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REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE IN PROSTOR

Tagung der Alpenkonferenz
Réunion de la Conférence alpine
Sessione della Conferenza delle Alpi
Zasedanje Alpske konference

XI

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PIANO D'AZIONE SUL CAMBIAMENTO CLIMATICO NELLE ALPI – FOLLOW UP E ATTUAZIONE

A Relazione della Presidenza e del Segretariato permanente

B Proposta di decisione

Allegati:

Allegato 1:	Monitoring table to follow-up the implementation of the action plan on climate change in the Alps
Allegato 2:	National policies on mitigation, extract from Alpine Signals 6

A Relazione della Presidenza e del Segretariato permanente

La X Conferenza delle Alpi (B6, punto 4) ha richiesto una prima valutazione del Piano d’azione sul cambiamento climatico nelle Alpi da parte della XI Conferenza delle Alpi. La presente relazione contiene elementi sui progressi fatti nell’attuazione dei diversi punti della decisione adottata dalla X Conferenza delle Alpi.

Punto 1 della decisione della X Conferenza delle Alpi

In occasione della 44a seduta, il Comitato permanente ha deciso di utilizzare la tabella di cui all’Allegato I per monitorare il follow up delle azioni concrete adottate in attuazione del Piano d’azione sul cambiamento climatico nelle Alpi.

Tale tabella consente una presentazione di tutte le azioni intraprese su questioni specifiche previste al punto 1 della decisione della X Conferenza delle Alpi:

a. La documentazione degli effetti del cambiamento climatico con il supporto di PLANALP è un processo in atto.
b. Le linee guida per il follow up delle foreste montane esposte al cambiamento climatico sono l’oggetto di alcuni progetti della Cooperazione territoriale europea, come ad esempio il progetto MANFRED.
c. Non sono ancora disponibili informazioni specifiche riguardo ai tour operator che offrono soggiorni e mezzi di trasporto efficienti in termini di emissioni di CO2 e al premio assegnato ai migliori risultati con iniziative ad hoc.
d. La creazione di una rete ecologica transalpina volta ad agevolare la migrazione di specie vegetali e animali è attualmente in corso nell’ambito dell’attività della Piattaforma “Rete ecologica”, dello sviluppo del progetto Econnect e l’identificazione di regioni pilota.
e. Nel quadro della Piattaforma “Gestione dell’acqua” è stato avviato lo sviluppo di linee guida per la costruzione, l’ottimizzazione e il ripristino di piccole centrali idroelettriche nel rispetto degli ambienti acquatici e della biodiversità.
f. E’ stata avviata l’’attuazione di progetti esemplari nel settore della bioedilizia, dellla sua promozione e del suo adattamento,sulla scia dell’esempio del Liechtenstein che ha istituito un Premio di bioarchitettura.

Occorre sottolineare che in questa tabella sono state inserite le informazioni fornite ad oggi dalle Parti contraenti, dagli osservatori e dagli altri attori interessati. In questa fase può essere considerata soltanto alla stregua di un rapporto intermedio e dovrebbe essere aggiornata costantemente.

Punto 2 della decisione della X Conferenza delle Alpi (“Gruppo di Zurigo”)

Sono stati avviati contatti ufficiali. Un primo incontro tenutosi a Berna, nel marzo 2010, ha consentito un primo scambio di pareri. Al Comitato direttivo della riunione del Gruppo di Zurigo del 9 febbraio 2011 è stato presentato un rapporto chiamato “ALBATRAS”, che studia gli effetti di lungo periodo della possibile introduzione di sistemi di gestione del traffico internazionale, ivi incluso il sistema per lo scambio di diritti di transito. Il Comitato direttivo ha deciso di pubblicare tale rapporto. All’incontro hanno partecipato il Presidente del Gruppo di lavoro “Trasporti” della Convenzione delle Alpi (che è anche membro del Comitato direttivo del Gruppo di Zurigo), nonché il Segretario e il Vicesegretario generale della Convenzione delle Alpi.

Punto 3 della decisione della X Conferenza delle Alpi (compiti del Segretariato permanente)

Conformemente al punto 3 della decisione adottata dalla X Conferenza delle Alpi, il Segretariato permanente:

g. ha istituito un portale web sul piano d’azione sul clima, contenente le buone pratiche, un centro di documentazione, progetti, azioni in settori specifici come il turismo e la mobilità dolce, informazioni per i giovani, una biblioteca multimediale e una sezione su novità ed eventi;

h. ha completato e aggiornato regolarmente ogni anno le informazioni disponibili sul portale in materia di cambiamento climatico; ha sviluppato gradualmente nuove sezioni al con informazioni su soluzioni concrete, come la presentazione degli attori territoriali che hanno attuato con successo il piano d'azione sul cambiamento climatico.

Punto 5 della decisione della X Conferenza delle Alpi: studio per valutare la possibilità per le Alpi di divenire una zona neutrale dal punto di vista delle emissioni di carbonio entro il 2050

Contesto e aspetti procedurali

La X Conferenza delle Alpi (punto B6) ha convenuto tra l'altro "di effettuare uno studio che valuti la possibilità per le Alpi di divenire una zona neutrale dal punto di vista delle emissioni di carbonio entro il 2050".Da allora, sono state adottate misure specifiche da alcune Parti contraenti, dal Comitato permanente, dalla Presidenza e dal Segretariato permanente e sono statI inoltre sollevatI diversi punti che dovranno essere chariti in questo processo.

La Germania ha finanziato e distribuito uno studio preliminare predisposto dal Wuppertal Institut e intitolato '*Climate neutral alpine region 2050 – Summary for policy makers*'. Questo studio preliminare ha suggerito diverse questioni che dovrebbero essere affrontate per poter rispondere alla domanda sulla fattibilità di una regione neutrale dal punto di vista delle emissioni di carbonio entro il 2050. In tale contesto è stata inoltre discussa l'idea di presentare una proposta di cooperazione territoriale nel quadro del Programma Spazio Alpino. Attualmente, tale proposta è in fase di stesura *(ALPSTAR – Carbon Neutral Alps 2050! Make best practice minimum standard!)*. Tuttavia, a prescindere da questa proposta, è stata discussa e confermata la necessità che, all'XI Conferenza delle Alpi, il Comitato permanente risponda alla domanda posta dalla X Conferenza delle Alpi. In occasione della 43a seduta, il Comitato permanente ha incaricato la Presidenza slovena e il Segretariato permanente (qui di seguito denominato PSAC) di redigere una relazione da presentare ai Ministri relativamente a tale questione specifica.

In considerzione dei dibattiti e delle diverse opinioni sulla metodologia da utilizzare per realizzare lo studio, la Presidenza e il PSAC hanno convocato un incontro con le Parti contraenti e gli osservatori in data 12 luglio 2010, a Innsbruck allo scopo di raccogliere le informazioni necessarie per preparare la relazione per i Ministri. Alla riunione hanno partecipato Francia, Italia, Liechtenstein e Slovenia. Sulla base del verbale dell'incontro, il 23 luglio 2010 è stata distribuita una bozza di relazione preliminare, con l'invito a inviare il proprio parere entro il 30 agosto 2010. Solo Liechtenstein, CIPRA International e CAA hanno inviato un parere scritto. Il 12 ottobre 2010, la Presidenza e il PSAC hanno fatto circolare un'ulteriore relazione in vista della discussione prevista per la 44a seduta del Comitato permanente.

Nell'ultima decisione presa dal Comitato permanente durante la 44a seduta (29 ottobre 2010), il Comitato permanente ha invitato tutte le Parti a comunicare entro la fine di novembre 2010 le informazioni pertinenti al fine di ultimare la bozza di relazione da presentare ai Ministri. Dopo la 44a seduta del Comitato permanente, il PSAC ha ricevuto i contributi di Austria, Germania, Francia, Italia, Liechtenstein e Svizzera. La presente relazione e proposta riflettono i contributi ricevuti.

Verso una definizione di neutralità climatica

Le discussioni tenute nell'ambito dello studio preliminare del Wuppertal su tale questione e il dibattito dell'ultima riunione del 12 luglio, a Innsbruck, hanno sollevato sia il problema della definizione di “neutralità climatica/CO2” che l'importanza di prendere in considerazione diversi aspetti nell'affrontare la questione.

La neutralità CO2 o neutralità climatica è sia un concetto scientificio che un obiettivo politico per le comunità che aspirano ad uno stile di vita a bassa emissione di CO_2. In effetti, quando parliamo di neutralità climatica ci riferiamo all'obiettivo di ridurre le emissioni di gas che hanno un impatto sul clima, sulla base di informazioni scientifiche. Tuttavia, se questo non verrà ulteriormente precisato, si corre il rischio che l'impegno della neutralità climatica rimanga troppo vago per essere raggiunto, e di conseguenza monitorato. Se le Parti contraenti della Convenzione delle Alpi decidono di perseguire l'obiettivo della “neutralità climatica” entro il 2050, sarà necessario rispondere a tre domande. Tali risposte sarebbero utili anche per l'attuazione del Piano d'azione:

a) Quali gas dovranno essere ridotti? Lo studio preliminare del Wuppertal propone tutti i gas serra.

b) Di quanto ridurre le emissioni? Ogni anno vengono emesse all'incirca 100 milioni di tonnellate di CO_2 nelle Alpi (= 7,4 t pro capite/anno). Idealmente, l'obiettivo di riduzione delle emissioni dovrebbe tener conto dello scenario di un incremento massimo di 2 °C della temperatura globale, sostenuto dall'UE e dagli stati alpini non UE. Gran parte degli studi indicano che, per raggiungere una stabilizzazione delle temperature globali a questo livello, le emissioni mondiali dovrebbero essere pari in media a 2 tonnellate di CO_2 pro capite/anno (in base a tali cifre, la riduzione dovrebbe essere di 5 t pro capite circa, in un arco temporale di 40 anni). Pertanto, le Parti contraenti dovranno contribuire a ridurre tale divario (da 7,4 a 2 t pro capite).

c) Come ridurre le emissioni? Lo studio dell'Istituto Wuppertal ha inoltre proposto una metodologia basata su un approccio settoriale (sono state individuate tre aree d'azione principali: energia, settori economici principali, aree trasversali, ognuna delle quali suddivisa in 3 sottosettori). L'approccio settoriale è stato anche scelto dall'IPCC per i propri scenari di riduzione delle emissioni di gas serra (fonte: IPCC 2007, pag. 11), il che indica una convergenza tra la strategia futura di neutralità climatica delle Alpi e il contesto politico internazionale. Rimane il problema della definizione di ogni "cluster", in particolare per le aree trasversali (ma potrebbe essere definito e affrontato in corso d'opera).

Il secondo studio elaborato dall'Istituto Wuppertal, *Climate Neutral Alps 2050. Make best practice minimum standard!*, riassume il problema: « Il lavoro preparatorio sulla definizione di "neutralità climatica" e la definizione dello scopo e del quadro dell'inventario delle emissioni hanno costituito il contenuto principale dello studio preliminare. (…) Siamo ancora in attesa di un'adeguata definizione per lo spazio alpino).

Su tale questione non è stato raggiunto alcun consenso tra le Parti contraenti ed esistono molteplici riferimenti. Tuttavia tale definizione, come sintetizzato nello studio dell'Istututo Wuppertal , non sembra indispensabile per poter procedere. Questo dibattito è già all'ordine del giorno degli ambienti scientifici e sarebbe utile se le Alpi potessero beneficiarne arricchendo la discussione con alcune delle proprie peculiarità. Infine, tale definizione non dovrebbe rappresentare il contenuto principale della relazione. In questo contesto, si profilano diverse alternative:

- scegliere, come suggerito da Italia e Liechtenstein, una definizione riconosciuta a livello internazionale, per esempio quella dell'UNEP o del governo britannico.
- l'Istituto Wuppertal suggerisce quanto segue: « La definizione di neutralità climatica dovrebbe soddisfare determinati criteri in ognuno dei nove cluster tematici". Sebbene occorrano una « certa flessibilità riguardo a circostanze specifiche dello spazio alpino, alla disponibilità di dati e ai poteri degli stakeholder locali). Ciò richiederebbe ulteriori riunioni e gruppi di lavoro sull'argomento in seno alla Convenzione delle Alpi. Considerati gli elementi chiave dello studio preliminare dell'Istituto Wuppertal, la definizione di neutralità climatica quale processo per la Convenzione delle Alpi, le iniziative esistenti a livello nazionale e regionale, le attività attuative in corso del Piano d'azione sul cambiamento climatico e il lavoro svolto nel contesto delle piattaforme esistenti della Convenzione delle Alpi potrebbero essere sufficienti per convogliare questo processo. Se verrà scelta questa opzione, dovrà essere adottata una definizione più "generale" di neutralità climatica, sulla scorta dell'esempio di altre organizzazioni internazionali che definiscono la neutralità clomatica come un un "processo" in termini generali. Tale approccio consentirebbe:
    - la coesistenza con altre definizioni nazionali e regionali;
    - la coesistenza e la partecipazione ad altri network o iniziative internazionali sul tema della neutralità climatica (come il Climate Neutral Network dell'UNEP, per esempio);
    - l'ulteriore sviluppo di definizioni più precise e quantitative di neutralità climatica per i diversi settori. In questo senso, allo scopo di attuare il Piano d'azione sul cambiamento climatico e ai fini dell'attuale indagine, le Parti contraenti della Convenzione delle Alpi potrebbero decidere di unire i loro sforzi per ridurre e neutralizzare il più possibile le emissioni di gas serra nei territori alpini, sulla base di aree settoriali e tenendo conto sia delle politiche nazionali di mitigazione sia delle iniziative regionali e locali adottate nel territorio alpino.
- di portare avanti la proposta di Cooperazione territoriale europea per un progetto specifico ai fini di sostenere questo processo con esperienze di tipo bottom up.

Riepilogo delle politiche nazionali di mitigazione

Al fine di evidenziare gli obiettivi comuni esistenti e il comune denominatore delle Parti contraenti della Convenzione delle Alpi (attuazione, successi, fattori e condizioni di successo, sostegno politico) si rimanda allo stralcio della pubblicazione di cui all'Allegato II. Le strategie nazionali di mitigazione potrebbero essere considerate il contesto generale per attuare la neutralità climatica nello spazio alpino.

Obiettivi delle politiche nazionali

E' utile ricordare gli obiettivi attualmente perseguiti dalle Parti contraenti a livello nazionale o regionale/locale. Questi potrebbero rappresentare un'ulteriore base per un accordo su una definizione del concetto generale e comune in seno alla Convenzione delle Alpi.

AT

Nel febbraio 1994, l'Austria è diventata la 58a nazione che ha ratificato la Convenzione quadro delle Nazioni unite sui cambiamenti climatici (UNFCCC) e nel maggio 2002 ha ratificato il Protocollo di Kyoto. Quello stesso anno, l'Austria ha adottato una Strategia climatica nazionale. Dopo una valutazione globale, nell'aprile 2007 il governo federale ha varato una strategia adattata (seconda Strategia climatica, BMFLUW). L'attuale Strategia climatica intende innanzitutto garantire che gli obiettivi di riduzione dei gas serra definiti nel Protocollo di Kyoto vengano rispettati. La seconda Strategia climatica si fonda su una serie di misure diverse, in particolare l'attuazione del sistema UE di scambio di quote di emissioni per la produzione industriale e di energia elettrica, la promozione dell'efficienza energetica negli edifici esistenti e di nuova costruzione, varie misure di riduzione delle emissioni di gas serra nei trasporti, la promozione di fonti di energia rinnovabili e l'acquisto di crediti di emissioni di CO_2 da altri paesi entro il 2012.

FR

La Francia detiene una posizione particolare tra i paesi sviluppati e le parti contraenti dell'UNFCCC e del Protocollo di Kyoto, dato che nel 2007 i livelli delle emissioni di gas serra erano già del 5,6% inferiori all'obiettivo di Kyoto. La Francia ha potuto pertanto ritenere adempiuti i suoi obblighi internazionali e limitare la propria politica sul cambiamento climatico al minimo strettamente necessario. Tuttavia, il "Grenelle de l' Environnement", un importante processo politico condotto in modo ampiamente partecipativo nel corso del 2007 e del 2008 - che comporta impegni specifici per gli stakeholder e successivamente è divenuto legge formale - stabilisce che entro il 2020 la Francia deve ridurre le proprie emissioni di gas serra del

22% rispetto ai livelli del 1990. Se tutti gli impegni assunti nell’ambito del processo Grenelle verranno soddisfatti nei prossimi anni, si stima che la riduzione di gas serra sarà ancora maggiore, quindi in linea con l’obiettivo UE di una riduzione del 30% qualora venga siglato un accordo vincolante a livello internazionale.

DE

L’obiettivo consiste nella riduzione delle emissioni di gas serra del 40% entro il 2020, del 55% entro il 2030, del 70% entro il 2040 e dell’80-95% entro il 2050 (rispetto ai livelli del 1990). Entro il 2020, la quota di fonti rinnovabili del consumo energetico totale dovrà raggiungere il 18%, per poi aumentare gradualmente fino al 30% entro il 2030 e fino al 60% entro il 2050. La Germania intende raggiungere addirittura una quota dell’80% della produzione di elettricità. Nel campo dell’efficienza energetica, il paese mira a ridurre il consumo di energia primaria del 20% entro il 2020 e del 50% entro il 2050, rispetto al 2008. La percentuale di ristrutturazione degli edifici raddoppierà, passando dall’1% al 2%. Si prevede di ridurre il consumo energetico nel settore dei trasporti del 10% circa entro il 2020 e del 40% circa entro il 2050. L’obiettivo è di avere sei milioni di veicoli elettrici circolanti sulle strade tedesche entro il 2030.

IT

La politica sul cambiamento climatico è coerente con i principi generali stabiliti a livello internazionale e UE e le riduzioni delle emissioni sono in linea con gli obiettivi di Tokyo. L’Italia si impegna a ridurre le proprie emissioni di gas serra del 6,5% rispetto ai livelli del 1990 nel primo periodo di impegno (2008-2012) e, in base alla Direttiva “Effort Sharing”, a ridurre le emissioni del settore non ETS del 13% entro il 2020, rispetto ai livelli del 2005. Il trennd delle emissioni a livello nazionale viene monitorato da un comitato interministeriale che è anche responsabile dell’attuazione di misure di riduzione dei gas serra, ivi inclusa l’identificazione di misure supplementari per ottemperare agli obiettivi di Kyoto. Il Sistema nazionale per la realizzazione dell’Inventario nazionale dei gas serra è gestito dall’ISPRA, cui spetta anche la trasmissione delle informazioni al Segretariato dell’UNFCCC e alla Commissione europea, previa approvazione del Ministero dell’ambiente e della tutela del territorio e del mare.

FL

Il Liechtenstein ha ratificato la Convenzione sul clima il 22 giugno 1994 e il Protocollo di Kyoto il 3 dicembre 2004, assumendosi quindi l'obbligo di ridurre dell'8% le proprie emissioni di gas serra nel periodo 2008-2010, rispetto al 1990. Nel processo successivo a Kyoto, il Liechtenstein ha deciso di ridurre le emissioni di gas serra del 20% entro il 2020, rispetto ai livelli del 1990, e fino al 30% a condizione che gli altri principali paesi emittenti sia industrializzati che in via di sviluppo si impegnino a dare un equo contributo nel quadro di un futuro accordo sul clima globale. E' stata decisa una riduzione del 50% entro il 2050, rispetto ai livelli del 1990.

MC

Oltre all'impegno assunto con il Protocollo di Kyoto, il Principato di Monaco ha deciso di ridurre le emissioni di gas serra del:

- 30% rispetto ai livelli del 1990 entro il 2020
- 80% rispetto ai livelli del 1990 entro il 2050.

Considerato il suo territorio prevalentemente urbano, gli obiettivi principali nella strategia per ridurre le emissioni di gas serra sono i seguenti: edilizia abitativa, trattamento dei rifiuti e trasporti.

SI

In considerazione delle crescenti emissioni e del loro impatto sempre più evidente, i cambiamenti climatici sono divenuti un'importante priorità per la Slovenia nell'ultimo decennio. Per raggiungere l'obiettivo di Kyoto di una riduzione delle emissioni dell'8% (rispetto all'anno 1986), nel dicembre 2006 il governo sloveno ha varato il Programma operativo per la riduzione delle emissioni di gas serra entro il 2012. Questo programma è stato rivisto nel luglio 2009. Prima della Conferenza di Copenhagen del 2009, il Parlamento ha adottato la Dichiarazione sul ruolo attivo della Slovenia nella futura politica internazionale sul clima, prevedendo un ampio mandato in materia di politica climatica in Slovenia e a livello internazionale. Un passo importante è stato fatto istituendo l'Ufficio governativo sul cambiamento climatico nel giugno 2009. L'Ufficio sta predisponendo la Legge sul clima, la Strategia per basse emissioni di CO_2 entro il 2050 e adotta iniziative relativamente alle politiche settoriali e misure volte al raggiungimento degli obiettivi di mitigazione e adattamento.

CH

La Svizzera ha ratificato il Protocollo di Kyoto nel 2003, impegnandosi a una riduzione dell'8% delle proprie emissioni di gas serra nel periodo 2008-12, rispetto ai valori del 1990. A livello nazionale, la Legge sulla CO_2, adottata nel maggio 2000, costituisce il quadro giuridico per la riduzione delle emissioni. La Legge fa riferimento solo alle emissioni di CO_2 legate al consumo di energia, con un obiettivo di riduzione del 10% rispetto al 1990 entro il 2010, che corrisponde all'obiettivo dell'8% per i gas serra, come stabilito nel Protocollo di Kyoto. Come per altri paesi alpini, un simile impegno non è facile da rispettare data l'economia altamente industrializzata, e le emissioni di gas serra totali si attestano approssimativamente ai livelli del 1990 nonostante i molteplici sforzi delle autorità pubbliche e, su base volontaria, di soggetti privati. Tuttavia, la Svizzera sostiene il processo di Copenhagen e si è ora impegnata a ridurre del 20% le emissioni di gas serra rispetto al 1990 entro il 2020 e potrebbe innalzare questo impegno al 30% se altre nazioni industrializzate e paesi in via di sviluppo faranno altrettanto, partecioando pertanto ad uno sforzo condiviso a livello globale.

Una selezione delle buone pratiche, settore per settore, attuate nelle Alpi al fine di ridurre le emissioni di gas serra /strumenti di monitoraggio - indicatori

Si veda la tabella dell'Allegato I.

Conclusioni

Dopo due anni di attuazione, sembra che il Piano d'azione possa essere considerato un quadro concreto entro il quale realizzare misure di adattamento e mitigazione. La tabella dell'Allegato I illustra in modo molto pragmatico le azioni intraprese da ogni Parte contraente per utilizzare concretamente, sul territorio, gli elementi principali del Piano. La pubblicazione “Le Alpi per la riduzione delle emissioni serra” (Segnali alpini 6) fornisce un'immagine molto chiara di ciò che viene fatto nelle Alpi a livello territoriale. Le piattaforme e i gruppi di lavoro della Convenzione delle Alpi hanno fatto molto spesso riferimento al Piano d'azione, incentrando il proprio lavoro sulle conseguenze del cambiamento climatico. L'insieme di queste misure alimenta il testo siglato all'ultima Conferenza delle Alpi e può rappresentare una base per futuri sviluppi e per un nuovo approccio al cambiamento climatico nelle Alpi . Per poter proseguire, lo studio che valuta la possibilità per le Alpi di divenire una zona neutrale dal punto di vista delle emissioni di CO2 entro il 2050 dovrà chiarire questioni metodologiche fondamentali come il concetto di neutralità climatica.

B Proposta di decisione

La Conferenza delle Alpi

1. prende atto della relazione della Presidenza e del Comitato permanente e conferma le attività previste per l’attuazione del Piano d’azione sul cambiamento climatico nelle Alpi fino alla XII Conferenza delle Alpi e incoraggia inoltre la prosecuzione, sul territorio alpino, dell’attuazione del piano d’azione relativamente ai punti mitigazione e adattamento,

2. invita le Parti contraenti ad addivenire ad una definizione comune di neutralità climatica, sulla base delle alternative riportate nella presente relazione,

3. invita le Parti contraenti a unire i loro sforzi per ridurre e utilizzare il potenziale di neutralizzazione delle emissioni di gas serra sui territori alpini, il più possibile e sulla base di aree settoriali e tenendo conto sia delle politiche nazionali di mitigazione sia delle iniziative regionali e locali adottate nel territorio alpino,

4. prende atto del fatto che alcune Parti contraenti sono coinvolte nella proposta di progetto ALPSTAR per fare delle Alpi una regione clima-neutrale entro il 2050, presentato nell’ambito del programma Spazio Alpino,

5. ringrazia il Liechtenstein per avere organizzato il concorso internazionale sull’edilizia sostenibile nelle Alpi.

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MONITORING TABLE TO FOLLOW-UP THE IMPLEMENTATION OF THE ACTION PLAN ON CLIMATE CHANGE IN THE ALPS

Annex I

Thematic fields of the ACTION PLAN	General objectives	Territorial Cooperation & European projects	National initiatives	Local and regional good practices	Alpine Convention working groups & PSAC	Progress /remarks future projects
1. Spatial and Land Planning	- Ensure efficient space management - Promote CO2 efficient urbanisation and planning - Promote an integrated approach to adapt Alpine Space to new climatic conditions : - natural hazards - sustainable economic development -sustainable housing	CLISP CO2 – NEUTRALP “Ecological Alpine Cooperation” Bavaria/Salzburg/Tyrol/Vorarlberg within the scope of the Nature Conservation and Landscape Management Protocol of the Alpine	France: Plans Climat Energie territoriaux	Plan Climat énergie Territorial Grenoble Chambéry Salzburg “Sachprogramm Siedlungsentwicklung” (Land planning program with the scope to reduce and concentrate traffic) Autorità di bacino dei fiumi Isonzo, Tagliamento, Livenza, Piave, Brenta-Bacchiglione (TRUST): to adapt the management of underground waters to climate change (http://www.lifetrust.it/cms/) Plan of natural hazards as spatial planning http://www.lebensministerium.at/article/archive/4926/) Raumordnungsgesetz OÖ: Widmungsverbot für Bauland im HW-30 (www.wkw.at/docextern/abtwipol/refumwelt/betriebsanlagen/ROG_Bundeslaender-Aufstellung.htm) Klimawandelanpassung der Pflege und Erhaltung öffentlicher Grünanlagen in Großstädten unter Berücksichtigung des Konzepts der Nachhaltigen Entwicklung (www.dokne.boku.ac.at/index.php?option=com_content&task=view&id=45&Itemid=87)	PLANALP Introducing Climate change as a factor to consider in natural hazards monitoring.	Mapping Vulnerabilities

		Convention		Möglichkeiten der Anpassung von Raumnutzungen (im Rahmen von ClimChAlp) (https://forschung.boku.ac.at/fis/suchen.projekt_ueb333..33333333ersicht?sprache_in=de&id_in=6459) Optimierung bestehender und Entwicklung neuer Konzepte für nachhaltige Schutzmaßnahmen gegen Naturgefahren im alpinen Raum (www.alp-s.at/cms/index.php?id=26&tx_shalps_pi1%5BshowUid%5D=94&cHash=a4ee8b85f3) Herausforderung Klimawandel – mit abgestimmten und robusten Maßnahmen Klima und Bevölkerung bestmöglich schützen (Bezirk Murau) www.cipra.org/competition-cc.alps/phspaeth Herausforderung Wasser (östliche Obersteiermark)(www.cipra.org/competition-cc.alps/Wasserspiel) Hochwasservorhersage für den Tiroler Inn - Ein hybrides hydraulisch/hydrologisches Modell zur Verbesserung von Hochwasserprognosen (www.cipra.org/competition-cc.alps/achleitners)888889 Passivhaussanierung der Volksschule St. Leonhard/Arnoldstein (www.cipra.org/competition-cc.alps/kurtbuerger) Passivhauswohnanlage im Herz der Alpen / Innsbruck (www.cipra.org/competition-cc.alps/NHT) Niedrigstoffhaus Villach - Regionaler Partnerpool (www.cipra.org/ccalpsresearch/niedrigstoffhaus-villach-regionaler-partnerpool) Sanierung eines Mehrfamilienwohnhauses auf "Faktor 10" in Rankweill (www.cipra.org/competition-cc.alps/VOGEW) OSI Servicepaket: "Nachhaltig:Bauen in der Gemeinde" Vorarlberg (www.cipra.org/competition-cc.alps/Carolin) Thermografie spart Energie Grödig (www.cipra.org/competition-cc.alps/Groedig) Vision Rheintal (www.cipra.org/competition-cc.alps/tanzania)		

				Land NÖ (www.cipra.org/competition-cc.alps/umweltberatung) Sachprogramm "Standortentwicklung für Wohnen und Arbeiten im Salzburger Zentralraum" (www.cipra.org/competition-cc.alps/cbraumann) Drawing up of the “Bavarian Alps Hazard Map” as a basis for area-wide prevention and assessment of geological hazards Integrated torrent protection concepts for assessing the danger of floods in the Alpine regions and for determining preventive measures Mapping of the existence of permafrost in the Bavarian Alps (“PermaNet” project), Monitoring of slope movements Starting rebuilding the mountain forests in order to fulfil their function as protection against natural hazards Additionally involvement in several transnational projects to reduce uncertainties concerning climate change effects by provision of precise data, design events and innovative methods considering climate change for improved modelling and prediction of natural hazards and its impacts in the alpine space. Improving efficiency of transnational risk management, development of intersectoral hazard maps National building reconstruction Programme (http://www.dasgebaeudeprogramm.ch/index.php/fr)		
2. Energy: heating energy	-Significantly reduce CO2 emission Promote use of renewable energy sources	ENERBUILD	All parties have national funding schemes for refurbishing and new construction using renewable Liechtenstein: - Award for bio-architecture - The State subsidizes such collectors with a contribution of 350 CHF per square meter - Subsidies of up to	Regional strategies on adaptation and mitigation Multitude of local initiatives concerning local heating using solar energy, biomass (see database GP) Austria: Vorarlberg strategy towards autosufficiency Italy: Alto Adige: Strategia Clima-Energia 2050 Energieautarke Region Rosental (www.cipra.org/competition-cc.alps/mkanzian) Naturnahe Waldbewirtschaftung und Biomassegewinn (www.cipra.org/ccalpsresearch/naturnahe-waldbewirtschaftung-und-biomassegewinn)	SOIA- RSA III (innovation part of the report)	

			75,000 CHF may be granted for subsequent heat insulation - Promotion of the Minergy standard: The standard requires buildings to offer a high level of comfort, economic efficiently, and low energy consumption - If the building shell already fulfills the requirements for modern insulation, then residential technical installations with low consumption or operating with renewable energy can further enhance conservation. State subsidies may be granted up to 20,000 CHF - Photovoltaic systems generating electricity are subsidized with a contribution of 2,500 CHF per installed output (kW) - a hydrogeological map will be developed as a foundation for using near-surface geothermal energy for heating purposes - Offer of cooperation to "Energy City for Everyone" municipalities. "Energy City" municipalities are municipalities committed to energy conservation and energy efficiency that submit themselves to annual evaluation	100 % Erneuerbare Energie (Auland Carnuntum) (www.cipra.org/ccalpsresearch/100-erneuerbare-energie) Autark sein - Unser Weg in die Zukunft (www.cipra.org/competition-cc.alps/daniela1974) Ökostrombörse – Thalgau (www.cipra.org/ccalpsresearch/okostromborse-thalgau) Energievision Murau (www.eao.st/cms/projekte/energievision/default.asp?n=72 Photovoltaikanlagen für alle) Laakirchener (www.cipra.org/competition-cc.alps/laakirchen) Bioenergiekonzept (www.cipra.org/ccalpsresearch/bioenergiekonzept) Biomasse-Versorgungskonzept Tirol 2007- Potenziale aus dem Tiroler Wald (www.cipra.org/ccalpsresearch/biomasse-versorgungskonzept-tirol-2007-potenziale-aus-dem-tiroler-wald) Wohnraumbeheizung mit Erdwärme und Fotovoltaik Oststeiermark ? (www.cipra.org/competition-cc.alps/michaelstrnad) Klimabündnis Wienerwald (www.cipra.org/competition-cc.alps/gorbach) Zwei-achsig nachfgeführte Photovoltaiksysteme (www.cipra.org/competition-cc.alps/solonhilber) energie:autark Kötschach-Mauthen, 3e-Gemeinde (www.klimabuendnis.at/start.asp?id=228960) Amstetten 2010 Zukunft aktiv gestalten (www.amstetten.at/Amstetten-2010.346.0.html Klimaschonend Mobil + Fernwärme Bischofshofen, e5Gemeinde (www.bischofshofen.sbg.at/menu.php?id=1&me2=103 www.klimabuendnis.at/start.asp?id=229827) Ökoregion Kaindorf (www.oekoregion-kaindorf.at/cms/index.php?qnmata3-r4t2-rd6g-5aw0-whv03xab97)		

			e5- Gemeinde St. Johann im Pongau (Salzburg) (www.stjohannimpongau.at/) e5- Gemeinde Langenegg (Vlbg) (www.langenegg.at/e5.html) e5-Gemeinde Mäder (Vlbg) (www.maeder.at/e5-Gemeinde) Zwischenwasser (Vlbg) (www.zwischenwasser.at/nexus3/WebObjects/nexus3.woa/wa/menu?id=414) e5-Gemeinde Wolfurt (Vlbg) (wolfurt.info/taxonomy_menu/4/26/76) Entwicklung und Installation von Solarabsorbern Reutte (www.cipra.org/competition-cc.alps/AST) Solar-Aktion: 1000 Sonnendächer für Vorarlberg (www.cipra.org/competition-cc.alps/eiv) energie.bewusst leben (Gemeinde Langenegg) (www.cipra.org/competition-cc.alps/manu) Biogasanlage Schlitters (www.cipra.org/competition-cc.alps/bioschlitters) Bioheizungsanlage "gemeinsam statt einsam (www.cipra.org/competition-cc.alps/longitsc) Energy regions: Goms, Toggenburg, Emmental, etc. (e.g. http://www.unternehmengoms.ch) SwissEnergy Programme, promotion of renewable energies and energy efficiency (http://www.bfe.admin.ch/energie/00458/index.html?lang=en) Label "Energy city (http://www.energiestadt.ch/d/)		

3. Transport	- Significantly reduce CO2 emissions lined to transports - shift traffic towards more climate friendly means)	CO_2 NEUTRALP (exploring eco-mobility & eco-fuels)	Austria : Graz public buses boosted by biodiesel Italy: Dolomiti bus pilot project for administration and students Buses in Torino Slovenia: Electric vehicles for commuters in (Litija) Local energy powering for alternative skiers and tourists transports Comune Cortina d´Ampezzo: Traffic limitations in the city centre of Cortina d'Ampezzo Different permits categories have been set up in Cortina d'Ampezzo in order to limit road traffic in the town centre. Specific permits exist for residents, tourists staying in town hotels, tourists staying in private houses and rooms. Agency for the Atmosphere of the Independent Province of Bolzano: Early warning SMS on traffic limitations and traffic stop due to atmospheric pollutants. Early warning SMS on traffic limitation" is a service that inform the inhabitants of some towns in Alto adige directly on their mobile phones on traffic limitations due to atmospheric pollution. SMS service is an advanced information system. The system involves a wide public of car users. Atmospheric pollution is a major problem in Bolzano and its sorroundings for the particular geographical features of the area and this system can be easy implemented in other areas with similar features and pollution problems Regione Valle d´Aosta: Public transport CARD in Valle d'Aosta. VDA electronic card allows to travel using public transport on the whole regional area. VDA card makes easier to use public transport. VDA tariffs benefit heavy users of public transport. The system is at a pilot stage. Bolzano and Province: Integrated Transport System (STI) for bus, trains (local and national) and cableway. STI is a tariff system that allows the use of buses, cableways and local and national trains with a single ticket in all the Bolzano province. There are different tickets types on the basis of the different users needs and there is an online timetable and information system easy to use.	Strategy game on transport challenges in the Alps/Schools (awareness-raising) ALPARC Brochure on soft mobility	

			Alpine Awareness (www.cipra.org/ccalpsresearch/alpine-awareness) Alpine Crossing - sanft-mobile Winterreise durch die Perlen der Alpen (www.cipra.org/competition-cc.alps/alpineperlen) Sanfte Mobilität Werfenweng (Alpine Pearls) (www.tourismus-werfenweng.at/de/home/) plan-b: andere Wege von a nach b (Rheintal) (www.cipra.org/competition-cc.alps/planb) Gemeinden Mobil in Tirol und Südtirol (www.gemeindenmobil.at/) Compano – Fahrplatzvermittlung (www.cipra.org/competition-cc.alps/compano) Schwaz mobil (Schwaz mobile) (www.cipra.org/competition-cc.alps/r_kaufmann) FAHR RAD Wettbewerb Land Vorarlberg (www.cipra.org/competition-cc.alps/Energieinstitut) CO2-neutrals und autofreies Almenland (www.cipra.org/competition-cc.alps/almenland) Elektroauto mit Photovoltaik gespeist (Gerasdorf) (www.cipra.org/competition-cc.alps/SMetz) Landschaftsschutz durch Tälerbus Lungau Vermeidung (www.cipra.org/competition-cc.alps/Taelerbus) Intermodale Verkehrsplanung Ennstal - Kooperation von Ennstaler Gemeinden, Bürgerinitiativen, Landwirten und Gewerbetreibenden (www.cipra.org/competition-cc.alps/haraldfrey) Das österreichische Umweltzeichen für Reiseangebote (www.cipra.org/competition-cc.alps/cweichselbaumer) minus99 - CO2 neutrale Mobilität in Vorarlberg (www.cipra.org/competition-cc.alps/kairos) Mobilito Salzburg (www.cipra.org/ccalpsresearch/mobilito-		

				die-mobilitatszentrale-in-salzburg) Xeismobil (www.cipra.org/ccalpsresearch/xeismobil) Perpetuum Mobile Alpinensis (www.cipra.org/competition-cc.alps/postalm)		
4. Tourism	Reduce Co2 emissions produced by tourist activities and ensure travel professionals offer the option of sustainable transports - Promote alpine holidays offers that are climate neutral - Adapt winter tourism -Diversify	CLIMALPTOUR		France: Electric buses to transport skiers to ski stations or to summer activities (Safari Parc de Peaugres) Argentière la Bessée: diversification Allo p´ti bus (Savoie) Alpine Pearls Ökoinstitut Südtirol/Alto Adige : Stream STREAM è un progetto di mobility management che mira a promuovere trasporti i energeticamente più efficienti o attraverso lo sviluppo di nuove soluzioni di trasporto e campagne mirate (http://www.iee-stream.com/) Compagnia del buon cammino : Le montagne in cammino Creazione di un sistema turistico integrato per uno sviluppo attento alla sostenibilità e ai cambiamenti climatici delle aree montane. L'adesione prevede la firma di un protocollo. Parco naturale Adamello Brenta : Il Parco senz'auto (http://www.pnab.it) Schladming : Klimawandel und Wintersport Strategien zur nachhaltigen Raumentwicklung von Tourismusregionen unter dem Einfluss der globalen Erwärmung am Beispiel der Wintersportregion um Schladming (http://www.klimawandel-wintersport.at/)	Super Alp! Yearly awareness raising campaign about sustainable transports in the Alps. Climate Portal	
5. Mountain forests	Favour adaptation: - Keep Alpine forests in a good ecological state - Develop forestry so	MANFRED ALP-FFRS		Germany: Bavaria Research on Biomass and Climate & Information campaign: *Biomass is more* France: Alpes de Haute Provence (Pays A3V4) : Valorisation of forestry & biomass production Österreichisches Waldprogramm (Waldschutz, Schutzwälder für Objektschutzwirkung) (www.walddialog.at/article/archive/17654)	Contribution to the European Forest Strategy draft process, expressing the interest of alpine mountains.	

	that wood can be used as a material and local energy source -Protection functions			"ADAPT - Assessment of vulnerability to climate change for forests of the Austrian Federal Forests and development of adaptive management strategies" Analyse von Waldbewirtschaftungsstrategien unter Klimaänderungsbedingungen (https://forschung.boku.ac.at/fis/suchen.projekt_uebersicht?sprache_in=de&menue_id_in=300&id_in=5651) Unterstützungsprogramm der Länder für Forstbauliche Maßnahmen; Bsp. Oö. (www.land-oberoesterreich.gv.at/cps/rde/xchg/SID-A537468C-6712D505/ooe/hs.xsl/15324_DEU_HTML.htm) Protective measures in the mountain forest as well as accompanying mountain forest research (mountain forest offensive)		
6.Biodiver-sity	- Create and ecological continuum - Preserve protected areas biodiversity - Ensure habitat preservation for Alpine species -Maintain peatlands as CO_2 sinks and biodiversity reservoirs	E-CONNECT		France: Réseau écologique du département de l'Isère	Ecological Network Platform ALPARC (Task Force Protected Areas, Chambéry) : not only work on ecological network, but also specific work on climate change Brochure on prevention & adaptation of protected areas to Climate change	
7. Water	-Reinforce WFD implementation -Prevent water	SHARE Alp- WATER SCARCE SILMAS		"Nachhaltige Flusssgebietsentwicklung Untere Salzach" (www.sanierung-salzach.info) Wasserverband Verbundschiene Lavanttal (www.wasserwerk.at/lavanttal.htm) Kärntner Wasserstiftung (www.ktn.gv.at/27987_DE)	Draft / Guidelines for small hydropower plants	Finalize the draft and adopt the guidelines

	shortage -Steer development of hydropower plants according to ecology of water streams			HORA - Hochwasserrisikozonierung Austria (www.hochwasserrisiko.at) Hochwasserschutz mit Mobilelementen (wasser.lebensministerium.at/article/articleview/20076/1/5720/) Absiedlung als passiver Hochwasserschutz (www.lebensministerium.at/article/articleview/23134/1/8705/) Mur(er)leben - LIFE Natur "Inneralpines Flussraummanagement Obere Mur" (wasser.lebensministerium.at/article/articleview/45142/1/1469/) Hochwasserschutzfrühwarnsystem Aschachtal (Oberösterreich) (www.hws-aschachtal.at/system/web/news.aspx?menuonr=50326032&detailonr=50329278) Mobile Trinkwasserabpackanlage (www.ooewasser.at/sitex/index.php/page.145/)		
8. Mountain farming	Support mountain farming as a contribution to the environment the maintenance and the attractiveness of Alpine territories	European Charter of Sustainable Farming for Alpine region as result from IMALP		AGRIDEMA - Introducing tools for agricultural decision-making under climate change conditions by connecting users and tool-providers (www.agridema.org) ADAGIO - Anpassung der Landwirtschaft europäischer Regionen an Umweltrisiken aufgrund des Klimawandels (www.adagio-eu.org) AMARA - Adequacy of Mitigation and Adaptation Options for a Case Study Region in Austria (www.uni-graz.at/igam7www/igam7www_forschung/igam7www_transland/igam7www_transland_projekte/igam7www_amara.htm) CLIM-LAND - Seasonal climate impact on alpine land-use development (www.oeaw.ac.at/home/thema/thema_200804_4.html)		
9. Applied research	Improve knowledge to better understand	PARAMOUNT (reliability of alpine transport infrastructure related to mountain		- Regione Lombardia Kyoto Desk: Quality promotion in production processes, raising awareness in business for Kyoto Protocol and EU Directive 87/2003/CE. (www.lom.camcom.it/)	Climate Portal Leaflet “The Action Plan on a nutshell”	

& Awareness Raising	the impact of climate change at local level Reinforce cooperation Reinforce public awareness Natural Hazards	hazards in a changing climate)		- Environmental Agency of Bolzano (APPA Bolzano): “School - Climate” initiative Information exhibition “Together for the climate”, educational projects “The climate for ours” and “In school without the car” for eco-sustainable mobility, linked to Alliance for the Climate Program. (www.energie-sparen.it/it/kids.html) - ARPA Valle d’Aosta: Communicating Climate Change and consequent environmental effects In the “Envie d’Environnement” initiative experts narrate, illustrate, analyse, the main environmental themes on climate change, by means of educational laboratories, games, conferences, informative panels, videos, theatres, cinema, etc. Systematic reorganisation of the Schneefernerhaus Environmental Research Centre (UFS) into an internationally networked centre for climate and altitude research. The objective is an integral form of risk management in the Alpine region that optimally coordinates the possibilities for prevention, execution of measures and regeneration. Reporting (http://www.bafu.admin.ch/climatereporting/index.html?lang=en)	Joint Publication on climate Change Presidency/PSAC	
Miscella-neous				A tale of two valleys - zwei Täler zwei Geschichten: Die konträren Strategien von zwei benachbarten Alpentälern mit Klimavariabilität und Klimawandel umzugehen (www.zamg.ac.at/a-tale-of-two-valleys/) future.scapes - Globaler Wandel und seine Auswirkungen auf Landschaft und Gesellschaft. Szenarien künftiger Entwicklung und Lösungsstrategien zur Minderung negativer Effekte (systemsresearch.ac.at/projects/futurescapes/) Bioland Salzburg (www.cipra.org/competition-cc.alps/hechtfisch) Bio-Heu-Region Trumer Seenland (www.cipra.org/competition-cc.alps/BioHeuRegion) e5- Gemeinde Virgen (Osttirol)		

				(www.virgen.at/index.cgi/55) neuartige Solar-Wärmepumpen-Heizung in Göfis (www.cipra.org/competition-cc.alps/othmarmaeser) Thermische Verwertung von Naturschutzheu Süd-Oststeiermark ? (www.cipra.org/competition-cc.alps/Breuss) Thermoholz Weissbach (www.cipra.org/competition-cc.alps/HerwigFormanek) sonnenklar-erneuerbar Kärnten (www.cipra.org/competition-cc.alps/sidonia) Elaboration of the technical basics for the Climate Action Plan of the Alpine Convention by the "Climate Adaptation Balance of Nature and the Alps" research programme (INTERREG projects “ClimChAlp”, “AdaptAlp”, “CLISP”) CO2 Tax, emission trading (http://www.bafu.admin.ch/klima/index.html?lang=en)		
Evaluation		☺ All fields are covered by some ETC project	Most countries have adopted or are developing national strategies on adaptation 😐	Most regions in the Alps have also adopted or are adopting Programs, Plans, strategies on climate change; Good Practices are increasing 😐	Most tasks given to the Secretariat have been fulfilled, or are in progress ☺	

alpenkonvention • convention alpine
convenzione delle alpi • alpska konvencija

NATIONAL POLICIES ON MITIGATION, EXTRACT FROM ALPINE SIGNALS 6

Annex II

3. NATIONAL STRATEGIES

3.1. AUSTRIA

In February 1994 Austria became the 58th nation to ratify the UN Framework Convention on Climate Change (UNFCCC) and in May 2002 it ratified the Kyoto Protocol. In the same year Austria adopted a National Climate Strategy. After a comprehensive evaluation an adapted Strategy was adopted in April 2007 by the federal government (Climate Strategy II, BMFLUW). The current Climate Strategy's main focus is to ensure that the Greenhouse Gas (GHG) reduction targets set out in the Kyoto Protocol are met. Climate Strategy II relies on a wide range of different measures, in particular the implementation of the EU emissions trading scheme for industry and electricity production, the promotion of energy efficiency in existing and new buildings, various measures to reduce greenhouse gas emissions from transport, the promotion of renewable energy sources and the purchase of CO_2 emission credits from other countries until 2012. In 2007 the Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) announced the development of a National Adaptation Strategy (NAS) with the aim of reducing the negative impacts and building resilience to climate change. In 2008 the Ministry asked "AustroClim" – a climate research initiative set up in 2002– in cooperation with the Environment Agency Austria (Umweltbundesamt) and the Upper Austrian Academy for Environment and Nature(OÖ Akademie für Umwelt und Natur) to prepare a study on the status of adaptation to climate change in Austria. At the end of 2008, AustoClim published another study called *Identification of recommendations for action on adaptation to climate change*. This study recommended initial adaptation measures for five sectors (agriculture, forestry, water, tourism and electricity) based on regional scenarios and on a vulnerability study. A consequent policy paper titled *Towards a national adaptation strategy* was issued in June 2009. In 2010 and 2011, AustroClim and the Environment Agency Austria are preparing initial recommendations for the sectors of natural hazards, natural ecosystems/biodiversity, health, housing and construction and transport infrastructure. All the results will be continuously integrated into the policy paper. A participatory process accompanies the strategy from summer 2008 until summer 2011. The main objective of the participation process is to discuss the adaptation options identified in the policy paper with relevant stakeholders. The discussion focuses on topics such as responsibilities for implementation, financial resources, knowledge gaps and open research questions. All stakeholders relevant for the implementation of adaptation activities are involved in this process, including national and provincial government, special interest groups, and academic institutions. Furthermore, in 2009 citizens had the opportunity to present their views on adaptation and experiences in an online survey. All results gained from the participation process will be considered in the development of the national adaptation strategy. The final NAS can be expected early in 2012.

MELTING GLACIERS AND RISING OCEANS: The most recent documentation and data on the mountain cryosphere are of special significance because melting mountain glaciers are considered to be second major contributors to sea level rise in the 20th century. (Austrian 5th National Communication to the UNFCCC, p.141)

A FAIR WIND FOR RENEWABLES: In 1990, biomass (including bio-waste) contributed 8% to heat production in district heating systems, but this share has increased to 41% (figure 2007). This is to a large extent due to existing public support schemes, granted both by the federal government and the Länder, and in many cases co-funded by the EU. Growth rates or wind power and electricity from biomass will be higher than the growth of other electricity sources. (Austrian 5th National Communication, p.77)

3.2. FRANCE

France holds a particular position among developed nations and parties to the UNFCCC and the Kyoto Protocol in that its GHG emission levels in 2007 were already 5,6% below its Kyoto target. France thus could consider its international obligations fulfilled and limit its climate change policy to the strict minimum. Yet, the "Grenelle Environment", a major political process regarding the environmental problems - carried out in a largely participatory way during 2007 and 2008, resulting in specific commitments by stakeholders and later adopted as formal law establishes that by 2020 France has to reduce its GHG emissions by 22% compared to 1990 levels. If all the Grenelle commitments are met in the coming years, GHG reductions are estimated to be even greater, thus being in line with the EU ambition of a 30% reduction target in case of an international binding agreement.

THE CREATION OF A RENEWABLE HEAT FUND of € 1 BILLION (2009-2011). It aims to sharply develop heating production in the tertiary and industrial sectors from renewable sources and to improve and diversify the heating sources in collective housing. This fund will enable financing dedicated to these energies to be increased by four or five.

FORESTRY AND CLIMATE CHANGE: In the short to medium term (up to 2030 or 2050 depending on the scenario), the impact of gradual climate changes on wood production will be more or less positive, with economic benefits that could reach € 150M per year. Nevertheless, in the long term (up to 2100), the effect will be clearly negative because of more frequent extreme events and the spread of Mediterranean forest. (FRANCE 5th UNFCCC National Communication; 2009)

The Grenelle process selected a complementary set of measures to achieve the GHG emission reduction: regulatory measures are complemented by market-based measures and fiscal incentives as well as information and training for all sectors. Thus, for example, an ambitioustarget of minus 38% by 2020 concerning the existing buildings' energy consumption has been set. Regarding transportation sector, a new infrastructure will be put in place to reduce road transport and a large share of efforts is devoted to the production of renewable energies, not to mention the full implementation of the Emission Trading System directive for the industry. The French government expects to reach these targets by maintaining a high momentum in the renovation of existing buildings (supported by incentives, by specific training of the professionals of the sector), by mobilizing all sectors of society and all levels of authorities. France has been working steadily on adaptation issues since the creation of the National Observatory on the Impact of Climate Change (ONERC), a public body that reports to the Prime Minister and the Parliament and publishes reports on regional scenarios, including one on the Alps, and since the adoption in 2006 of the first national adaptation strategy (p. 95). A working group was set up to consider the impacts and costs of climate change and this currently finances more than 20 research projects. In February 2009, the National Strategy was confirmed and a wide-ranging (Grenelle-like) consultation to elaborate the national action plan, including adaptation and regional plans, was proposed. The whole process should ultimately lead to the National adaptation plan in 2011.

3.3. GERMANY

In 2010 the German government has adopted a long-term, cross-sectoral Energy Concept (Energy Concept 2050) that paves the way for the age of renewable energies (www.bmu.de/energiekonzept/doc/46394.php). With its Energy Concept the German government has formulated guidelines for an environmentally sound, reliable and affordable energy supply to reach its ambitious climate protection goals. The aim is to develop and implement an overall strategy for the period up to 2050. This approach takes account of the long investment cycles in the energy industry and the building sector and gives all players sufficient time to take appropriate steps. The Energy Concept contains a concrete vision for the year 2050 with ambitious reduction targets for greenhouse gases, ambitious expansion targets for renewable energies and targets for tapping the considerable efficiency potential, a specific programme of measures for achieving these targets, a sound financing plan for implementation that is reliable for the long term and scientifically founded monitoring to review whether targets are being achieved.

1990-1999 was the warmest decade of the 20th century in Germany. In addition, the first years of the 21th century were considerably warmer than the average for the latest climate normal period (1961-1990). The temperature increase observed since 1901 has been especially pronounced in south-western Germany. (Germany UNFCCC 5th National Communication)

The main pillars of Germany's national climate protection strategy include saving energy, improving energy efficiency, achieving a balanced mixed of energy sources and expanding use of renewable energies.

- The **greenhouse gas emissions** are to reduce by 40% by 2020, 55% by 2030, 70% by 2040 and 80-95% by 2050 (compared with 1990 levels).
- By 2020, the **share of renewables in final energy consumption** is to reach 18%, and then gradually increase further to 30% by 2030 and 60% by 2050. Germany is even striving for an 80% share in **electricity production** by 2050.
- **Energy efficiency:** It is aimed to reduce primary energy consumption by 20% by 2020 and 50% by 2050 compared with 2008.
- The **building renovation rate** will be doubled from 1% to 2%.
- It is planned to cut energy consumption in the **transport sector** by around 10% by 2020 and around 40% by 2050. The goal is to have six million electric vehicles on Germany's roads by 2030.

The German Strategy for Adaptation to Climate Change (Deutsche Anpassungsstrategie an den Klimawandel – DAS) was adopted in December 2008 by the national government. This first strategic document offers a common base for understanding and a framework for national adaptation in Germany and it takes a close look at contributions of the federal level. The German Adaptation Strategy lays the foundation for a medium-term, step-by-step approach undertaken in close cooperation with the federal states ("Länder") and other civil groups. On regional level, the Climate Programme Bavaria 2020 has been adopted in 2008 aiming at both, reducing the greenhouse gas emissions and adapting climate-sensitive and vulnerable areas to the inevitable consequences of climate change by the year 2020 in the best way possible. Actions in the fields of water management, agriculture, forestry, georisks and soil protection, town, regional and spatial planning, building and tourism as one of the main industrial sectors of the Alps are of particular interest. The next step in the national adaptation process is the elaboration of an Adaptation Action Plan until summer 2011.

Finally, special note should be made of the results of the pilot study *'The Alps- Climate Neutral in 2050: Executive summary for policy-makers'* which was initiated by Germany contributing to the Action Programme of the Alpine Convention and which was carried out by the Wuppertal Institute for Climate, Environment and Energy.

3.4. ITALY

Italian climate change policy is consistent with the general principles set at international and EU level, and the emissions' reductions are in line with its Kyoto targets. Italy is committed to reduce its GHG emissions by 6.5% below 1990 levels over the first commitment period (2008-2012) and, under the Effort Sharing directive, to reduce non-ETS sector emissions by 13% from the 2005 level by 2020. The monitoring of emissions' trend at national level is overseen by an inter-ministerial committee that is also in charge of implementing measures for GHG reduction, including the identification of additional measures to meet the Kyoto targets. The National GHG Inventory System is managed by ISPRA, also in charge of transmitting the information to the UNFCCC's Secretariat and to the European Commission, after endorsement by the Ministry for the Environment, Land and Sea.

A first attempt to assess the economic costs of climate change for Italy show that aggregate GDP losses induced by climate change in the first half of the 21th century are likely to be small, in the order of 20-30 billion €. Nevertheless, some economic sectors, such as tourism and the economy of the Alpine regions will suffer significant damages. (UNFCCC Italian 5th National Communication, 2010, p.7)

Budget Law 2008 established that, for the period 2008-2010, the minimum quota of renewable electricity to be fed in the grid has to be increased every year by 0,75%. It also introduces a specific support scheme for renewable energy from biomass. (UNFCCC Italian 5th National Communication, 2010, p. 68)

Guidelines for national policies and measures for the reduction of GHG and the related National Action Plan (2003-2010) have been in existence since 2002.
These documents identify policies and measures already in place and additional measures envisaged to meet the Kyoto commitments. A further update of the 2002 Guidelines and the related national action plan is being prepared according to the principles set by the Interministerial Committee for Economic Planning. Implemented or adopted policies and measures which had or are expected to have a large impact on GHG emissions in Italy can be read in the 2009 Italian biannual report for the European Commission. The analysis was developed according to UNFCCC's guidelines and examines the following sectors: Energy, Transport, Industry, Agriculture, Forestry, Waste, Buildings' sector and cross-sectoral policies.

Both national and regional institutions in the Italian Alps have made substantial efforts to research, monitor and report on the impacts on climate change. A crucial role in identifying the regional trends is played by regional authorities ("Regioni") and regional environmental agencies (ARPA) which provide a reliable and abundant flow of data and information concerning climate variability in the alpine regions of Italy.[4] Alpine regions are increasingly interested in adaptation to climate change. Due to their powers in land planning and energy, regions can define governance measures and procedures relating to the energy certification of buildings and guidelines for technical planning of generation, distribution and use of energy. Often the regions also deliver energy plans, which establish the objectives to be pursued in order to meet the Kyoto targets and provide for a proper development of the regional energy system, improved energy efficiency in several economic sectors and in distribution networks. A remarkable role has been played by regional governments in the Alps in the field of renewable energy, energy savings and control, and the availability of energy supply for industrial and civil installations. Worth noting is the increased interest in climate change by municipalities.

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[4] *Studies and reports focusing on climate change in the alpine territory tend to reflect the territorial scope of administrative boundaries (mainly region and province). This fact is also a consequence of the assignment of most planning competences to the regions, especially after the reform of the Constitutional Law in 2001. It should also be mentioned that often those studies focus on a portion of land wider than the alpine area strictly delimited by the Alpine Convention, which is mostly due to the fact that the territory of Italian regions is not entirely falling within the Alpine Convention perimeter, with the exceptions of Valle d'Aosta and the Autonomous Provinces of Trento and Bolzano. The study provided by Piemonte refers to the entirety of its mountainous territory.*

3.5. LIECHTENSTEIN

One could think that the Principality of Liechtenstein, being among the smallest nations of the world, and having a minor contribution to GHG emissions, could easily skip the responsibility of fighting climate change. Nothing is less true. Liechtenstein contributes in a noticeable way to the global efforts against climate change. Liechtenstein ratified the UNFCCC in 1994 and the Kyoto Protocol in 2005. The measures to fulfill its international obligations are not only taken by public actors. The Government makes an effort to involve the private sector by stimulating the flow of private investments into more climate friendly technologies. The slogan of its climate policy is "think global, act local", and cross-border cooperation with other States is crucial to it: Having a Customs Treaty with Switzerland and by thus being included in the Swiss economic area, Liechtenstein associates itself with the Swiss efforts on CO_2 reduction and mirrors some important measures of Swiss legislation. Within the framework of Clean Development Mechanism projects, Liechtenstein has established a firm cooperation with the Swiss-based organization "myclimate".

The mean annual temperature of Liechtenstein is currently 10.4°C, which mean that it has increased from 1980 to 2007 by 1.3°C. According to the mean estimate, temperatures will increase in Liechtenstein and northern Switzerland by 1.8°C in winter and 2.7°C in summer. (Liechtenstein 5th UNFCCC National Communication, 2010, p. 15)

Natural hazard: Liechtenstein has established so called "Geological Risk Maps" with a special focus on residential areas. These maps provide regional information on the specific risks regarding avalanches, rock and landslides and flooding. (Liechtenstein 5th National Communication, p. 16)

Liechtenstein is a member of the EEA (European Economic Area) and therefore fully participates in the EU-Emissions Trading Scheme through the work of the organization "LIFE Climate Foundation Liechtenstein". This initiative became a non-profit foundation in 2009. LIFE makes an important contribution to raising awareness of climate protection and sustainability. It cooperates with the University of Liechtenstein and together they work on topics such as alternative investments funds, emissions trading market, connectivity of climate protection and the market. Liechtenstein fully supports efforts aimed at enhancing the global carbon market and the Clean Development Mechanism.

The National Climate Protection Strategy, passed in September 2007, established a 10-point framework for the future development of the national, as well as a credible international climate policy. The comprehensive climate protection strategy adopted by the Liechtenstein government defines and regulates state-operated purchase of carbon credits and GHG reduction measures. It sets criteria for the use of Kyoto mechanisms and emphasises the need to harmonise development in the field of environment, energy, transport, forestry, agriculture and fiscal policies. Similar to other European countries, Liechtenstein has endorsed the target of a 20% reduction of GHG emissions from 1990 levels by 2020 and announced an intention to move beyond 20% (to 30%), if certain conditions are fulfilled.

The Energy Concept 2013 and the Energy Efficiency Act provide the framework for a sustained promotion of emissions cuts and renewable energy production. Within the framework of the Alpine Convention, Liechtenstein initiated an architectural competition for best practices in the building sector, aimed at combining good architecture and climate efficiency ("Constructive Award"). Covering all the Alpine states, this award is of an international character. An important objective related to energy saving is the increase in the share of renewable energies to over 10% of total energy consumption by 2013. The main emphasis has been laid on usage of domestic biomass, also biogas for example, and as in many other states, increased use of solar energy.

3.6. PRINCIPALITY OF MONACO

> *"We, scientists who met in Monaco to review what is known about ocean acidification, declare that we are deeply concerned by recent, rapid changes in ocean chemistry and their potential, within decades, to severely affect marine organisms, food webs, biodiversity and fisheries. To avoid severe and widespread damages, all of which are ultimately driven by increasing concentrations of atmospheric carbon dioxide (CO_2), we call for policymakers to act quickly to incorporate these concerns into plans to stabilize atmospheric CO_2 at a safe level to avoid not only dangerous climate change but also dangerous ocean acidification."*
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> *MONACO DECLARATION (2008)*

The Principality of Monaco joined the global effort on climate change by signing the UNFCCC in 1998 and by ratifying the Kyoto Protocol in 2006. The Principality also joined the UNEP Climate Neutral Network, a worldwide network of countries, regions, companies and organisations that have publicly committed to reduce their carbon footprint. The objectives of the climate policy of Monaco were presented during the 15th UNFCCC Conference of the Parties in Copenhagen in 2009: a 30% reduction in GHG direct emissions in comparison to the 1990 levels by 2020, and an 80% reduction by 2050 to achieve climate-neutrality. So far, the Principality of Monaco has succeeded in reducing its GHG emissions by 9% in comparison to 1990 levels.

For the Monegasque authorities, tackling climate change is also an opportunity to progress towards shifting the energy supply sources and securing the energetic future of the country. Therefore, an important dimension of climate policy concerns energy supply and efficiency: improving the energy efficiency by atleast 20% by 2020 and obtaining a 20% share of renewable sources in the final consumption of energy in the Principality. Subsidies to replace fossil heating by solar heating are being offered and the building sector targeted: energy performance diagnosis will be realized in all public buildings, and HQE® Standards will be applied in new public building projects. Specific agreements on sustainable development will be worked out with energy distributors, in particular to create a smart system to measure energy consumption, and a special fund on sustainable development will contribute to financing actions under the Energy and Climate Plan.

Monaco is trying to reduce emissions from the transport sector by: increasing commuter trains with neighbouring regions, improving public buses and facilitating walking in town, subsidising the purchase of electric vehicles and hybrid cars. The publicly owned vehicle fleet is turning electric as well. Monaco actively promotes electric mobility; the EVER Exhibition on Electric Vehicles and theJEUN'ELEC are held annually at the Grimaldi Forum and also the country's tradition and passion for motor vehicles is turning green thanks to the Monte-Carlo Rally of Alternative energy Vehicles.

Last, but not least, the global efforts supported by the Prince Albert II Foundation must be mentioned; the Foundation gives financial support to projects that propose solutions in the fields of biodiversity, water and specifically climate change.

3.7. SLOVENIA

With increasing evidence of impacts and growing emissions, climate change has become an important priority for Slovenia over the last decade. To achieve the Kyoto target of an 8% reduction of emissions (base year 1986), in December 2006 the Slovenian government adopted the "Operational programme for reduction of greenhouse gas emissions until 2012". This programme was revised in July 2009. Before the Copenhagen Conference in 2009 the Parliament adopted the Declaration on the Active Role of Slovenia in Shaping the Future International Climate Policy, providing a broad mandate for climate policy in Slovenia and internationally.

An important step was made by establishing the Government Office of Climate Change in June 2009. The Office is preparing the Climate Act, Low Carbon Strategy till 2050 and takes initiatives in relation to sectoral policies and measures towards achieving mitigation and adaptation objectives. It also works with government, civil society and business stakeholders at different levels to implement programmes and measures. It promotes educational and training programmes to raise awareness about climate change.

A draft proposal for a Climate Act has been under broad public consultation since June 2010. The Act will provide for the long term climate objectives of Slovenia in line with the Copenhagen Accord, a carbon budget for the non-ETS sector, methodology for carbon footprint, integration of sectoral policies and funding of measures in developing countries.

There are between 15 and 20 companies in Slovenia involved in projects related to electric vehicles. Companies that are active in the field of electric drives (engines), various components, mechatronic components and systems for construction of light vehicles, have the total annual export of 1,2 billion €. Currently, 50% of the electric vehicle could be produced in Slovenia.

As a result of Slovenia joining the European Union in 2004 and the Schengen area in 2007, and the development of the highway network, greenhouse gas emissions from transport have increased by more than 50% between 2003 and 2008.

The draft Climate Act and the long-term (low-carbon) strategy currently under preparation represent a part of the Slovenia's exit strategy from the global economic crisis 2010-2013. "Green growth" is therefore becoming an important element of a more sustainable economic development. Towards this goal, Slovenia funds research and development in low carbon technologies. Feed-in tariffs and subsidies for renewable energy have already spurred a rapid growth of photovoltaic installations and related business. New building standards are pushing for more energy efficient buildings and the Slovenian Eco-fund provides subsidies and loans for energy efficiency and renewable energy supply in new and existing buildings. Since 2009 energy accounting is mandatory for all public buildings and the Government has introduced a voluntary programme of environmental and energy efficiency in the public administration. EU cohesion funds are being used to improve energy efficiency in hospitals and schools. In the year 2011 Slovenia will prepare the program of subventions for electric vehicles, the goal of which is to put on the street at least from 800 to 900 electric vehicles until the year 2014 as well as develop the necessary infrastructure in partnership with municipalities and electricity distributors.

Another initiative is to improve the utilization of wood from Slovenian forests both as a low carbon material and a source of renewable energy. In order to secure the long terms stability of the forests, which cover 60% of the territory, the harvest is to be increased to 75% of the annual increment of wood biomass, thereby providing both an increased resource base of wood and a carbon sink in the future. In 2008 the government adopted the "strategy of adaptation of agriculture and forestry to climate change", stressing the importance of acquiring new knowledge, as well as awareness-raising and education in this field.

Another aspect that is key to both adaptation and mitigation is spatial planning. The major strategic document in this field is the "Spatial development strategy of Slovenia" issued in 2004. Climate change is addressed indirectly through general guidelines on rational and hazard safe spatial development and through more detailed ones on design of urban areas. Both should be followed by lower planning levels.

3.8. SWITZERLAND

Switzerland ratified the Kyoto Protocol in 2003, committing itself to an 8% reduction in its GHG emissions by 2008-12 compared to 1990 levels. At national level, the CO_2 Act, which was adopted in May 2000, provides the legal basis for emission reductions. The Act covers only energy-related CO_2 emissions, with a reduction target of 10% by 2010 compared to 1990, which corresponds to the 8% target for GHG as set out in the Kyoto Protocol. Like other alpine countries, such a commitment is not easy to meet due to a highly industrialized economy, and whilst many efforts have been made by the public authorities and voluntarily by private actors, the total GHG emissions have remained approximately at the level of 1990. Yet Switzerland is supportive of the Copenhagen process and has now committed to a reduction of 20% in GHG emissions by 2020 compared to 1990, and may upgrade the commitment to 30% if other developing and developed nations commit as well, thus giving meaning to a globally shared effort. The origin of GHG emissions in Switzerland is mostly concentrated in three sectors (percentages for 2008): Transport (31%), Residential (20%) and Industry (19%); other important sources are Agriculture (11%), Commercial (9%) and Waste (8%).

The Swiss GHG inventory is managed according to a quality management system (QMS), designed to comply with the quality objectives of the good practice guidance of IPCC (2000), i.e. to ensure and continuously improve transparency, consistency, comparability, completeness, accuracy and confidence in national GHG emission and reduction estimates. The NIS quality management system complies with the ISO 9001:2008 standard and has been certified by the Swiss Association for Quality and Management Systems. (Swiss 5th National Communication to the UNFCC, 2009, p. 17)

Various sectors of the Swiss economy are likely to be affected by progressing climate change. In particular, the tourism industry will be hard hit, as the potentially beneficial effects for summer tourism will not compensate for the loss of income in mountain resorts during winter due to scarcity of snow. (Swiss 5th UNFCC National Communication, 2009, p.22)

Through the CO_2 Act and supporting legislation (e.g. Energy Act) Switzerland aims to implement Kyoto and post-Kyoto commitments through a series of combined strategies and policy measures among which the following should be emphasised:

- the introduction of the Energy Act, an Energy Programme and the second edition of the "SwissEnergy" programme (2006-2010), pursuing the efforts of the first one (2000-2005). The objectives are to reduce the consumption of fossil fuels, to slow down the growth of electricity demand and to increase the contribution of renewables to energy supply.

- the introduction of a CO_2 levy on fossil fuels for stationary users in 2008, at 12 CHF/tonne CO_2 (approx. 11$/tonne of CO_2). The rate has been increased in 2010 to 36 CHF/tone CO_2 (approx. 35$/tone of CO_2), as intermediary 2008 targets were not met.

- the introduction in 2005 of a special levy called the climate cent ("Klimarappen") on fossil transport fuels, which is fed into the Climate Cent Foundation, an initiative of the private sector. The climate cent (1,5 cents per litre) raises 100 million $ per year and the revenues are invested cost-effectively in offset projects in Switzerland and abroad. Switzerland considers some crucial lessons have been learned in regard to mitigation: More stringent measures are needed for the transport sector, and additional incentives and regulations may be necessary. Finally, adaptation is also a dimension of climate change policy, and a National Adaptation Strategy is currently being prepared.