June 2001 General Meeting:

ARER at the service of energy producers and consumers

"L'énerzi Péi" at the service of Réunion Island and Sustainable Development!

Water **Wind** **Sun** **Biomass** **Geothermics** **Energy Control**

Our general objective: "Ensuring Réunion Island's long-term, sustainable energy supply security by using local, non-polluting energy resources." Energy control and Renewable Energy technologies; non-polluting local energy resources for development, construction and transport.

ARER: a field team

- Available and motivated, listening to you when it comes to integrating the energy dimension into your projects: private homes, blocks of flats, offices and plants, public facilities, agricultural, breeding and forestry farms, site development, etc.
- Energy trades and professional integration, connecting entrepreneurs and energy professionals, Indian Ocean Centre of Excellence, support to Renewable Energy sectors development.

At your service for meetings: a network of reception/contact points and demonstration sites.

- An operational and demonstration site and resource centre for documentation, advice, consultancy, seminars.
- A network of Energy Info Booths (PIEs) distributed throughout the island and managed by ARER, ADEME and EDF.
- A demonstration site network managed by site operators, with support by ARER, to discover, understand and learn.

The ARER team is at your disposal to carry through your projects and provide information, coordination and training.

- Constantly updated and increased database: the "Energy, Renewable Energy Technologies and Energy Trades Observatory."
- Energy Control and Renewable Energy Technologies awareness, education and training centre.
- Network of consulting representatives who can set up and operate demonstration sites and provide assistance for your projects.



ARER's development schedule

Preparation phase (3 to 6 months) June 2001 to December 2001	Development phase (18 to 24 months) January 2002 to December 2003	Consolidation phase 2004, 2005, 2006
<ul style="list-style-type: none"> - Setting up ARER's financial system - Hiring the first ARER team members - Starting activity in temporary premises - Preparing the development phase 	<ul style="list-style-type: none"> - Setting up the PIE (Energy Information Booth) network - Developing and managing the Energy Representatives' network - Building the database and disseminating information - Creating the website - Supporting 5 project managers for the set-up of 5 demonstration sites - Implementing the project feedback assistance and advice service 	<ul style="list-style-type: none"> - Installing ARER's operational demonstration base - Developing the 2003/2004 phases - Preparing the 2005/2006 phases - Pursuing and developing activities (2006-2012)

Overview of possible and feasible founding actions for long-term (2000-2025), sustainable Réunion Island Energy Strategy supported by Local Authorities:

"Renewable Energy technologies and Energy Control as key factors for sustainable development, local employment and investments in favour of the island's economy and environment"

(June 2001 pre-design file approved by the 11 June 2001 General Meeting)

- Marketing, tax, financial, technical, legal strategy and organization survey to pre-design and develop our general policy and objective.
- Studies and guidelines – Following up and updating guidelines – Systematically integrating the energy aspect in local authorities' sector-based planning and general objectives – Promoting green power purchase – Promoting regional Renewable Energy-friendly taxation by taxing fossil fuel.
- Energy Control linked to co-generation: a significant renewable resource to be used in connection with ISO environmental management for urban, rural and transport systems – EC in large buildings and land assets – EC in private houses – ISO system for industrialists and EDF – Changing back-up generator functionality in public buildings – Technological progress in construction processes, materials and procedures – Town Planning: adapting SAR (Regional Development Plan) guidelines and re-introducing a degree of centrality to allow concentration of housing and services – Housing: pursuing research, awareness and certification programmes, programmes (e.g. Ecodom), pursuing energy control actions engaged (use of low-energy bulbs, actions on consumption peaks, heat insulation of buildings) – Industry and services: developing information and training, implementing analysis, fostering innovative equipment use (e.g. cold storage), setting up related financial aid – Transport: integrating energy approach in PDUs (Urban Development Plan) (mandatory) and setting up heavy public transport development projects, especially TCSP (Dedicated Public Transport Systems) aiming at 20-25% market share).
- Hydraulic power: Good potential to be harnessed (small facilities) – Selecting sites – Building facilities.
- Wind power: can contribute to Réunion's overall energy balance – Technological constraints linked to cyclones must be taken into account – Very interesting application niches in urban and rural environments; some 10 exploitable sites – Demonstration custom WTGs – Specific site measurement stations – Hybrid wind-sun systems for irrigation and remote site equipment.
- Geothermics: careful, methodical exploration to identify potentially significant resources – Feasibility study – Survey, wildcatting, drilling – Potential resource evaluation – Operational structuring – Construction and operation.
- Solar power: using the whole range of available technologies to tap a major resource – Disseminating solar resource maps – Statistical monitoring of installed solar production – Thermal: Aid for large building system feasibility studies (Hot water, air conditioning, heating in high-altitude places; Aid for



large building system installation – Grid-connected PV, architectural and technical integration – Bioclimatic/Grid-connected PV/Thermal: 50,000 solar facilities – Remote site PV: pursuing activity – PV applications in everyday objects, etc.

- Biomass: a major resource capable of bringing a significant contribution to Réunion's overall energy balance, especially for morning and evening peak management – Systematic exploration of biomass application potential – Feasibility of the energy-self-sufficient, multi-activity farm concept – Decentralized biomass combustion – Biogas and organic farming – Energy changes in Réunion farms – Development of biogas units for specific applications (waste burying site, waste water treatment plants, compost power plants) – Study for local biofuel development – Biofuel and green oil production, sale and distribution chain for local farming – Methane production from the fermentable part of household waste.
- General study of fuel cell potential and FC sector development – Introduction of zero-emission vehicles – Making sites or districts energy-self-sufficient.
- Managing diversification of Réunion Island's business and industrial renewable energy sector, local- and export-oriented development with many jobs in prospect – Adapting networks; general management of power transport and distribution grid – Assessing overall comparative environmental load of Réunion's bagasse-coal and fossil fuel units – Organizing technology transfer – Systematic exploration of redeployment plans and sector-based diversification – From bagasse-coal to combustion biomass / Biogas / PV network / Green oil and biofuel production – Industry and government cooperation.
- Research tools, structures and personnel – Development – Training – Information, reflection, action, management, policy control.
- Updating and dissemination of the energy knowledge tree diagram – Energy Atlas, CD-ROM and websites (English/Spanish/German/French) – Survey of impact on jobs and training needs, programming – Skill dissemination and general training policy – International Sustainable Development Symposium and demonstration site network (Renewable energy technologies for the general public) – Founding and structuring actions for those tools – Tool management and development – Reflection, action, management, policy control.
- Implementing a regional tax policy in favour of local energy – Renewable Energy Initiative: revenue from non-renewable electricity, 1,500,000,000 kWh produced in Réunion Island in 1999. Energy/Environment Initiative: revenue from imported fossil fuel, 650,000 tons imported into Réunion in 1999; fuel tax earnings: FRF 1b in Réunion in 1999 – average annual revenue: FRF 300m.



III / Comparison between ARER's 2001-2006 development plan and ARER's state of development in 2006

ARER's 2001-2006 development plan

The Plan will result in a network of demonstration sites and EIEs distributed throughout Réunion Island's micro-regions working in connection with ARER's objects along the following lines:

- Energy trades and professional integration,
- Link between project sponsors and energy professionals,
- Centre of Excellence for Réunion Island and the Indian Ocean,
- Support to Clean Energy and Energy Control sector development.

Predictive organization includes a team of some 15 employees distributed in the EIEs (Energy Info Centres)—each EIE offering the full range of energy documentation—and a Head Office (itself a demonstration site) where other sustainable development structures can be accommodated. Final annual structure budget will be about €1.1 million.

Status at end 2005

ARER's 2001-2006 development plan has been implemented according to schedule, but 2006 will be a crucial year for the success of its final stage.

Prospects for 2006

The 2006 programme is meant to bring the 2001-2006 development plan to a successful close as well as design and formalize the next development plan (2007-2013).



IV / 2006 Action Programme, assuring ARER's long-term commitment to clean and renewable energy and energy control

I. REVIEW

2001-2005 ARER budget variation:

Budget increase reflects ARER's development under the 2001-2006 development plan approved by the July 2001 General Meeting. The wish of ARER's founding directors was that development should involve integration of new statutory members, implementation of European programmes and diversification of financial resources. As a result, progress has been slow and difficult.

As an example, revenue breakdown shows that the share of the Réunion Regional Council (including CESR and CCEE) dropped from 48% in 2001 to about 27% in 2005 and that that of EDF went down from 21% to 12%. The same applies to ADEME. New statutory members contributing to the financing of ARER are now sitting on the Board of Directors. European programme implementation (a complex procedure) is effective and the number of programmes is constantly increasing.

By mid-2005 practically all planned team members had been hired, and the opening of the West EIE was done according to schedule. To complete the 2001-2006 development plan successfully, the 2006 budget must be carefully prepared. We must also draft ARER action lines and strategies for the 2007-2013 period, taking into account Réunion Island's energy policy trends, the Réunion Regional Council strategy as regards PRERURE, and the needs expressed by various stakeholders. In many respects 2006 will be a turning point.

ARER budget and programme prospects for 2006

The 2006 budget allows to see ARER's current development plan through to its final completion and meet the needs identified and defined by the Regional Council with regard to PRERURE. It also heralds ARER's 2007-2013 development plan orientations.

The 2006 programme was submitted to the ARER General Meeting for approval and adopted by the Board of Directors on 22 September 2005.

The following changes were introduced in consultation with PRME representatives and approved by the Réunion Regional Council at the final arbitration meeting of 23 November 2005. The Regional Council alone is to finance all additional budget amounts for new assignments entrusted to ARER.

Opening of the East EIE is postponed pending effective financial commitment by the island's Eastern region authorities and utilities.

In 2006 the Réunion Regional Council will take care of the "Seeking New Energy Funding" action sheet, while ARER will be in charge of the "Réunion Energy Observatory" (OER) whose aim is to publish the island's annual energy profile (assignment described in Action Sheet No. 1 – 2005 PRERURE survey).

The RESPIOI Programme was not selected by the EU. This action for clean energy promotion in islands is now entitled "Island Natural Energy Ways toward Self-sufficiency (**Island NEWS**) – "Self-sufficiency Strategies for Islands & Regions 2000-2005-2015-2025-2050: A Response for Island Territory Adaptation to Climate Change," with management of the inter-island network set up in the framework of the 2005 Summer Seminar and Réunion Energy Symposium.

Réunion Regional Council's financing of these new assignments does not cover necessary outside expenditure; those will be arbitrated on a case-by-case basis with the Regional Council PRERURE team and the Steering Committee, to take into account gradual build-up of PRERURE partners.



2001-2005 BUDGET VARIATION

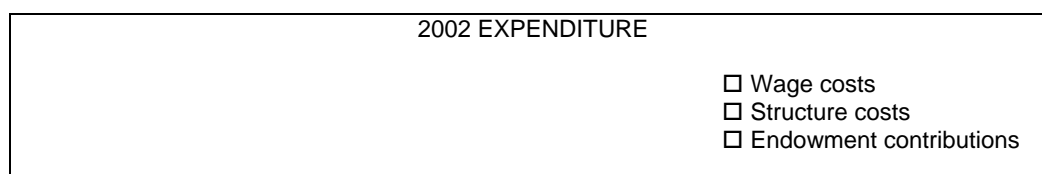
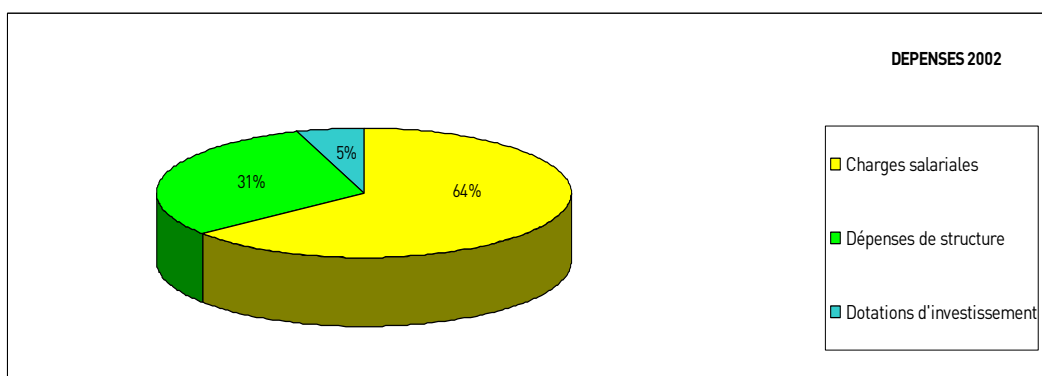
a. ARER's 2001-2005 Overall Budget

		2001	2002	203	2004	2005
'000 €	Estimated expenditure	150	406	645	703	811
	Estimated receipts	150	406	645	703	811

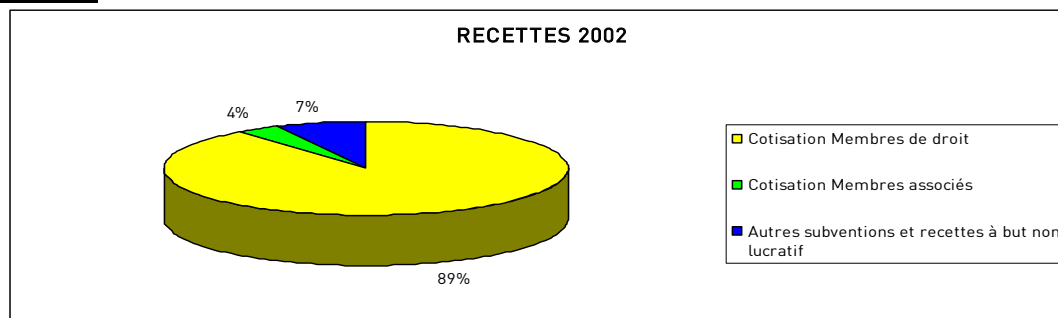
b. 2002-2005 Budget Distribution

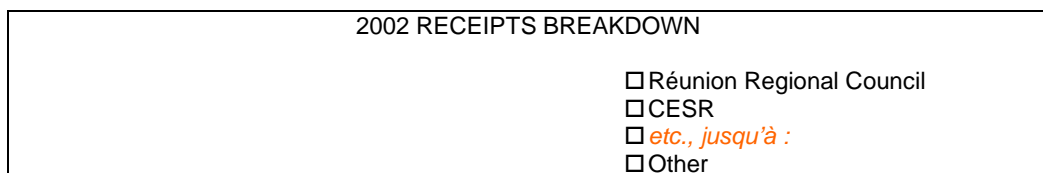
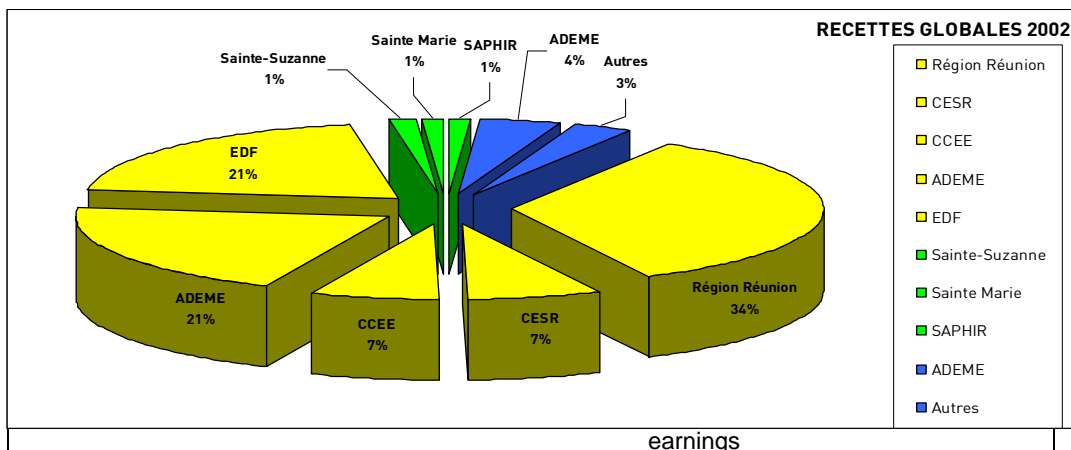
2002

Expenditure



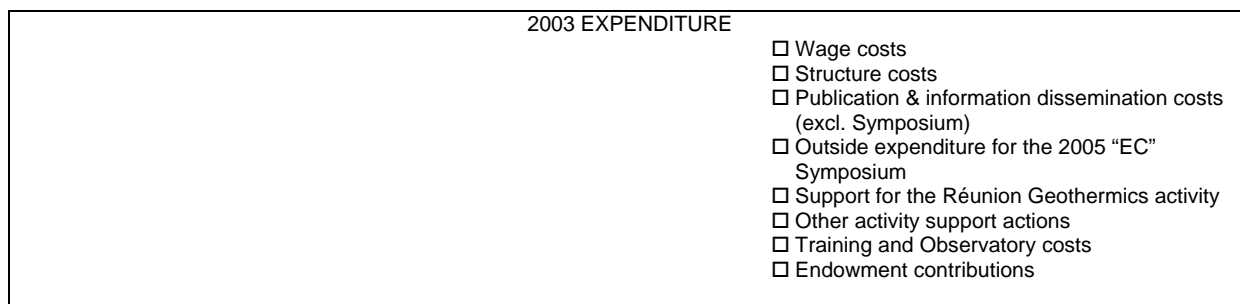
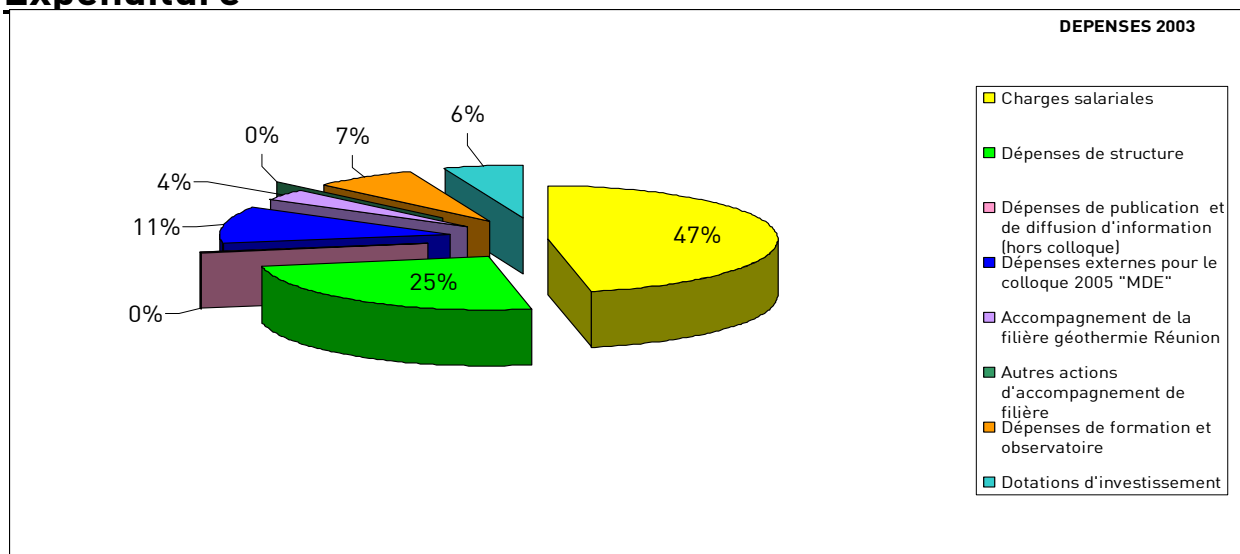
Receipts



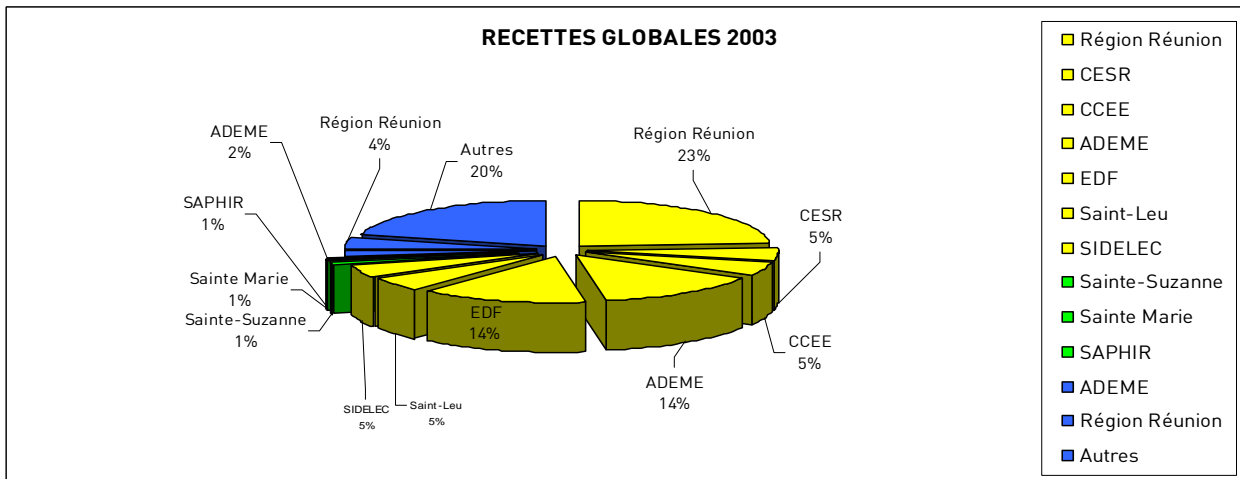
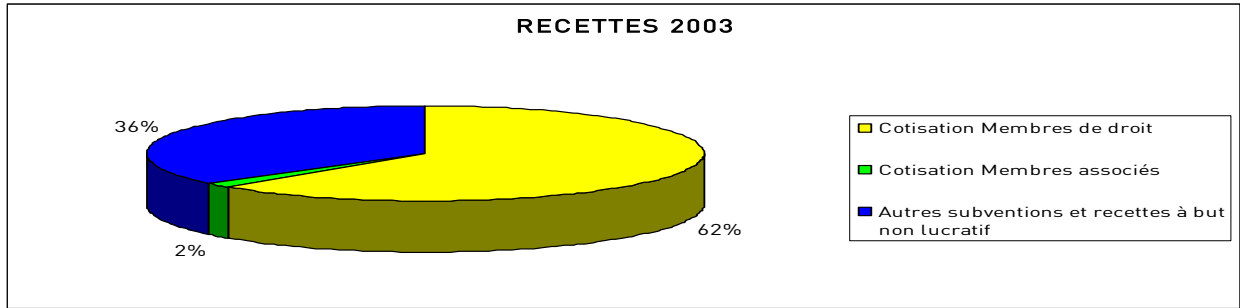


2003

Expenditure



Receipts



2003 RECEIPTS

- Statutory membership fees
- Associate membership fees
- Other subsidies and non-profit earnings

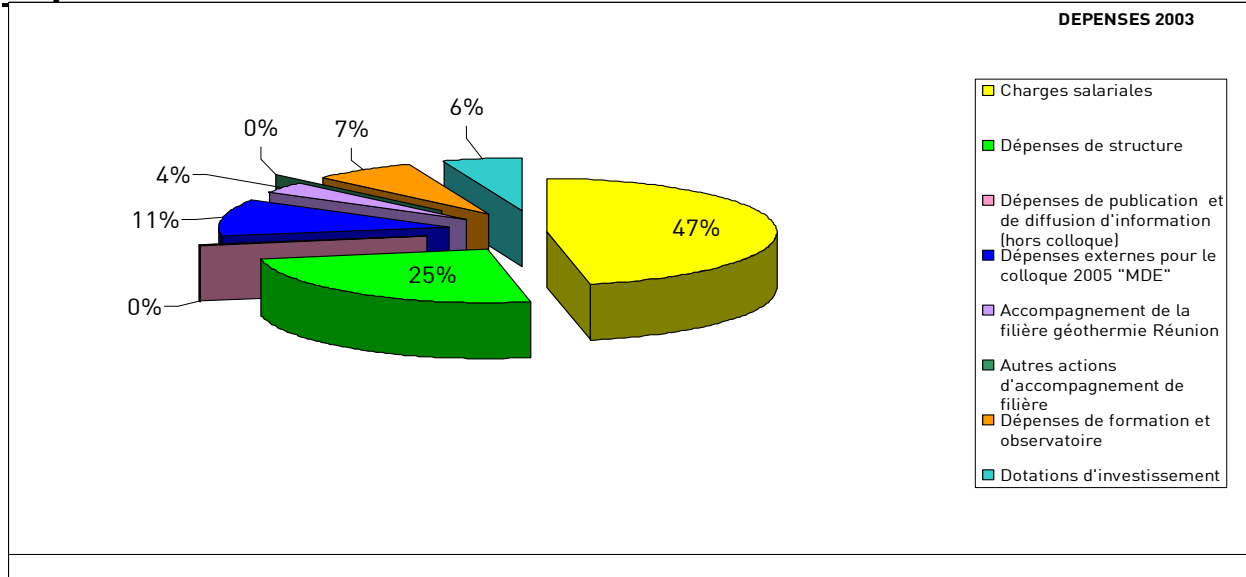
2003 RECEIPTS BREAKDOWN

- Réunion Regional Council
- CCSR
- etc., jusqu'à :
- Other

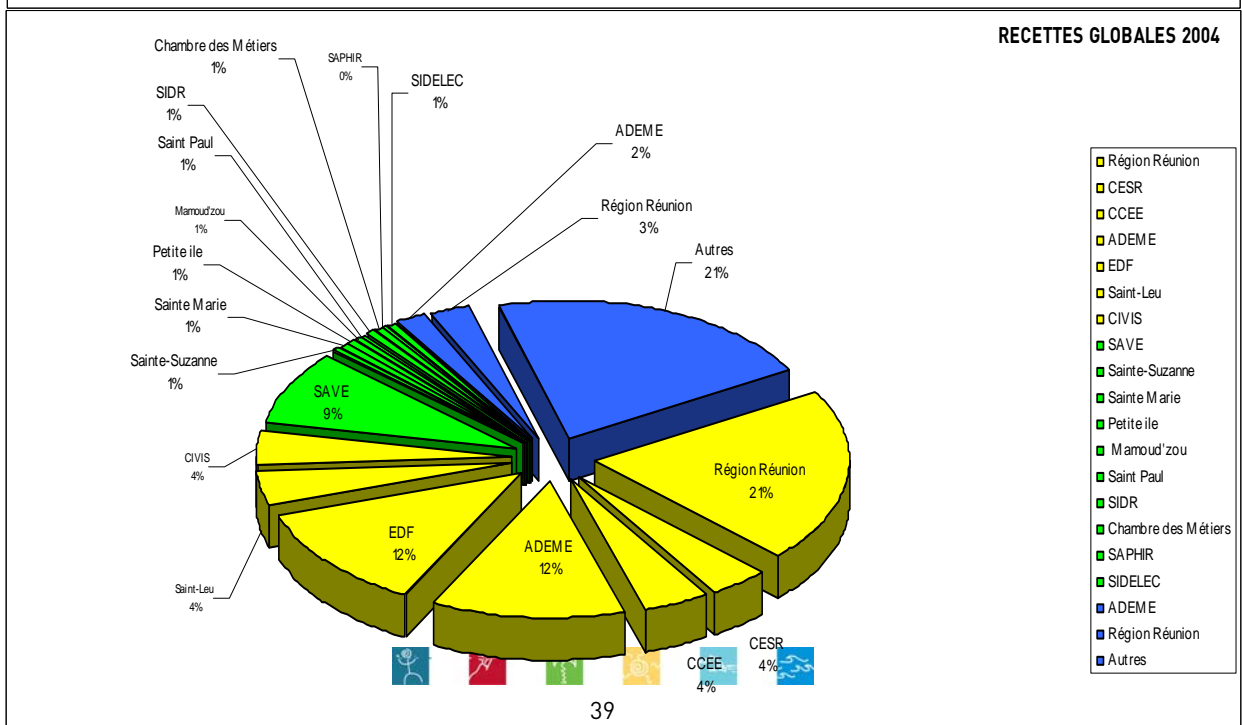
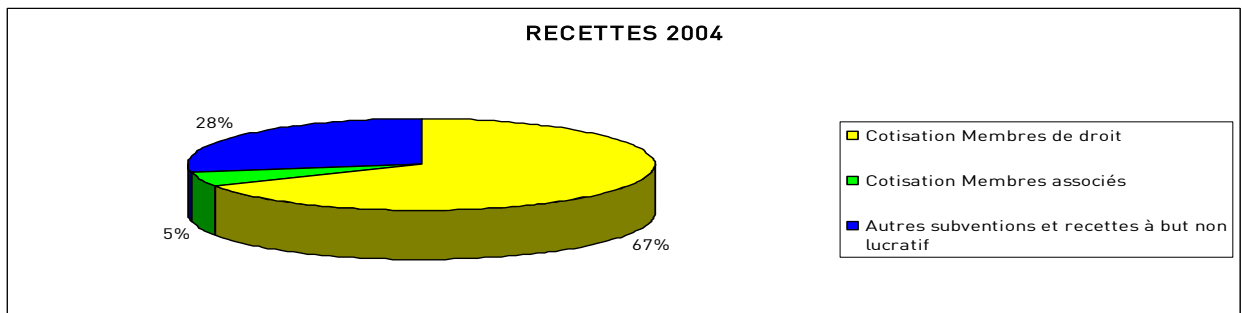


2004

Expenditure

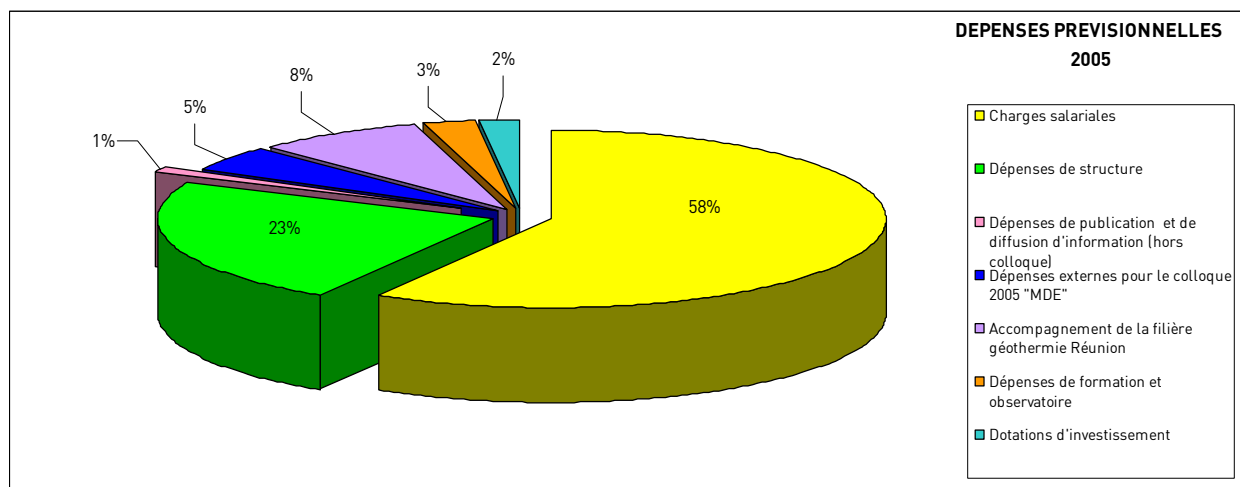


Receipts

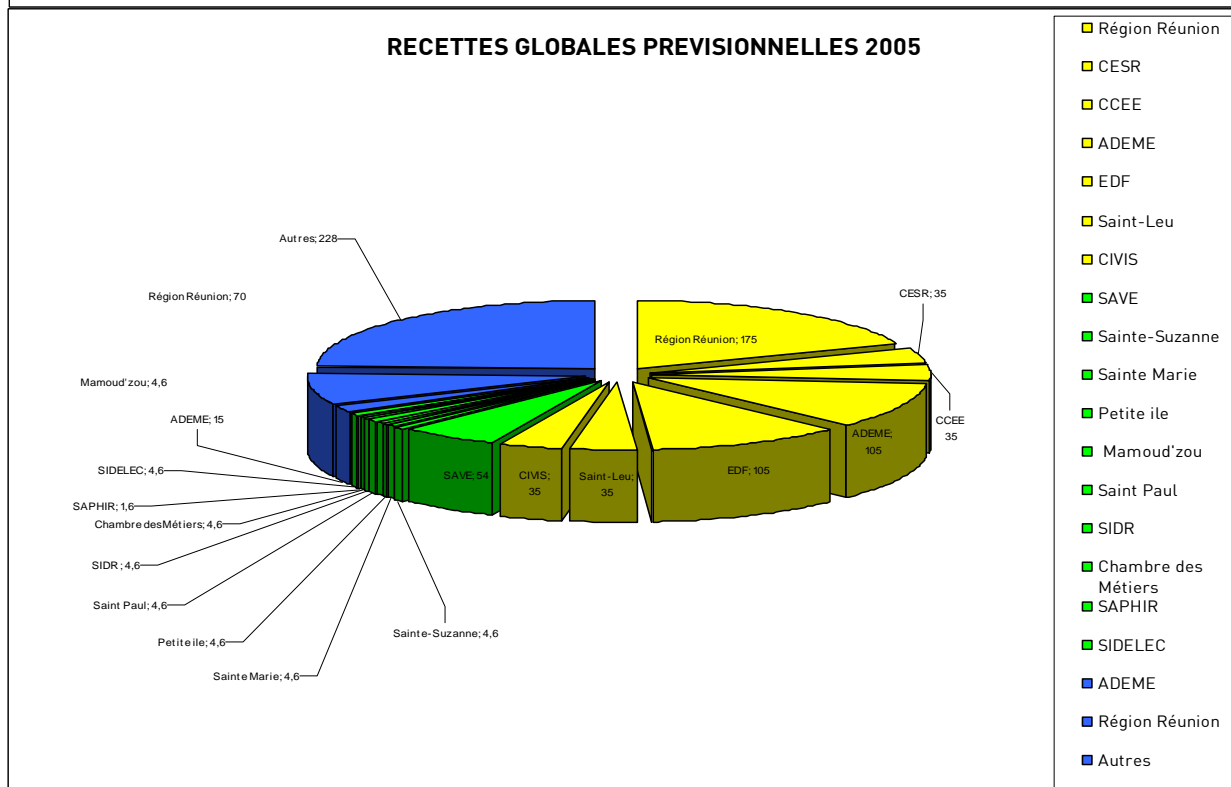
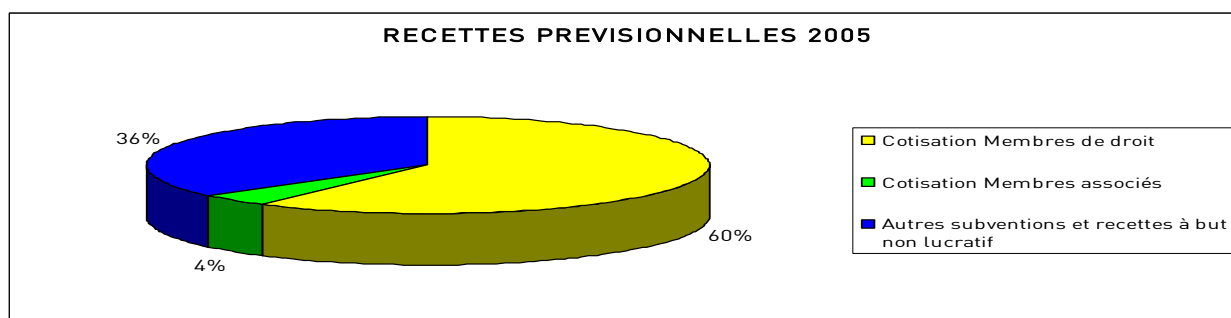


2005

Expenditure



Receipts



II. PROJECT FOR ACTION PROGRAMME 2006

ARER's proposed action programme 2006 is the outcome of consultation with administrators and the preparation of ARER's development plan for 2007-2013, as well as the various PRERURE plan contracts implemented in 2005. Presentation is by ARER trades (PMC, DMO, FIL, PI, OBS, FORM, EVE).

A / Project Manager Consultant (PMC)

- Ongoing management of 25 consulting services for project leaders to be provided in 2006, including a minimum of 10 new dossiers of all kinds.
- Progressive integration of an increasing number of supplementary PMC dossiers targeted at PRERURE action sheets currently under development. The aim is to process 50 PMCs in 2006, accompanying project managers in the Tertiary and Residential sectors in particular – subject to proper legibility of the organization adopted by PRERURE stakeholders, for steering the action sheets and the public grants awarded for PRERURE action sheets.
- Priority targets are defined in the PRERURE action sheets drawn up in 2005 and the guidelines adopted by the 2005 Energy Management Committee for the year 2006.
- Coordinate work with other partners via a quarterly meeting within the framework of the accompaniment to PRERURE's animation activities.
- Based on a PRERURE-recommended procedure guide, and within the framework of the organization adopted for PRERURE and its general secretariat, a description of the financial aid available for project leaders is to be circulated to PRERURE teams and other financiers.
- Improved access for project leaders to grant applications, by making information on public aid and application form standards available in EIEs and ARER agencies, and improving reception areas and workspaces.
- Improved quality of PMC procedures and engineering, and updating the ARER PMC follow-up database with the quantification of energy and environmental performances, both achieved and forecast.

B / The network of operation demonstration sites (DMOs) with technical and popularization publications

- Ongoing diversification of sites in order to represent the entire range of clean energy technologies and formalize the presentation of the network on the website and the downloading of technical sheets.
- Organization and planning of site visits, with sheets downloadable from the ARER website or paper-based.
- Completion of a technical and financial programming study for follow-up of demonstration site performance and publication of performance data. Collection and follow-up of performance could be carried out by the Building and Systems Physics Laboratory (LPBS) headed by Professor François Garde. Project Management of the study could be regional or entrusted to ARER, with the agreement of all site owners.

C / Accompaniment to the development of Energy sectors on Réunion, for the world's islands and regions ("FIL")

PRERURE 2005 Action Sheet No. 1: accompaniment to PRERURE's animation activities

For PRERURE 2005 Action Sheet n° 1 (steered by Réunion Regional Council – conducted by ARER and others.) – Accompaniment by Region of PRERURE animation activity (outside investment expenditure (30Keuros) – Salary charges (80Keuros))

The setting up of a procedure for the accompaniment to PRERURE's animation activity is clearly indispensable. After discussion with the Réunion Regional Council and PRME, the role has been entrusted to ARER, steered by



the Réunion Regional Council as project manager with financial and organizational responsibility for the PRERURE programme.

ARER's existing team, with its four project referees, can provide the basis for leading and accompanying PRERURE's development, in particular by using the procedures for planned special events and ARER's resources, thus assisting the Regional Council in:

- the **organization and management of four general PRERURE work meeting-spaces**. To this end, ARER special events are transformed into four annual meetings, one per quarter, the last one taking the specific form of a two-day forum, open to a wider public. The four meeting spaces could be held in each of the island's four micro-regions, and include:
 - a **technical advisory committee** prior to PRERURE steering committees, bringing together PRERURE action sheet leaders and enabling operational progress to be assessed, and PRERURE decision-making aids to be organized and structured.
 - a PRERURE **steering committee** for orienting actions and decisions.
 - a **technical and thematic half-day** open to different publics.
 - a **training space** with themes chosen and prioritized to answer identified needs.
- the **preparation of the analyses and documents, invitations and minutes of meetings** necessary for the effective running of the four meeting spaces.
- the **drawing up of the annual report** for the presentation from one year to the next of results achieved, guidelines for the following year and an overall view for long term projections.

NOTE on necessary external conditions:

- Specific technical analyses and compilation and assessment of PRERURE's progress in terms of power saving consumption saving, power installed and production furnished are still to be handled by an engineering firm, commissioned on a regional basis, in the form of an outside audit allowing technical reliability to be guaranteed.
- Each action sheet leader is to organize the meetings necessary for managing actions and coordinating the stakeholders.
- The Réunion Regional Council validates the internal organization of PRERURE and enables the recruitment of a PRERURE project leader and a flow manager, as a reinforcement of the DEAT Energy team.

PRERURE Action Sheet: Seeking new funding sources for clean energy – This Sheet has been withdrawn from ARER's programme. Réunion Regional Council will be responsible for this Action in 2006

For PRERURE 2005 Action Sheet 9c (Leader Réunion Regional Council – conducted by ARER and others.): New funding for energy (outside investment expenditure (30Keuros) – Salary charges (60Keuros))

NB: PRERURE plans to identify and organize new funding for RNE and EC on Réunion.

The setting up of a pole dedicated to energy taxation and the search for new funding notably meets a demand by administrators for finding durable and substantial sources of funding for energy control and the use of renewable energy on Réunion, with a view to financing PRERURE, among which features the overall action of ARER.

A work programme is proposed, as well as technical meetings and training (for example: the financial impact of the Framework Law for Energy) over a period of three years, culminating by the end of the third year of this action sheet in an operational system bolstered by new financing. This would include the hiring of a project leader and the supervision of the mission by the legal and financial head of ARER.

NOTE: The Réunion Regional Council has been asked to examine the possibility of regional revenues from the sale of clean energy being channelled to support actions for renewable energy sources.

PRERURE Action Sheet: setting up a team of 12 Commercial Energy Officers (12 posts operational by 2007, after developing progressively through 2006)

PRERURE 2005 action sheet 14 (Proposed steering by PRME – conducted by ARER: Commercial officer teams (outside investment expenditure (20Keuros) Salary charges (30Keuros))



This action, already described in its principles in 2003 and refined in 2004, has been invoked and enriched by the proposals of the PRERURE group. It involves mobilising a team of “commercial officers” in energy and sustainable development.

Each Energy Information Centre team will eventually include three officers besides the Sector Leader-head of operations and the technical consultant. The complete team of officers will thus consist of 12 officers divided among the Energy Information Centres of ARER. The team’s missions are as follows:

- Management of first contact, reception, orientation and initial information for the public in the Energy Information Centres,
- Organization and implementation of marketing operations or energy surveys in the field and town districts,
- Various animations for a youth or general public, notably the Home Show, Sustainable Development week, Science week, Science Fair,
- Support and participation in Urban and Social Project Management in operations concerning subsidized housing projects and rehabilitation of slum areas, for the integration of solar water heaters.

Preparation of the process of recruiting and training this team is planned for 2006, the specific definition of its missions and operational schedule for 2007, along with the precise conditions of the team’s integration with ARER and the initiation of the recruitment of the supervisory head of the team.

Accompaniment to the Geothermal Sector

The Geothermal project is at the slim hole drilling stage. This phase requires the Region to acquire the services of an assistant project manager. After tender, ANTEA was awarded the contract. ARER continues to participate in the coordination unit and the scientific committee of the Réunion Geothermal Project, as well as maintaining and updating the Project’s FTP server.

Accompaniment to the Hydrogen Sector

In 2004, five applied R&D studies were carried out to structure an updated database on hydrogen and its potential for Réunion Island, at the suggestion of the president of ARER and in application of PRERURE 2002 action sheet.

An approach to a development strategy for this sector has been produced, along with proposals to constitute a work group and a preliminary three-year action programme (2006-2008), allowing the drawing up of a detailed programme for the sector over the period 2005-2050. Consultation between European and local partners was carried out in 2005, under the auspices of the president of ARER, with a view to formalizing the work group and initiating its activity as of early 2006 in accordance with a pre-programme established in conjunction with the constituted hydrogen group. This work group was created on 21 September 2005 and met for the second time on 29 October 2005.

It emerges that the locally produced hydrogen vector can be considered as strategic for the island’s energy future: for the storage and regulation of intermittent energies and for the long-term production of fuel for transport.

In 2006, a detailed action plan for the 2006-2008-2009 phase is to be drawn up, and effective mobilisation of partners will be organized along three main lines, under the supervision of a 2006-2008 Hydrogen Group” project leader:

- MODULE 1: Technological awareness, information and training of local players
- MODULE 2: Transfers of demonstrative technologies
- MODULE 3: Preparation of the 2009-2050 development plan

Accompaniment to the Sustainable Home Building Sector

Accompaniment to the sustainable building sector, Reunionese HEQ and methods of environmental management, in support of and coordination with building sector players, and in particular the organization of a structured approach to supporting Housing Adapted to Sustainable Development.

Besides the actions planned for 2006 as part of the development plan for Réunion Homes Adapted to Sustainable Development, the Réunion Regional Council has requested ARER to tender for projects concerning the Individual House adapted to Sustainable Development on Réunion Island.



Accompaniment to preliminary research into the use of wave and marine current energy in Réunion and other islands

Research into wave energy began in 2003 and has led to an initial report modelling wave energy resources. The report identifies potential sites on which more extensive studies could be made. At the same time, the Réunion Regional Council wishes to pursue investigation of the resource by also studying the marine current energy resources around the island, for the installation of marine current turbines.

In 2006, a budgetary programme is to be established by the Réunion Regional Council, with a view to pursuing detailed studies of wave sites and also to finance the study of a method enabling the procedure for exploring marine current resources to be defined, and more generally to formalize a development plan for the sector.

Accompaniment to the cliff-face wind turbine sector

Réunion's terrain allows the development of cliff-face wind turbines to be envisaged. The president of ARER has underlined the emergence of this technology world-wide and has requested that an applied model study be carried out at certain Reunionese locations with potential for this type of system, to evaluate its possible applications on Réunion Island.

In 2006, a schedule of conditions will thus be drawn up for an applied R&D study. The study will be completed within the framework of the 2006 R&D platform, with funding from the Réunion Regional Council.

Accompaniment to the Township team for the integration of solar water-heaters in the rehabilitation of South Africa's townships

The Réunion Regional Council has been asked by its South African partner to cooperate in the integration of solar water heating technology in the rehabilitation of the Townships. In 2006, a detailed programme of projects will be drawn up with the South African team, which may be eligible for international funding mechanisms for clean technologies.

Isolated hamlets and Positive Energy Gaps sector: Programme for Grand-Coude's energy autonomy and positive energy production

The Réunion Regional Council, the Saint-Joseph Municipality and the "Théiers de Grand-Coude" Association wish to carry out an exemplary operation for the energy autonomy of Grand-Coude, located at the end of the EDF grid and experiencing considerable energy supply problems. The programme is to begin in early 2006 and is provisionally scheduled to last 10 years. ARER's role is to support the operation's project manager, the district of Saint-Joseph, for the management of the programme.

Inter-island cooperation: "Island Natural Energy Ways toward Self-sufficiency (Island NEWS) – Energy autonomy strategies for islands and regions 2000-2005-2015-2025-2050 – A response for the adaptation of island territories to climate change"

Knowledge sharing and perpetuation, and inter-island links, by means of the technical standard "Energy autonomy strategies for islands and regions 2000-2005-2015-2025-2050 – A tool for adaptation to climate changes for our island territories" organized according to five key themes which are to become work groups for knowledge acquisition, active until 2013.

The knowledge base (accessed by an ARER internet portal) is regularly updated by means of an active online call for papers and regular reminders to the islands and experts already contacted during the Symposium.

Promotion of this work to national and international bodies (e.g. IPCC, ONERC, WCRE, EU, UN, AFD, etc.).

In addition to the perpetuation, structuring and promotion of the knowledge acquired, the islands and Regions are creating the basis for an ASSOCIATION of islands and Regions committed to an energy autonomy strategy for adaptation to the effects of climate change, within ARER. The association is to initiate lines of partnership and cooperation by means of energy Atlases of the islands and regions:

- Atlas of energy profiles, prospective energy profiles over 20 years, and key energy projects
- Atlas of renewable energy resources
- Atlas of training and professions, per sector and per island
- Atlas of key energy players and experts in each theme



- Negotiation of funding from the structures for adaptation to climate changes

The association is open to all the world's islands seeking to commit themselves to an energy autonomy strategy. An initial partnership is created in the form of an exchange between the shared knowledge base and the return of information (energy profiles, key players and training) building up the Atlases.

The dynamics brought about by this Association and by the initiation of an Energy Observatory in the islands (compilation of the Atlases) opens the way in a realistic and concrete manner to institutional funding (e.g. IPCC, ONERC, EU, UN, AFD, etc.): Projects and applications for funding are to be drawn up during 2006 in order to set up financing and an effective organization (an office and human structure), with actions to be developed from 2007 to 2013. The objective for 2006 is to achieve the development of this organization.

D / Complete the setting up of the network of four Energy Information Centres (EIE) and Energy Information Booths (PI) in local town planning departments

- Finalize the upgrading of the reception and office equipment of the South (HUB and IUT) and East EIEs.
- Study the transfer of the north EIE to a more attractive and better-located site in Saint-Denis.
- Prepare the partnership for the eventual opening of the East EIE at Saint-Benoît with its associated team, subject to support from the local authorities in the east of the island.
- Pursue the development of information points in local town planning departments.
- Diversify the themes dealt with in the EIEs, with crossover to other sustainable development structures.
- Objective: 1,000 EIE contacts (Visitors in EIEs and calls to 0262 257 257).

E / "Réunion Energy" observatory, Réunion energy profile, Energy sector professions and technologies (OBS)

This concept data promotion actions and documents, in web format or paper-based.

- Setting up of the Réunion Energy Observatory and production of an annual general presentation of Réunion's energy data, online, in EIEs and paper-based.

The observatory is recommended by the PRERURE plan and its definition has been refined within the PRERURE 2005 actions sheets. The PRERURE steering committee has designated ARER as the host of this activity. (For PRERURE 2005 action sheet No. 1 (steered by Réunion Regional Council – Conducted by ARER and others) – Anticipated form of Réunion Energy Observatory 2006 (outside investment expenditure (30Keuros) – Salary charges (70Keuros)). This stage completes the ARER Observatory of Trades and Technologies, which becomes the "Réunion Energy Observatory" and thus conforms with the ARER 2001-2006 development plan approved by the July 2001 General Meeting.

The post of head of the "Réunion Energy Observatory" has been created to this effect. A detailed action progress plan will be drawn up in consultation with PRERURE stakeholders to put activity over time into perspective. In 2006, work (to be carried out by an engineering firm) will consist in drawing up the first general outline of Réunion Island's energy profile, organizing the method and modalities of information gathering, producing a published first version of data by September 2006 and preparing the Observatory's 2007 work plan. In-depth training will be given to the head of the Observatory project.

- Development of the ARER documentation centre via the ARER EIEs, and providing for on-line consultation of publication references on the ARER website, on Réunion, the Indian Ocean islands, UPRs and European islands. The documentation centre is to be extended with the fields of competence decided in 2005: sustainable building, Reunionese HEQ and methods of environmental management, housing adapted to sustainable development, the concept of climate change, and the challenge of adaptation and mitigation of impacts.
- Servicing and renovation of the ARER website, updating the Directory of energy stakeholders on the islands, via the website, building it up through Indian Ocean energy contacts, online integration and publication of data from the Réunion Energy Observatory and data concerning island energy autonomy strategies for adaptation to climate change, resulting from inter-island cooperation, and the 2005 summer programme and Symposium.
- The objective is for six Publications:



Two revised editions are required:

- Procedure Handbook for the installation of photovoltaic generators of under 36 kVa connected to the EDF grid.
- Handbook of the individual house adapted to sustainable development on Réunion Island (general public).

Four new publications among the following:

- Technical Handbook for Sustainable Building on Réunion Island (individual houses).
- Handbook for the installation of collective solar water heating systems in Réunion apartment buildings.
- An Energy Autonomy Strategy for islands and regions 2000-2005-2015-2025-2050.
- Handbook and Overview of demonstrative sites for Energy Management and Renewable Energy technologies on Réunion Island.
- Réunion Energy Observatory: Réunion Island's Energy Profile.

F / “Réunion Energy” training (“FORM”)

ARER, as a certified training organization, supports the promotion of energy training programmes by:

- Developing a **platform for placement offers** in Sustainable Energy within ARER or in voluntary structures for 8 placements in 2006, in the framework of ARER and partners' Applied R&D Platform.
- Promoting of different ranges of emerging **trades, professions and training** in the relevant fields of Energy, and fostering the emergence of new ad hoc training sectors.
- **Four minimum training programmes supporting and conforming to the PRERURE 2006 meetings module, for example:**
 - Energy control and heritage protection
 - Energy control and sports facilities
 - “Commercial Energy Officers” and Sustainable Development
 - Installation of collective solar water heaters in Réunion apartment buildings

G / Encounters, debates, lectures... Réunion Energy 2006: “Technical, organizations and training encounters in the PRERURE programme 2000-2025-2050” (EVE “Events”)

The 2006 “Réunion Energy of the 21st Century” Encounters focus on the development of PRERURE, in support of the State investment plan: “Technical, organizations and training encounters in the PRERURE programme 2000-2025-2050.”

Four quarterly encounters are organized, each including a PRERURE steering committee, a PRERURE technical committee, a half-day of thematic encounters with relevant training spaces, provided within the framework of PRERURE action sheet “Accompaniment to PRERURE’s animation activities.”

The annual forum [two days] as an extension of the fourth PRERURE encounter and technically coordinated with the follow-up and updating of PRERURE, and also with the technical standard “Energy autonomy strategy 2000-2050 for islands, procedures for adaptation to climate change” – version 2006.1

ARER will also cover the 2006 Home Show through a cooperative organized with the Exhibition Park. No budget has been earmarked for a stand.

III. THE ARER TEAM IN 2006 AND ITS LOGISTICAL MEANS

To achieve the final programme of the 2001-2006 development plan, the following organization chart will be implemented. The 2006 team will also introduce some basic elements of the 2007-2013 development plan.

In terms of human resources, the following new positions will be created in 2006:



- Manager of the “Administration, finances, human resources and legal affairs” resource centre. Richard HUIITELEC was holding the position on a part-time, consultant contract basis while pursuing his Law PhD studies at the same time. His financial and legal management work allowed ARER to complete all previous budget years and diversification of our resources. He is now going to work full time managing the 2006 budget and implementing ARER’s 2007-2013 development plan.
- Hydrogen Representative, to be hired in early 2006. Will report to Idriss INGAR, East Region Manager.
- “Réunion Energy Observatory” Operations Manager. Gaëlle GILBOIRE, currently in charge of Events and Training Communication, was to become New Financing Manager, but the Réunion Regional Council will take charge of the job. Gaëlle has been proposed for this position, starting in early 2006.
- Inter-island network Manager subject to approval of the “Island NEWS” – “Energy Self-Sufficiency Strategy for Islands and Regions 2000-2005-2015-2025-2050: An Answer for Island Territories’ Adaptation to Climate Change project, and if European and local sponsors agree to finance it (discussions under way).
- To prepare the implementation of the 2007-2013 development plan, the ARER team will be shored up by a team of 12 “Commercial Energy Officers” (3 in each EIE/micro-region). One officer with senior manager and supervisory head status will be hired in the course of 2006 to organize the team and establish its detailed action programme.
- ARER consulting technicians will then become Operations Managers so as to meet technical file processing demand (especially PMC) in connection with PRERURE action sheets, while future Officers will gradually take care of EIE management and all educational, awareness and reception/advice actions aimed at various publics.

IV. THE 2006 BUDGET

When ARER was set up in 2001, founding members contributed a budget participation with instruction to diversify financial resources in the future, in order to guarantee ARER development.

The 2006 predictive budget is that of a turning point, as the team is near complete and a full range of activities is being implemented to partly meet the needs listed in PRERURE findings. It is therefore necessary to increase human resources on a large scale to support PRERURE development, both within the Réunion Regional Council and at the level of PRERURE partners (including ARER).

The suggestion made to ARER members is to give the structure a new financial impetus and, starting in 2007, seek diversification of its financial resources. The proposed programme and its corresponding budget have been carefully worked out by directors.

As regard expenditure, wage and structure costs have been calculated to cover team operation as described above. Team members are distributed over the 3 EIEs (North, West and East) and the IUT Head Office.

Budget contribution of statutory members is the same as in 2005 plus some 2% for inflation. Only the Réunion Regional Council will increase its contribution share in order to cover wage and structure costs needed for integration of new assignments entrusted to ARER.

- Accompaniment to PRERURE activity,
- OER (Réunion Island Energy Observatory),
- Accompaniment to Geothermal activity,
- Accompaniment to Hydrogen activity,
- Accompaniment to Casa DD (SD House),
- Pre-designing of the Commercial Energy Officers team to integrate ARER in 2007.
- Support to Launching and animation of the “Island NEWS” inter-island network – “Energy Self-Sufficiency Strategy for Islands and Regions 2000-2005-2015-2025-2050: An Answer for Island Territories’ Adaptation to Climate Change” pre-figuring the inter-island association announced at the 2005 ARER Symposium.



Outside expenditure in support of those new actions are to be defined and approved in consultation with Réunion Regional Council and PRERURE representatives. That is why they are not included in ARER's budget yet. Publication and training costs are offset by external receipts.

The 2006 EIE Equipment & Works item is both substantial and necessary; it will be used for upgrading and ensuring consistency of existing EIEs (direction signs in towns, façade layout and exterior signage, upgrading of interior layout and works in the East EIE premises): we are counting on appropriate contributions by district utilities of each EIE.

