《蒙特利尔议定书》不遵守程序情事履行委员会
第十二次会议
1995年11月27日、29日和12月1日，维也纳

《蒙特利尔议定书》不遵守程序情事履行委员会
第十二次会议工作报告

一．导言

1. 《蒙特利尔议定书》不遵守程序情事履行委员会第十二次会议于1995年11月27日在维也纳的奥地利中心举行。会议续会于11月29日和12月1日召开。

二．组织事项

A．会议开幕

2. 会议在委员会主席Hugo Schally先生（奥地利）的主持下于1995年11月27日星期一上午十时三十分开幕。
B. 出席情况

3. 出席会议的有来自下列国家的委员会成员：奥地利、保加利亚、布基纳法索、智利、约旦、荷兰、秘鲁、菲律宾、俄罗斯联邦和坦桑尼亚联合共和国。经委员会邀请，白俄罗斯、立陶宛和乌克兰代表也出席了会议。出席会议的还有技术和经济评估小组经济处于过渡阶段国家问题的特设工作组主席和联席主席。《蒙特利尔议定书》财务机制的各执行机构以及多边基金和全球环境贷款设施（全球环贷）秘书处的代表亦出席了会议。与会者名单列于本报告附件一。

C. 通过议程和工作安排

4. 委员会通过了以作为文件UNEP/OzL.Pro/ImpCom/12/1分发的临时议程为基础的下列议程：

1. 会议开幕。
2. 通过议程和工作安排。
3. 审议秘书处就下列议题编制的说明：
   (a) 科威特和斯洛文尼亚出口消耗臭氧物质的目的地；
   (b) 毛里塔尼亚依缔约国第六次会议第VI/5号决定应处的地位；
   (c) 俄罗斯联邦、白俄罗斯和乌克兰就再循环设施、统计数据和逐步停用消耗臭氧物质措施提供的资料。
4. 数据汇报：
   (a) 秘书处对自履行委员会第十一次会议以来数据汇报工作的增
   订；
   (b) 各执行机构介绍它们正在实施国别方案的国家的数据汇报工
   作。
5. 其它事项。
6. 通过报告。
7. 会议闭幕。

三. 审议秘书处编制的说明

A. 科威特和斯洛文尼亚出口消耗臭氧物质的目的地

5. 主席通知委员会说，斯洛文尼亚目前不再寻求对其地位进行重新划分。就科威特而言，已提供了进一步的资料，但委员会或可要求做出进一步的澄清，因为科威特似乎正在进口和再出口氟氯化合物。

6. 在讨论过程中，秘书处成员指出，对各国的划分从来就是根据其所报汇的数据进行的，且科威特业已承诺支付1993年的捐款，因而委员会决定建议自1994年1月1日起将科威特列为按第5条行事的国家。

B. 毛里塔尼亚依缔约国第六次会议第VI/5号决定应处的地位

7. 主席说，毛里塔尼亚似乎不具备从多边基金获得资助的资格，其原因是，尽管已在该国实施了国别方案，但该国尚未提交必要的数据。主席在答复会议提出的询问时说，已通过致函毛里塔尼亚政府，但未得到任何回复。作为多边基金下的双边合作方案的一部分，法国政府正实施毛里塔尼亚的国别方案。

8. 一位代表虽然不反对上述决定草案，但对并非所有缔约国都意识到或能履行《议定书》为其规定的义务表示关注。他请秘书处和有关缔约国进一步努力，以便提供这种情况下所需的资料、财政和技术方面的支持。

9. 委员会继而决定向缔约国第七次会议建议，在毛里塔尼亚提交必要的数据之前不具备从多边基金得到援助的资格。
C. 俄罗斯联邦、白俄罗斯和乌克兰就再循环设施、统计数据和逐步停用消耗臭氧物质的措施提供的资料

10. 委员会主席向会议介绍了这一项目, 强调这一项目对《议定书》正常行使其职能所具有的重要性。为了便利有益的交流, 他提议每一国家均应有机会在会上发言, 概要地介绍其情况, 进而回答由秘书处、技术和经济评估小组关于经济处于过渡阶段国家问题的特设工作组、以及履行委员会各位成员所提出的各种问题; 委员会对此表示同意。

俄罗斯联邦

11. 秘书处提请会议注意到其就履行委员会第十二次会议拟审议的各项议题所编制的说明 (UNEP/OzL.Pro/ImpCom/12/2) 第2段, 由俄罗斯联邦提交的一份题为“关于逐步停用臭氧物质的、技术上可行的和安排上有效的时间表”的报告以及随附的信函(参见附件二)。秘书处指出, 俄罗斯联邦提交的此份报告列有关于生产方面的数据，但缺少有关消费量、回收和再循环以及出口诸方面要求提供的具体资料。例如, 该报告未能明确表明预计于1996年—2000年间生产的消耗臭氧物质中将有多少用于满足俄罗斯联邦的国内需要以及将有多少用于出口。秘书处认为, 有关出口情况的资料具有特别重大的意义, 因为许多来自原苏联的国家不是《议定书》缔约国, 因而向这些国家的出口将使俄罗斯联邦处于不遵守《议定书》的地位。该报告还缺少有关俄罗斯联邦打算如何满足《议定书》关于生产和消费的指标的充分具体资料, 并缺少将需要多少财务援助和以何种方式提供援助的资料。最后, 该报告中所列的逐步停用日程表还明确规定地表明俄罗斯联邦打算在最近的将来不遵守《议定书》的规定。

12. 技术和经济评估小组关于经济处于过渡阶段国家问题的特设工作组的联席主席通知委员会, 他认为该项报告缺少有关如何着手减少消耗臭氧物质的生产和消费、俄罗斯联邦政府以及受到影响公司需要做出何种承诺，以及将需要提供多少财务资源和以何种方式提供这些财务资源的充分资料。他请俄罗斯联邦就
这些问题以及就数据中可能的不一致处做出澄清。

13. 委员会主席指出，俄罗斯联邦所提供的报告是一份载有关于臭氧消耗物质生产情况重要数据的有益的实际情况说明。然而，他认为该项报告缺少下列方面的充分资料：即逐步停止消耗臭氧物质所需要的政治承诺、报告中提出的部门性办法与具体的财务和行政要求之间的关联、实施机制、以及如何着手实施具体的控制措施等。他要求对这些问题以及俄罗斯联邦关于在履行《议定书》为其所规定的义务方面提供援助的请求做出澄清。他询问说，俄罗斯联邦代表团是拥有关于再循环和回收设施以及关于与独联体各成员国之间的贸易方面的具体资料。他还询问说，所订立的控制措施时间表，其中包括超出《议定书》所规定数量的产量是否仅仅反映了其国内的需求，还是所预计的产量还包括用于出口目的的生产，如系后一种情况，请说明打算向哪些国家出口。他还澄清说，履行委员会以及缔约国会议均不能对单独缔约国规定“正式的宽限期”。然而履行委员会可就某一缔约国在某一特定年份内对《议定书》不遵守情事问题以及就金融机构如何处理此种情形提出建议，并由缔约国就此做出决定。他进一步指出，履行委员会的职能之一便是本着合作的精神与各缔约国携手工作，以便确保《议定书》所规定的各项义务得到履行。

14. 俄罗斯联邦的代表在介绍他的国家向委员会提交的报告时，以及在其后进行的讨论中，概述了该国过去、目前和今后计划为逐步停用臭氧物质做出的努力，审查了该国所面临的财政和行政困难，并强调说，他的国家要求在履行《蒙特利尔议定书》为其所规定的各项义务过程中能够得到为期四年的宽限期。


16. 他指出，俄罗斯联邦业已大幅度地减少了消耗臭氧物质的生产和消费，特别是在气溶胶部门。该国还希望到2000年时能够逐步地停止所有非必要用途的生产和消费，并到2015年时停止所有生产和消费。目前所有生产设施均配有再循环处
理设备。新颁布的一项法律确立了出口控制制度，并禁止与所有非《议定书》缔约
国进行贸易，尽管目前在行政和执行方面仍存在着不少问题，过去和预计的生产数
字并不包括出口方面的需求。他指出，大多数出口均以独联体其它成员国为目的
地，这些国家在此类材料的供应上一直长期依赖于俄罗斯；俄罗斯联邦与这些国家
一直保持着密切的经济联系。俄罗斯联邦已认识到有必要由缔约国就此做出一项
决定，以便使该国得以向非《议定书》缔约国的独联体国家或非按第5条行事的国
家出口消耗臭氧物质。

17. 他提醒委员会说，俄罗斯联邦是一个幅员辽阔的国家，目前正面临着十分
严重的财政和行政困难。因此该国政府很难对控制物质的生产和消费实行管制，亦
难以协助逐步向采用替代性办法过渡。俄罗斯联邦在采取必要的替代办法方面拥
有足够的技术专长和生产设施，但在此方面缺少必要的资金。此外，由于缺少边
境和海关控制手段，很难对出口，特别是向独联体成员国的出口实行管制。与此相类
似，由于俄罗斯联邦的企业可以自由地追求其各自的经济利益，因此他们自然而然
地开发了用于国内用途和用于出口的、有利可图的消耗臭氧物质的生产。各公司
现已发现出口经过再循环处理的物质要比在俄罗斯联邦范围内出售这些物质获利
更多，因此对新的消耗臭氧物质的需求量并未如预期的那样迅速减少。加之在行政
和财政方面的各种困难，对此一工业的管制工作亦十分棘手。于1991年之前一直有
效运作的管制机制现已不复存在，向替代办法的过渡又因人们对其可靠性、含毒
性及其对劳工市场的影响的关注而大大减缓。最后，俄罗斯联邦政府认为重要的是，
不应操之过急地采取行动，以期避免因不能得到足够的制冷剂或用于各种必要
用途的其它消耗臭氧物质而产生社会动乱。

18. 他要求国际社会、《议定书》缔约国和履行委员会考虑到上述因素，为俄
罗斯联邦提供财务支助和四年宽限期，以便它履行《议定书》规定的义务。四年宽
限期将使它有足够的时间来停止用于非必要用途的消耗臭氧物质的生产，建立一个
全面投入使用的回收和再循环系统，其中包括哈龙库存。财务援助将使它能够遵守
这一时间表。如果得不到财务援助，俄罗斯联邦认为它很难在预定的宽限期内实现
国家方案的各项目标。

19. 世界银行代表指出，俄罗斯联邦在迅速停用消耗臭氧化学品方面有重大障
碍。世界银行认为，俄罗斯联邦为提供所需资料作出了重大的努力，应将此视为它的诚意。俄罗斯联邦还在丹麦和世界银行的援助下编制了一份暂停消耗臭氧物质的详细方案。他注意到执行委员会尚未审查这一报告。他认为，委员会不仅应注重俄罗斯联邦提供的资料，而且应注重所进行的整个工作，因为它将决定今后的先例。他认为，国内消费已不再是主要关注事项，因为它正在减少；出口市场成为主要关注问题，只有在控制生产时才能控制出口市场。正在拟议世界银行和全球环贷的项目，以便构建在俄罗斯联邦的若干生产设施。他建议要求俄罗斯联邦每年提供一份进展报告，介绍它为减少控制物质的生产、消费和出口做出的努力。他认为，这一安排将提供必要的鼓励因素，因为世界银行和全球环贷提供的支持将取决于取得这类进展。他还建议，如果委员会不满意俄罗斯联邦提供的资料，它应明确重申它需要其它哪些资料，并规定提交资料的时限。但是，他感到担心的是，轻率的行动可能会对目前和今后暂停消耗臭氧物质产生不利影响。

20. 全球环贷秘书处代表提醒委员会说，虽然全球环贷与《蒙特利尔议定书》没有正式联系，但它在《蒙特利尔议定书》财务机制范围内提供了援助，使有资格获得援助的缔约国能够遵守议定书。这类援助符合《议定书》，对多边基金起了一定作用。各国有可能具备下列条件才有资格获得全球环贷的资金：必须是《蒙特利尔议定书》的缔约国，批准了《蒙特利尔议定书》并根据《议定书》的规定履行了关于汇报消耗臭氧物质生产/消费量和贸易情况的义务。全球环贷可在各国批准《蒙特利尔议定书》后提供一定的技术援助，经编制国别方案，即使该国尚未批准《蒙特利尔修正书》。

21. 在出现不遵守《蒙特利尔议定书》义务的情况下，全球环贷将根据《蒙特利尔议定书》有关不遵守情事的正式程序提供资金。这一程序包括通报不遵守的原因、评估在采用控制措施方面预期出现的拖延和修改履行义务的时间表。全球环贷将根据《蒙特利尔议定书》缔约国会议就不遵守《议定书》采取措施的指示性清单和缔约国作出的有关决定来进一步提供援助。

22. 由于它今后的业务将完全根据这些政策进行，全球环贷为俄罗斯联邦的一个项目提供资金之前，正等待履行委员会就俄罗斯联邦提供资料的质量（日期/履行义务的修订时间表等）提出意见。
23. 委员会的两位成员针对俄罗斯联邦的发言指出，仍然有若干问题未获解
决，这使委员会难以作出决定。这些问题包括俄罗斯联邦是否遵守了《议定书》
有关数据汇报和消耗臭氧物质控制的规定；俄罗斯联邦的出口，其中包括对独联体成
员国的出口以及它履行今后义务的方案。

24. 评估小组联席主席澄清说，缔约国已经就何为《议定书》规定的必要用途
豁免作出了决定。

25. 秘书处指出，如果俄罗斯联邦的所有生产设施都有再循环设施，并非所有
国家都是这样，那么俄罗斯联邦就能够加快停止生产消耗臭氧物质，而注重通过回
收和再循环来满足国内需求。

26. 在讨论这些问题后，来自奥地利、保加利亚、塞内加尔、智利、约旦、
荷兰、秘鲁、菲律宾和坦桑尼亚联合共和国的委员会成员根据不遵守情事程序第
11条举行了非公开会议，讨论如何起草提交给缔约国第七次会议的建议草案。

27. 在进行了进一步讨论和非正式协商之后，委员会审议了列于文件UNEP/
OzL.Pro.7/9中有关俄罗斯联邦遵守《蒙特利尔议定书》情况的第VII/16号决定草
案的一套可能修正意见。

28. 俄罗斯联邦代表团说，俄罗斯联邦代表团可以支持决定草案中的前7段，但
不能支持有关限制贸易或接受多边援助的条件以满足《蒙特利尔议定书》为其规定
的义务的段落。他说，决定草案仍未计及经济处于过渡阶段的国家所面临的困难，
并问委员会是否已考虑到这一决定可能对他的国家产生的严重影响。

29. 委员会主席指出，就第1至7段达成了普遍的一致意见是一重大进步。他指
出，有关贸易的段落实际上是给予俄罗斯联邦的一项豁免，以使其能向其它独联体
成员国出口控制物质，同时也协助俄罗斯联邦修改目前阻碍该国逐步停用工作的经
济奖励办法。

30. 在进一步讨论之后，履行委员会注意到了已经取得的进步，并核准了有关俄
罗斯联邦遵守《蒙特利尔议定书》的情况的一项建议，以供缔约国第七次会议审议。

自俄罗斯
31. 秘书处通知委员会说，白俄罗斯提供的数据表明它没有再循环设施，也没有该国准备如何遵守《议定书》有关实行控制的时间表的细节。

32. 白俄罗斯代表表示，白俄罗斯致力于履行《蒙特利尔议定书》为其规定的各项义务，并将在1995年12月31日之前提交一份国别方案草案，内列必要的资料。但是，他可以肯定地说，白俄罗斯没有生产控制物质，也不拥有回收和再循环设施。之后，他向委员会提供了一份备忘录，请它考虑对列于文件UNEP/0ZL.Pro.7/9中有关白俄罗斯遵守《蒙特利尔议定书》的情况的第VII/15号决定草案可能进行的修正。

33. 委员会赞赏白俄罗斯所表明的合作态度，其中包括它愿意接受并协助委员会制定一个统一的办法，以改进该区域各国遵守《蒙特利尔议定书》的情况。

34. 在进一步讨论之后，履行委员会核准了有关白俄罗斯遵守《蒙特利尔议定书》的情况的一项建议，提供缔约国第七次会议审议。

乌克兰

35. 秘书处通知委员会说，尽管秘书处数次书面致函乌克兰，促请它遵守履行委员会的要求，但是乌克兰未提供任何要求提供的资料。

36. 主席指出，乌克兰的情况不同，与俄罗斯联邦相比较也不太困难，原因是乌克兰只生产一种物质控制。

37. 乌克兰代表说，他不能赞同主席有关乌克兰是控制物质生产国的说法。乌克兰确实生产四氯化碳，但由于所生产的数量全部用作原料，其按照《议定书》第一条第5款规定的生产量等于零，因此乌克兰只能被视作消费国。他希望强调，乌克兰的消费量非常低，人均不到0.05千克。乌克兰虽然自身拥有执行逐步停用方案的科学技术能力，在这一过程中却面临着经济困难。但是，乌克兰坚决致力于履行《蒙特利尔议定书》所规定的义务，因此，如果履行委员会能按照它为俄罗斯联邦所提建议的大体措词为乌克兰订立一些建议，乌克兰将非常感谢。之后，乌克兰代表向委员会成员分发了有关乌克兰逐步停用消耗臭氧物质国别方案草稿。
38. 主席在谈到乌克兰的国别方案草稿时说，在此次会议上就乌克兰代表刚刚分发的国别方案草稿的实质内容得出任何结论是不现实的。他相信草稿中载列了很多内容，不过可能缺少材料，说明乌克兰拥有予以实施政治意愿。但是，这一点已经听乌克兰代表说了，这比从文件中读到要好。

39. 随后乌克兰代表团向委员会提交了一份备忘录，请它考虑列于文件UNEP/OzL.Pro.7/9中有关乌克兰遵守《蒙特利尔议定书》的情况的第VII/17号决定草案可能进行的修正。

40. 乌克兰环境部长在会议的最后一次会议间与乌克兰代表一道出席了会议，又很快离开了会场。乌克兰代表说，乌克兰政府充分致力于履行《蒙特利尔议定书》为其规定的义务。委员会表示赞赏乌克兰所表明的合作态度，以及在较短的时间内在与委员会的关系方面所取得的进展。

41. 在进行了进一步讨论和非正式协商之后，履行委员会核准了有关乌克兰遵守《蒙特利尔议定书》的情况的一项建议，以供缔约国第七次会议审议。

四．数据汇报

A．秘书处对履行委员会第十一次会议后汇报的数据提出的增订

42. 秘书处代表介绍了关于《消耗臭氧层物质的蒙特利尔议定书》缔约国汇报数据情况的报告（UNEP/OzL.Pro.7/6和Corr.1）。他指出，应在报告第4和5页删除俄罗斯联邦，第20段倒数第2行中的“33”应改为“44”。他还指出，有关数据汇报的补充资料载于秘书处关于履行委员会审议事项的说明（UNEP/OzL.Pro/ImpCom/12/2）的第11-12段，日本应列入第11段的名单，列在澳大利亚下面，数据汇报年份为1994年。

43. 秘书处建议，如各执行机构在它们正在制订国别方案或投资项目国的国家中被告知已向秘书处提交了数据时，它们应要求向其提供有关数据的副本。

44. 委员会指出，一些国家的报告逾期未交已超过两年，应向缔约国会议表明，汇报数据逾期的趋势不应继续下去，特别是那些已在多边基金支持下完成加强体制
项目的国家。

B. 各执行机构关于正在由其编制国别方案的国家的数据汇报的说明

45. 环境署的代表介绍了题为“环境署为协助第5条国家进行数据汇报所做的工作”的报告，其中包括的国家是环境署正在开展国别方案、加强体制能力和/或联网活动的国家。报告指出，在秘书处提交的报告中所述的趋势并非象实际情况那样清楚。一些国家尚未完成国别方案，而另一些国家则最近刚刚完成国别方案，尚来不及编制报告。提供基准数据的国家的情况也是如此。环境署的文件充分审查了数据汇报方面的问题，这应能减轻委员会对有关国家不遵守的忧虑。

46. 他还指出，在没有汇报的那些国家中，许多是后来加入《蒙特利尔议定书》的，因此错过了提高意识活动。有关数据监测和汇报的培训对于解决汇报问题可以发挥重大作用。

47. 开发计划署的代表汇报说，在该署与之合作的国家中，特立尼达和多巴哥没有提供基准数据，但汇报了1994年的数据。土库曼斯坦和乌兹别克斯坦没有汇报。

48. 委员会欢迎环境署所提供的资料，并决定将它作为附件附于委员会的报告后（参见后面附件三）。多边基金秘书处就环境署提交的资料提出了书面评论意见（参见后面附件四）。

49. 委员会还同意仍然有必要把重点放在各国政府就履行其义务作出的承诺。

50. 委员会的一位成员提请注意作为加强体制能力的一个基本组成部分，有必要培训海关人员。

五. 其它事项

黎巴嫩的人口数据
51. 工发组织的代表询问，秘书处在计算黎巴嫩的控制物质人均消费量时为何未采用黎巴嫩提供的口数据。

52. 秘书处在回答时说，黎巴嫩在当初提交其数据报告时并未提供人口数据。依照此类情况的习惯做法，秘书处根据联合国统计司提供的该国人口数据计算了黎巴嫩的人均消费量。但在这之后，黎巴嫩政府却对上述数字提出了异议，并提交了从世界银行获得的、与统计司提供的数字存在很大差异的人口数据。此事仍在审查之中。

53. 委员会若干成员说，必须将一国政府提供的数据视为具有权威性的。一位成员建议，如果在数据汇报方面再出现如此大的差异，则必须确定一项政策。委员会主席对讨论进行了总结，委员会同意其对秘书处的指导意见是应尽可能使用最佳的数据。但最终只有提供数据的缔约国才有最后发言权。

立陶宛执行《蒙特利尔议定书》的情况

54. 委员会会议收到了立陶宛总理1995年11月22日致秘书处的信函，信中要求考虑涉及在根据立陶宛的条件执行《蒙特利尔议定书》的规定方面与众不同的问题，并考虑允许立陶宛在消耗臭氧物质的逐步停用方面延迟五年执行伦敦和哥本哈根调整书预计的时间表。

55. 委员会：

(a) 欢迎立陶宛所采用的方式，但认为立陶宛总理的信函中所列的材料不充足；

(b) 决定要求秘书处请立陶宛提供更详细的材料，以便履行委员会能予以审议；

(c) 决定请秘书处提醒立陶宛，国际金融机构对逐步停用消耗臭氧物质的主要项目供资视有关国家是否批准伦敦修正书而定。

消耗臭氧物质低消费量国家的项目准备
56. 工发组织的代表请履行委员会提供指导意见，说明如何对待执行委员会给各执行机构的指示，即不在尚未核准其国别方案的消耗臭氧物质低消费量国家中进行项目准备工作。他说，工发组织已经收到了这类国家有关项目准备的若干请求。

57. 委员会决定在其第十三次会议上审议这一事项。

**履行委员会会议的口译服务**

58. 委员会注意到一位成员的建议，即秘书处应根据需要安排口译服务，以确保各缔约国能够以最佳的方式向委员会说明情况。

**六．通过报告**

59. 根据以往的惯例，委员会请主席和报告员负责完成会议报告。

**七．会议闭幕**

60. 在按照惯例相互致意后，会议于1995年12月1日下午2时闭幕。
附件一

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联合国机构

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...
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Annex II

RUSSIAN FEDERATION

MINISTRY OF PROTECTION OF THE ENVIRONMENT AND NATURAL RESOURCES

In accordance with the recommendations of the Tenth Meeting of the Implementation Committee under the Non-Compliance Procedure for the Montreal Protocol and the Twelfth Meeting of the Open-ended Working Group of the Parties to the Montreal Protocol (Geneva, Switzerland, 25 August - 1 September 1995) and as a complement of the Statement of the Russian Federation Government of 25 May 1995 to the Parties of the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer and also in accordance with the obligations of Article 7 of the Montreal Protocol, the Ministry of Protection of the Environment and Natural Resources is sending information on measures taken by the Russian Federation at national level for the protection of the ozone layer.

We consider that the attached National programme on First Priority Measures to compliance of obligations of the Russian Federation for the Protection of the Ozone Layer during 1995-1996, statistical information on production, export, import and use as raw material of ozone-depleting substances during the period 1986-1993 and a diagram of step by step reduction of production in Russian up to the total phaseout in 2000 with the corresponding explanations, will help the Parties to the Vienna Convention and the Montreal Protocol duly assess the economical and social situation in the Russian Federation to satisfy the request on the grace period for Russian of 4 years term of total stop of production and consumption of chlorofluorocarbons, carbon-tetrachloride and methyl chloroform and 3 years term for the phaseout of production and consumption of halons, based on the principles of mutual assistance, goodwill spirit and constructive cooperation for the solution of global ecological problems. That is, the Ministry of Protection of the Environment and National Resources was forced to inform that the Russian Federation does not have full statistical data on exports, imports, utilization in raw materials and destruction of ozone depleting substances (ODS) controlled by the Montreal Protocol. This was conditioned by the absence of adequate Protocol requirement of control system of transfer and utilization of ODS contained its production and transparent borders between former states USSR, as well as difficulties of the transition period to a market economy.

Authentic information is data on production of ODS for 1990, the base year for the Russian Federation and the following years. The remainder are preliminary assessment character data and they will be presented to the Secretariat of the Vienna Convention and the Montreal Protocol according to its accuracy and reception by the Ministry of Protection of the Environment and Natural Resources of the Russian Federation.

V.I. Danilov-Danilyan
Minister of Protection of the Environment and Natural Resources
Russian Federation

Secretariat Vienna Convention
and Montreal Protocol
TECHNICALLY FEASIBLE AND ORGANIZATIONALLY VALID TIME-TABLE FOR PHASING-OUT OZONE-DEPLETING SUBSTANCES (ODS)

Follows an assessment of a technically feasible and organisationally valid phase-out timetable for each ODS consuming industrial sector, based on an on-going process of project preparation with financial assistance from GEF and bilateral co-operation sources, while taking into account international experience of time frame estimates regarding completion of projects to phase-out production and consumption of ODS.

Refrigeration Equipment Sector

A complete substitution of ODS in the domestic and commercial refrigeration equipment sectors could be reached by 1 January 1999, if all production lines are to be refitted. However, in view of substantial progress made by leading producers, especially in the domestic refrigeration sector, it is anticipated that major substitution in these two sectors will be achieved by mid-1998. Full substitution of ODS in the industrial refrigeration equipment sectors may be realized by 1 January 1999.

Even if international financial assistance for projects becomes available in early 1996 and project implementation proceeds smoothly, it would be technically unrealistic to resolve the problem of substituting the use of ODS in the refrigerator equipment production sector before 1998, as the relevant design, testing and experimental production stages take at least two years.

Within the refrigeration equipment servicing sector the key problem is the development and functioning of a smoothly operating system of reclamation of coolants, and, depending on existing conditions of retrofitting equipment in the commercial refrigerator sector, of recycling and reclamation of coolants. Clearly, the refrigeration equipment servicing sector will require, for a considerable period of time, a supply of CFC's (newly produced or recycled), so as to avoid an early destruction of the huge existing pool of refrigeration equipment. It is expected that the reclamation system will be fully operational by 1 January 2000. Until then the refrigeration equipment servicing sector will require deliveries of new CFC's. In the ensuing ten years the servicing sector will use recycled CFC's. This will mainly affect the servicing of domestic refrigeration equipment, because a major portion of commercial refrigeration equipment is expected to be refitted for HFC-134a in 1996-2000.

Aerosol Production Sector

It may be difficult to suggest a realistic date for substituting ODS in the aerosol production sector, though it is highly probable that a total phase-out of these substances may be reached by 1 January 1998, with the pharmaceutical sector remaining the major exception. The key problem for this sector is the necessity of guaranteeing an adequate supply of sufficiently pure hydrocarbon aerosol propellants (HCAP) as well as safe standard packaging and valves for HCAP's. The technical aspects of the problem are complex and will require time to be resolved properly and in a cost-effective manner. Thus, complete substitution of ODS in aerosol production may be reached by 1 January 1999 without an outright shut-down of the majority of existing capacities for filling aerosols. However, widespread ODS substitution can be achieved before 1 January 1997, provided there is funding for conversion to alternative propellants and HCAP production, with a resulting phase-out by enterprises in early 1996.

Plastic Foam Production Sector

ODS are used in the production of rigid plastic foam mostly in the sector which provides refrigeration equipment with insulation material. In all probability, cyclopentene will in most cases serve as the alternative ODS-free blowing agent. Whenever project technology permits cheaper alternatives (CO₂ or or water) will be employed, but its use is
anticipated for producing insulation for commercial refrigeration equipment. The flexible plastic foam production sector has been using approved and cost-effective alternatives, and here a quick substitution of ODS is possible. Phasing-out CFC's in flexible foam production may be achieved by 1997, and the conversion of rigid foam production may come about in 1996-1998, with a final renunciation of ODS by 1999.

**Solvents Sector**

A complete cessation of the use of ODS as solvents in the electronic industry may be realized by 1 January 2000, and in cleaning metals and other fields by 1 January 1998. The reason for a lag in ceasing ODS use in electronics is chiefly lack of adequate practical skills and experience with alternative technologies. This prompts further work in adapting technologies and demonstrating their application possibilities at enterprises. Faster renunciation of ODS employment in metals cleaning and other areas means that there are lesser technical hurdles to overcome here.

**Fire Suppressing Equipment Production Sector**

ODS consumption in the fire suppression equipment sector has been considerably reduced, albeit following a drop in equipment production itself. The conversion of portable extinguisher production to ozone-safe fire suppression components like CO$_2$, dry chemicals or water usually takes about two years. The production of alternative fire extinguishing reagents like inert gas mixtures will be planned for stationary equipment. Apart from that plans have been made to develop, test and apply technologies which can be employed in older equipment, as well as to introduce a system of reclamation and possible recycling of halons in order to supply existing equipment which cannot be refitted for alternative substances. A complete substitution of ODS in this sector could be effected before 1 January 1998. However, according to projections of the fire extinguisher use sector it will not become independent of newly produced Halon-2402 before 2003.

**ODS Production**

Notably, the probability is high in the Russian Federation that a sudden closure of CFC production lines will unfavourably affect major consumers. If ODS supplies run out before industry has the opportunity to test and introduce alternative technologies, it will have to cease production of ODS consuming goods until alternative technologies are tested and employed. This may lead to high unemployment, loss of markets, product scarcity for end-of-line users, etc.

To sum up the above, phasing-out of production and consumption of ODS by 1 January 1997 will be possible only in certain sectors of their use (flexible foam plastics and, perhaps, metals cleaning). For main sectors using ODS (refrigeration equipment and aerosols production) the technically feasible time-frame for replacing ODS would be two to four years after 1996.

Thus it is necessary to continue the production of CFC's in the transitional period after January 1996 and the phase-out programme must take it into account. Consequently the decisive factor for success of the Russian Federation's efforts to achieve a phased reduction of production and consumption of ODS depends on a coordination of projects aimed at their replacement in the consumption sectors, at the introduction of alternative substances and at closing ODS production capacities. In particular, it is extremely important that projects for manufacturing voluminous commercial products requiring alternative substances, such as HFC-134a, are supported in parallel and in coordination with projects for replacing ODS in consumption sectors.

...
Table 1 below contains a review of strategy for a phased reduction of production and consumption of ODS, as implemented by the Government of the Russian Federation. This strategy is based on the assumption that the goal is to end the use of ODS as quickly as technically feasible and that international and GEF financial project support will be available to enterprises commencing at least from the beginning of 1996.

**Table 1. Strategy of the Russian Federation to achieve a phase-out of production and consumption of ODS**

<table>
<thead>
<tr>
<th>Sector</th>
<th>ODP-tonnes in 1992</th>
<th>100 percent replacement date</th>
<th>Lag (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Refrigeration equipment Sector</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic refrigerators</td>
<td>10,700</td>
<td>1 January 2000</td>
<td>3</td>
</tr>
<tr>
<td>Commercial refrigerators</td>
<td>800</td>
<td>1 January 1999</td>
<td>3</td>
</tr>
<tr>
<td>Industrial refrigerators</td>
<td>800</td>
<td>1 January 1999</td>
<td>3</td>
</tr>
<tr>
<td>Servicing of refrigeration equipment</td>
<td>8,300</td>
<td>1 January 2000</td>
<td>4</td>
</tr>
<tr>
<td>Domestic Refrigerators</td>
<td>700</td>
<td>1 January 2000</td>
<td>4</td>
</tr>
<tr>
<td>Commercial and industrial refrigerators</td>
<td>7,600</td>
<td>1 January 2000</td>
<td>4</td>
</tr>
<tr>
<td><strong>Aerosol production sector</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosmetic and technical</td>
<td>18,200</td>
<td>1 January 1999</td>
<td>3</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>17,900</td>
<td>1 January 1998</td>
<td>2</td>
</tr>
<tr>
<td><strong>Foam plastics production sector</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rigid foam plastics</td>
<td>4,300</td>
<td>1 January 1998</td>
<td>2</td>
</tr>
<tr>
<td>Flexible and integral foam plastics</td>
<td>1,400</td>
<td>1 January 1998</td>
<td>2</td>
</tr>
<tr>
<td><strong>Solvents Sector</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronics</td>
<td>1,300</td>
<td>1 January 2000</td>
<td>4</td>
</tr>
<tr>
<td>Metals cleaning etc.</td>
<td>500</td>
<td>1 January 2000</td>
<td>4</td>
</tr>
<tr>
<td><strong>Fire extinguishing reagents</strong></td>
<td>5,500</td>
<td>1 January 2000</td>
<td>4</td>
</tr>
</tbody>
</table>

1. The strategy is based on the assumption that the goal is to end the use of ODS as quickly as technically feasible, and that international and GEF financial project support will be available to enterprises commencing at least from the beginning of 1996.
2. Including air conditioners for buildings
3. It is assumed that a considerable decrease in consumption of ODS will be achieved in 1997.
4. Lag may be less by a year. Note that recycled CFCs will be in use for maintenance up to 2000.
5. Considerable reduction in ODS consumption can be achieved by 1 January 1997.
6. Excluding limited production to cover basic domestic requirements up to 2010.
With due regard to priority measures approved by the Government and the Concept of the State phase-out Programme it is still possible for Russia to halt the use of ODS sooner than provided for by the London Amendments. Taking into account possible external financing and the start of project implementation in the beginning of 1997 (perhaps with a few exceptions in the pharmaceutical sector), full replacement of CFC's in aerosol production may be achieved in the course of 1997 which will reduce the consumption of CFC's in Russia by more than 75 percent of the calculated base level of 1990. The London Amendments provide for a 50 percent reduction by 1996. Reduction to 15 percent of the calculated level in 1990 is achievable only by 1998 and full replacement - by January 2000.

Chart 3 below shows the schedule for achieving a complete phase-out of ODS production and consumption in the Russian Federation, as compared with the relevant requirements of the Montréal Protocol (its London and Copenhagen Amendments respectively).

Chart 3: Schedules for alternative strategies for phasing out production and consumption of ODS.
Numerically the above chart can be presented by the following volumes of overall production of CFC's controlled by the Montreal Protocol for the period 1996-2000

<table>
<thead>
<tr>
<th>Year</th>
<th>ODS Production in ODP tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>21,300</td>
</tr>
<tr>
<td>1997</td>
<td>15,600</td>
</tr>
<tr>
<td>1998</td>
<td>10,800</td>
</tr>
<tr>
<td>1999</td>
<td>5,700</td>
</tr>
<tr>
<td>2000</td>
<td>0</td>
</tr>
</tbody>
</table>
APPROVED
by Decree of the Government of
The Russian Federation of 24 May, 1995 (No.526)

PRIORITY MEASURES TO ENSURE THE IMPLEMENTATION OF OBLIGATIONS
OF THE RUSSIAN FEDERATION ON THE PROTECTION OF OZONE LAYER, FOR 1995-1996

<table>
<thead>
<tr>
<th>MEASURES</th>
<th>Employing Agency</th>
<th>Implementation period</th>
<th>Expenditures at 1995 prices (bil. roubles)</th>
<th>Anticipated Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>Including</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1995</td>
<td>Budget</td>
</tr>
<tr>
<td>1</td>
<td>Ministry of Science, Committee for Chemical and Oil Industry</td>
<td>1995-1996</td>
<td>1.53</td>
<td>1.43</td>
</tr>
<tr>
<td></td>
<td>RNTs &quot;PH&quot;</td>
<td></td>
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</tbody>
</table>

Initiation of Production of Ozone-Safe Compounds and Substances: Recovery, Reclamation and Recycling of Ozone-Depleting Substances

1. Development of technologies for production of coolants: HFC-134a, -125, -32, -152a, -23, -143a; HCFC-141b; HFC-116; 2nd generation: HFC-227, -245, -116; CF3J, HCFC-225

Baseline data for industrial designing in 1995 for:
HFC-152a, HCFC-141b derived from vinylidene chloride, HCFC-122a, HFC-227, HCFC-225

* In the process of implementation contractors and figures may be changed or adjusted.
The list of full names of contractors is attached.

/.../
<p>| 2. Development of technologies for recovery, reclamation and recycling of coolants and halons | Ministry of Science, Committee for Chemical and Oil Industry | 1996 | 0.34 | 0.1 | 0.24 | - | 2.24 | 2.04 | 0.2 | - | Baseline data for designing of ozone-depleting coolants recycling processes and their recovery |
| | RNTs &quot;PH&quot;, NIIHIMMASH, NPO &quot;Vypeml&quot;, MASI, VNIIPPO | |
| 3. Development of technologies for production of ozone-safe coolants and solvents through fluoridation of olefins UF6 for enterprises of the Ministry of Atomic Energy of Russia | Ministry of Atomic Energy, Ministry of Science | 1996 | 0.2 | 0.2 | - | - | 1.3 | 1.3 | - | - | Baseline data for industrial design: 1995-HCFC-122 |
| | VNIIT | |
| 4. Research for developing and improving methods of synthesizing ozone-safe coolants | Ministry of Atomic Energy | 1995-1996 | 5.4 | 5.4 | - | - | 9.8 | 9.8 | - | - | Development of coolants synthesis technologies-122a, 125, 134, 134a, 143a, R-218 |
| | VNIIT | |
| 5. Setting up a facility for alternative coolants synthesis | Ministry of Atomic Energy | 1995-1996 | 7.5 | 7.5 | - | - | 7.5 | 7.5 | - | - | Production of samples of ozone-safe substances for experimental purposes-up to 500 kg |
| | VNIIT, AOZI &quot;Stinol&quot; | |</p>
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<th>12</th>
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<tr>
<td></td>
<td>VNIINP, VNIIHolodmash, oil processing industrial enterprises, NIIEMI</td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td>Development of foam plastics based on ozone-safe blowing substances</td>
<td>Ministry of Science, Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>0.1</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.8</td>
<td>0.2</td>
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<tr>
<td></td>
<td>AO 'Polymersyntez'</td>
<td></td>
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<tr>
<td>8.</td>
<td>Development of new solvents based on ozone-safe compounds</td>
<td>Ministry of Science, Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.8</td>
<td>0.2</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>RNTs 'PH'</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9.</td>
<td>Setting up of a production complex for ozone-safe coolants:</td>
<td>Committee for Chemical and Oil Industry</td>
<td></td>
<td></td>
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<tbody>
<tr>
<td>HFC-152a</td>
<td>AOOT 'Altaiimprom'</td>
<td>1995-1996</td>
<td>5.2</td>
<td>4</td>
<td>1.2</td>
<td>-</td>
<td>43.6</td>
<td>30</td>
<td>13.6</td>
<td>-</td>
<td>Production capacity:</td>
</tr>
<tr>
<td>HFC-134a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>1,000 t/year</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>4,500 t/year</td>
</tr>
<tr>
<td>HFC-125</td>
<td>AOOT 'Galogen'</td>
<td>1996</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>55.2</td>
<td>45.2</td>
<td>10</td>
<td>-</td>
<td>750 t/year</td>
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<tr>
<td>HFC-32</td>
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<td></td>
<td></td>
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<td>2,000 t/year</td>
</tr>
<tr>
<td>HFC-23</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>300 t/year</td>
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<tr>
<td>HCFC-141b</td>
<td>AOOT &quot;HIMPROM&quot; (Volgograd)</td>
<td>1995-1996</td>
<td>4.5</td>
<td>2</td>
<td>2.5</td>
<td>-</td>
<td>11</td>
<td>7</td>
<td>4</td>
<td>-</td>
<td>2,000 t/year</td>
</tr>
<tr>
<td>HCFC-122a</td>
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<td></td>
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<td></td>
<td></td>
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<td>2,000 t/year</td>
</tr>
<tr>
<td>HFC-134a</td>
<td>AOOT &quot;Kaustik&quot; Volgograd</td>
<td>1996</td>
<td>0.5</td>
<td>-</td>
<td>0.5</td>
<td>-</td>
<td>10</td>
<td>7</td>
<td>3</td>
<td>-</td>
<td>5,000 t/year</td>
</tr>
<tr>
<td>RNTs &quot;PH&quot;</td>
<td></td>
<td>1995</td>
<td>4</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>4.5</td>
<td>4.5</td>
<td>-</td>
<td>-</td>
<td>500 t/year</td>
</tr>
</tbody>
</table>

10. Setting up a production complex for mixed ozone-safe coolants

<p>| Committee for Chemical and Oil Industry | 1996 | -   | -   | -   | -   | 5   | 4   | 1   | -   | Production capacity: |
| RNTs &quot;PH&quot;, NIITP                       |      |     |     |     |     |     |     |     |     | 1,000 t/year |
|                                          |      |     |     |     |     |     |     |     |     | 1,000 t/year |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td></td>
<td>VNIIEHT, KChHK, AEHK, SHK</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>KChHK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>up to 3,000 t/year</td>
</tr>
<tr>
<td>HFC-122a, HFC-134a, -152a, R-218</td>
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<tr>
<td>AEHK</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>up to 3,000 t/year</td>
</tr>
<tr>
<td>HFC-122a, HFC-134a</td>
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<tr>
<td>SHK</td>
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<td></td>
<td></td>
<td></td>
<td>up to 3,000 t/year</td>
</tr>
<tr>
<td>HFC-134a</td>
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</tr>
<tr>
<td>12. Design and creation of capacities for stockfeed and fluorinating agents</td>
<td>Ministry of Atomic Energy</td>
<td>1995-1996</td>
<td>35</td>
<td>13</td>
<td>11</td>
<td>11</td>
<td>35</td>
<td>13</td>
<td>11</td>
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<tr>
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<td>VNIIEHT, KChHK, AEHK, SHK</td>
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<tr>
<td>13. Setting up a production facility for catalysts of gas-phased fluoridation</td>
<td>Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>45</td>
<td>35</td>
<td>10</td>
<td>-</td>
<td>Production capacity: 200 t/year</td>
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<tr>
<td></td>
<td>PNTs &quot;PH&quot;, AOOT &quot;Kaustik&quot; (Volgograd)</td>
<td></td>
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<tr>
<td>14. Initiation of production of a new synthetic oil compatible with ozone-safe coolants</td>
<td>Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>53.5</td>
<td>48.5</td>
<td>5</td>
<td>-</td>
<td>Production capacity: 5,000 t/year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PNTs &quot;PH&quot;, AOOT &quot;Zavod im.Shaumyana&quot;, VNIINP</td>
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<tr>
<td>15. Initiation of cyclopentane production for foam plastics</td>
<td>Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.2</td>
<td>2.2</td>
<td>1</td>
<td>-</td>
<td>Production capacity: 3,000 t/year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AOOT &quot;Kirishinefteorgsnyetce&quot;</td>
<td></td>
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<tr>
<td>16. Initiation of dimethyl ether production for aerosols</td>
<td>Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>6</td>
<td>10</td>
<td>-</td>
<td>Production capacity: 2,000 t/year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AO &quot;Metafraks&quot;</td>
<td></td>
<td></td>
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</tr>
</thead>
<tbody>
<tr>
<td>17. Initiation of production of hydrocarbon propellant for aerosols</td>
<td>Committee for Chemical and Oil Industry</td>
<td>Minnenbaevski NPZ, AO “Stavropolnefteorgsyntez”</td>
<td>1996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>21</td>
<td>11</td>
<td>10</td>
<td>-</td>
<td>Production capacity: 5,000 t/year</td>
<td></td>
</tr>
<tr>
<td>18. Development of new and improvement of existing technologies for production of trichlorethylene, chloroform and vinylidene chloride</td>
<td>Committee for Chemical and Oil Industry</td>
<td>NII &quot;Syntez&quot;</td>
<td>1995-1996</td>
<td>-</td>
<td>-</td>
<td>0.05</td>
<td>-</td>
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<td>Baseline data for designing</td>
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<td>19. Development of technologies for conversion the production of carbon tetrachloride (CTC) to ozone-safe products</td>
<td>Committee for Chemical and Oil Industry</td>
<td>NII &quot;Syntez&quot;</td>
<td>1995-1996</td>
<td>0.27</td>
<td>0.21</td>
<td>0.06</td>
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<td>0.25</td>
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<td>Baseline data for designing</td>
</tr>
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<td>Annex II</td>
<td>Page 14</td>
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<tbody>
<tr>
<td>20. Setting up production complexes for: trichloroethylene vinylidenechloride chloroform</td>
<td>Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>0.7</td>
<td>-</td>
<td>0.7</td>
<td>-</td>
<td>20.8</td>
<td>15.1</td>
<td>5.7</td>
<td>-</td>
<td>Production capacity:</td>
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<tr>
<td></td>
<td>AO &quot;Kaustik&quot; (Sterlitamak)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>20,000 t/year</td>
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<tr>
<td></td>
<td>AO OT Kaustik (Volgograd)</td>
<td></td>
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<td></td>
<td></td>
<td>2,000 t/year</td>
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<tr>
<td></td>
<td>AO &quot;Himprom&quot; (Cheboksary)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>40,000 t/year</td>
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</table>

| 21. Refitting of production of carbon tetrachloride (CTC) to ozone-safe products | Committee for Chemical and Oil Industry | 1996 | 2 | - | 2 | - | 30 | 19 | 11 | - | |
|   | AO "Sayanhimprom" | | | | | | | | | Increased vinylchloride production by 8,000 t/year |
|   | AO "Kaustik" (Sterlitamak) | | | | | | | | | Increased perchloroethylene production - 14,000 t/year |
|   | AO "Himprom" (Usolye) | | | | | | | | | Increased chloroallile production by 2,000 t/year |

**Aerosols**

| 22. Elaboration of formulae, technical guidelines and government standards for aerosols with propellant based on: | Committee for Chemical and Oil Industry | 1996 | - | - | - | - | 4.6 | 4.6 | - | Elaboration of technological documentation and preparation for conversion of aerosol production to ozone-safe technologies |

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</table>
| hydrocarbons  
(propane/butane) | RNTs "PH"  
AO "Novosibirsk ZBH" |
| dimethyl ether | AO "Arnest"  
AO "Hiton" |
| ozone-safe and transitional coolants | AOOT "Galogen"  
AOOT "Altaihimprom" |
| sorbate propellant CO2 for pharmaceuticals | AOOT "Himprom"  
(Volgograd)  
AO "Mosbythim"  
AO "Novomoskovskybythim" |
| sorbate propellant for portable fire extinguishers | AO "Rossa", Centre  
"Kortes"  
VNII Medpolymer, NPTs  
"Farmzashchita", VNII PO |

23. Comprehensive research to replace coolants in aerosol pharmaceuticals in the medical industry

| 1996 | - | - | 0.9 | 0.9 | Elaboration of documentation for conversion of aerosol production to ozone-safe technologies |

Ministry of Health and Medical Industry, Committee for Chemical and Oil Industry

VNTs BAV,  
AO "Moshimfarmpreparaty"  
RNTs "PH"
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<tbody>
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<td><strong>24. Development of alternative inhalation devices and reequipment of medical industries</strong></td>
<td>Ministry of Health and Medical Industry, State Committee for Defence Industries</td>
<td>1966</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.4</td>
<td>1.4</td>
<td>-</td>
<td>-</td>
<td>Experimental samples of alternative inhalation devices, packaging and valves for aerosol pharmaceuticals</td>
</tr>
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<td></td>
<td>FGNPP &quot;Pribor&quot;</td>
<td>Parmaplastik</td>
<td>BF VNIVI, VNTs BAV</td>
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<tr>
<td><strong>25. Conversion of production of aerosol pharmaceuticals to ozone-safe substances</strong></td>
<td>Ministry of Health and Medical Industry</td>
<td>1995-1996</td>
<td>-</td>
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<td>1.4</td>
<td>1.4</td>
<td>-</td>
<td>-</td>
<td>Design and technological documentation for modernising production lines to manufacture ozone-safe propellants</td>
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<tr>
<td></td>
<td>AO &quot;Moshimfarmpreparaty&quot;, AO &quot;Oktyabr&quot;, AO &quot;Altaivitaminy&quot;</td>
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<tr>
<td><strong>26. Reequipment of industries for production of aerosols with mechanical atomizers</strong></td>
<td>Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>30</td>
<td>24</td>
<td>6</td>
<td>-</td>
<td>Conversion of aerosol production to ozone-safe technologies</td>
</tr>
<tr>
<td></td>
<td>AO &quot;Rossa&quot;, enterprises of State Committee for Defense Industries, AOOT &quot; Altaihimprom&quot;, AOOT &quot;Himprom&quot; (Volgograd)</td>
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<td>RNTs &quot;PH&quot;, AO&quot;&quot;Novosibirski ZBH&quot;, AO &quot;Hiton&quot;, AOOT &quot;Galogen&quot;</td>
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</thead>
<tbody>
<tr>
<td>27. Development of alternative inhalation devices for medical industries</td>
<td></td>
<td>Ministry of Health and Medical Industry, Committee for Chemical and Oil Industry</td>
<td>1996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.35</td>
<td>0.35</td>
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<td>Preparation of conversion of aerosol production to ozone-safe technologies</td>
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<tr>
<td></td>
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<td>BF VNIVI, VNTs BAV</td>
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<td>28. Replacement of ozone-depleting substances in basic organic synthesis production processes at medical industry enterprises</td>
<td></td>
<td>Ministry of Health and Medical Industry</td>
<td>1996</td>
<td>-</td>
<td>-</td>
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<td>1</td>
<td>-</td>
<td>Conversion of organic syntheses production at medical industry enterprises to ozone-safe technologies</td>
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<tr>
<td>29. Development of circuits and operation cycles for refrigeration equipment using alternatives to ammonia and freon cooling agents</td>
<td></td>
<td>Ministry of Agriculture and Food</td>
<td>1995-1996</td>
<td>0.04</td>
<td>0.04</td>
<td>-</td>
<td>-</td>
<td>0.06</td>
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<td>-</td>
<td>-</td>
<td>Conversion of refrigeration equipment to ozone-safe cooling agents</td>
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<td>VNIHU</td>
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<tr>
<td>30. Development of circuits and operation cycles for sorption-thermolectric machinery to replace machinery using CFC-12</td>
<td>Ministry of Agriculture and Food</td>
<td>1995-1996</td>
<td>0.1</td>
<td>0.1</td>
<td>-</td>
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<td>Conversion of refrigeration equipment to ozone-safe cooling agents</td>
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<td>31. Adjustment of regulatory and technological documentation for equipment in connection with replacement of CFC-12 and HCFC-22</td>
<td>Ministry of Agriculture and Food</td>
<td>1995-1996</td>
<td>0.04</td>
<td>0.04</td>
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<td>Conversion of refrigeration equipment to ozone-safe cooling agents</td>
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</table>
### Production of Refrigeration Equipment Using Ozone-Safe Coolants

<table>
<thead>
<tr>
<th>No.</th>
<th>Project Description</th>
<th>Organization(s)</th>
<th>Year(s)</th>
<th>Project</th>
<th>Resources</th>
<th>Duration</th>
<th>Notes</th>
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</thead>
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<tr>
<td>33.</td>
<td>Study of thermodynamic properties and selection of cooling agents and mixtures for new and existing refrigeration equipment</td>
<td>Ministry of Science, AOOT &quot;VNIiholodmash-holding&quot;, AOOT &quot;NTITsHM&quot;, Association &quot;Holodbyt&quot;, MEI, NIITP, VNIINP</td>
<td>1995-1996</td>
<td>2.2</td>
<td>1.5</td>
<td>0.7</td>
<td>1.5</td>
</tr>
<tr>
<td>34.</td>
<td>Study of functioning, development, manufacturing and testing of basic models of compressors (motor-compressors) using new cooling agents, mixtures and lubricants</td>
<td>Committee for Machine-Building, State Committee for Defence Industries, AOOT &quot;VNIiholdmash-holding&quot;, AOOT &quot;NTITsHM&quot;, AOOT &quot;Iskra&quot;, AOPK &quot;Kontsern &quot;Antei&quot;, AOOT &quot;Holodmash&quot;(Yaroslavl), Association &quot;Holodbyt&quot;, AO &quot;Tulskii Orouzhieini Zavod&quot;, AO VEMZ (Vladimir), NIIRPI</td>
<td>1995-1996</td>
<td>3</td>
<td>1.4</td>
<td>1.6</td>
<td>2.8</td>
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</table>
### 35. Development and manufacture of optimal basic models for industrial and commercial refrigeration equipment, refrigerating chambers, cabinets, show-cases, domestic refrigerators and freezers using selected ozone-safe cooling agents and mixtures.

<table>
<thead>
<tr>
<th>35.</th>
<th>Committee for Machine-Building, State Committee for Defence Industries</th>
<th>1995-5</th>
<th>1.8</th>
<th>3.2</th>
<th>-</th>
<th>4.8</th>
<th>4.8</th>
<th>-</th>
<th>Basic models of refrigerating equipment</th>
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</table>

### 36. Testing of advanced models of refrigerating piston, fan and centrifugal compressors and relevant refrigeration equipment using ozone-safe cooling agents

<table>
<thead>
<tr>
<th>36.</th>
<th>Committee for Machine-Building, AOOT &quot;VNIIholodmashholding&quot;</th>
<th>1995-1996</th>
<th>3.39</th>
<th>2.68</th>
<th>0.71</th>
<th>-</th>
<th>1.97</th>
<th>1.61</th>
<th>0.36</th>
<th>Recommendations on design and modernization</th>
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</thead>
</table>

Industrial refrigeration equipment

/...
| 37. Development of technologies, refitting of production facilities and manufacturing of new compressors: piston, fan, centrifugal, and relevant new refrigeration equipment based on ozone-safe cooling agents for main uses: moderate and low temperature chilling and heat pumps |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Committee for Machine-Building | 1995-1996 | 44.85 | 32.68 | 12.17 | - | 19.82 | 15.91 | 3.91 | - | 9,485 units |

Commercial refrigeration equipment
<table>
<thead>
<tr>
<th>38. Research and development of optimal design of environmentally clean quick freeze equipment, refrigeration cabinets, chambers, showcases and display stands with ozone-safe thermal insulation and new heat exchange devices; refrigeration assemblies and machinery</th>
<th>State Committee for Defence Industries</th>
<th>1995-</th>
<th>41.79</th>
<th>32.31</th>
<th>9.48</th>
<th>-</th>
<th>20.55</th>
<th>16.44</th>
<th>4.11</th>
<th>-</th>
<th>Baseline data for designing AOPK &quot;Kontsern &quot;Antei&quot;; ANPO &quot;Mariholodmash&quot;; AOOT &quot;Holodmash&quot; (Yaroslavl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>39. Refitting of production facilities for and initiation of manufacturing of environmentally clean cabinets, chambers, display stands, showcases and quick freeze equipment</td>
<td>State Committee for Defence Industries</td>
<td>23.57</td>
<td>15.32</td>
<td>5.8</td>
<td>2.45</td>
<td>9.95</td>
<td>7.94</td>
<td>2.01</td>
<td>-</td>
<td>285,000 units</td>
<td>AOPK &quot;Kontsern &quot;Antei&quot;; ANPO &quot;Mariholodmash&quot;; AOOT &quot;Torgmash&quot; (Ekaterinburg) PMO &quot;Prodmas&quot; (Orenbourg) AO &quot;Torgmash (Lubertsy) AO &quot;Torgmash&quot; Moscow), VZHBT, SP &quot;Sovitalprodmash&quot;</td>
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<tr>
<td>State Committee for Defence Industries</td>
<td>1995-1996</td>
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<tr>
<td>AOPK &quot;Konsentr&quot; Anel', Yaroslavl'</td>
<td>81.6</td>
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<tr>
<td>AOO &quot;Kholodmash&quot;, Yaroslavl'</td>
<td>4.64</td>
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</table>

40. Plant reconstruction and serial production of ozone-safe coolant compressors for agricultural transport facilities.

41. Plant reconstruction and serial production of compressors refrigeration units and equipment of 0.4 capacity with ozone-safe coolants.

42. Design and development of technology for pouring thermomolding equipment using ozone-safe foaming agent.

Domestic refrigeration appliances
### 43. Research and development of optimal construction designs of environmentally clean refrigerators and freezers with ozone-safe thermostatic insulation and heat exchange equipment and their motor units

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<td>1995-</td>
<td>64.26</td>
<td>39.26</td>
<td>14.28</td>
<td>10.72</td>
<td>28.57</td>
<td>22.83</td>
<td>5.74</td>
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<td>Association &quot;Holodbyt&quot;, AOOT &quot;VNIIholodmashholding&quot;, AOOT &quot;NTIT'sHM&quot;, NIITP, Polytechnical Institute (Tula)</td>
<td>1996</td>
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### 44. Development of technology, plant reconstruction and production of environmentally clean refrigerators, freezers and their motor-compressor units

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<td></td>
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<td>State Committee for Defence Industries</td>
<td>1995-</td>
<td>330.8</td>
<td>267.9</td>
<td>95.48</td>
<td>64.02</td>
<td>243.7</td>
<td>194.9</td>
<td>48.75</td>
<td>-</td>
<td>5 million refrigerators 5.8 million compressor units</td>
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</tbody>
</table>
| 45. Development of technology and production of foam thermal insulation materials and polystyrenes for refrigerator internal cabinet | State Committee for Defence Industries  

**Parts, equipment, materials and substances**

46. Design and industrial production of automation devices and control instruments, micro-processors for refrigeration equipment, heat pumps for ozone-safe coolants

|                                    | Committee for Machine-Building, State Committee for Defence Industries | 1995-1996 | 9.75 | 8.02 | 1.73 | - | 7.25 | 5.79 | 1.46 | - | 6.7 million units |

**Automation devices for industrial refrigeration equipment**

AOOT "VNIIholodmash-holding", NIIAP, SKB "PRIBOR", AO "Orieks", LNPOA "Znamya Truda"

**Automation devices for commercial refrigeration equipment**
<table>
<thead>
<tr>
<th>AO PK &quot;Kontsern Antei&quot;, AO &quot;Orleks&quot;, AOZT &quot;PiK&quot;, VEMZ (Volzhsk), ANPO &quot;Mariholodmash&quot;</th>
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</thead>
<tbody>
<tr>
<td>1995-1996</td>
</tr>
<tr>
<td>1.3  1.06  0.24  -       0.48  0.38  0.1  -  1.5 million units</td>
</tr>
</tbody>
</table>
### Automation devices for domestic refrigeration equipment

<table>
<thead>
<tr>
<th>Association</th>
<th>1995</th>
<th>1996</th>
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<tbody>
<tr>
<td>&quot;Holodbyt&quot;</td>
<td>1.86</td>
<td>1.61</td>
</tr>
<tr>
<td>AO &quot;Orleks&quot;, AO &quot;Beta-1&quot;</td>
<td>0.25</td>
<td>0.73</td>
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<td></td>
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<td>0.58</td>
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<tr>
<td></td>
<td></td>
<td>0.15</td>
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<tr>
<td></td>
<td></td>
<td>5.02 million units</td>
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</table>

### Electric motors for industrial equipment compressors

<table>
<thead>
<tr>
<th>Committee for Machine-Building, State Committee for Defence Industries</th>
<th>1995</th>
<th>1996</th>
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<tr>
<td>39.31</td>
<td>29.95</td>
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<tr>
<td>8.1</td>
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<tr>
<td>18.05</td>
<td>14.43</td>
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<tr>
<td>3.62</td>
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</tbody>
</table>

### Electric motors for commercial equipment compressors

<table>
<thead>
<tr>
<th>AO PK &quot;Kontsern Antei&quot;, NIII, AOOT &quot;Holodmash&quot; (Yaroslavl), VEMZ (Volzhsk), &quot;Elektrodvigatelel&quot; factory</th>
<th>1995</th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.65</td>
<td>11.15</td>
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<tr>
<td>2.5</td>
<td>7.95</td>
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<td>6.35</td>
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<td>1.6</td>
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<tr>
<td></td>
<td>1.5 million units</td>
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</tbody>
</table>
Electric motors for domestic appliance compressors


48. Development of technology and production of adsorbents and corresponding ready-made drying filters, compatible with ozone-safe coolants and new refrigeration lubricants
49. Design and production of new lining materials for refrigeration equipment with ozone-safe coolants and new lubricants

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</thead>
<tbody>
<tr>
<td>49</td>
<td>State Committee for Defence Industries, Committee for Machine-Building</td>
<td>1995-1996</td>
<td>4.77</td>
<td>3.58</td>
<td>1.19</td>
<td>-</td>
<td>5.94</td>
<td>4.74</td>
<td>1.2</td>
<td>-</td>
<td>300 tonnes paronite, 20 tonnes rubber technical products</td>
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</table>

AOOT "VNIiholodmashholding", NIIRPI, "TIIR" (NIHATI), Cherkesski factory RTI, Volzhski factory RTI
### Equipment and technology for conversion of existing refrigeration equipment to ozone-safe coolant

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<thead>
<tr>
<th>Committee for Trade</th>
<th>1995</th>
<th>1996</th>
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<tbody>
<tr>
<td></td>
<td>4.6</td>
<td>4.4</td>
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<tr>
<td></td>
<td>0.2</td>
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<tr>
<td></td>
<td>3.6</td>
<td>2.9</td>
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<td></td>
<td>0.7</td>
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</tbody>
</table>

Obyediniye
"Torgtechnika",
AOOT "Holodmash"
(Yaroslavl), TsNTP
Roskomtorg, Ishimbaiski
SHZK, AOOT "Iskra",
RNTs "PH", AOOT
"VNII-holodmash-
holding", AOOT
"NTTIsHM", Association
"Holodbyt", LSKHO

### Modernization of existing repair plant, equipping of repair and servicing shops with special technological test bench controlling and measuring instruments, for effecting conversion of refrigerating machinery to ozone-safe coolants and mixtures

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<thead>
<tr>
<th>Committee for Trade</th>
<th>1995</th>
<th>1996</th>
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<td>2.2</td>
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Obyediniye
"Torgtechnika",
LSKHO
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<th>Committee for Trade</th>
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<tbody>
<tr>
<td>52. Study of existing stock of refrigeration equipment, elaboration of technical guidelines and strategy for its conversion to ozone-safe coolants</td>
<td>Committee for Trade</td>
<td>1995-1996</td>
<td>1.25</td>
<td>1.25</td>
<td>-</td>
<td>-</td>
<td>1.8</td>
<td>1.4</td>
<td>0.4</td>
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<td>Obyedineniye &quot;Torgtehnika&quot;, AOOT &quot;VNIiholodmashholding&quot;, Association &quot;Holodbyt&quot;</td>
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<th>Committee for Trade</th>
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<tbody>
<tr>
<td>53. Execution of work on conversion of existing refrigeration equipment to ozone-safe coolants at repair shops of production sites (first phase)</td>
<td>Committee for Trade</td>
<td>1995-1996</td>
<td>0.35</td>
<td>0.18</td>
<td>0.17</td>
<td>-</td>
<td>1.1</td>
<td>0.9</td>
<td>0.2</td>
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<td>2,000 units</td>
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<td>Obyedineniye &quot;Torgtehnika&quot;, Association &quot;Holodbyt&quot;</td>
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**Conversion of military technology and fire-extinguishing equipment to ozone-safe substances**

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<th>Ministry of Defence</th>
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<tbody>
<tr>
<td>54. Development of several models of automatic fire suppression systems (stationary and portable versions), using nitrogen for internal and external fire extinguishing at stationary telecommunication facilities (technological installations)</td>
<td>Ministry of Defence</td>
<td>1995-1996</td>
<td>0.8</td>
<td>0.8</td>
<td>-</td>
<td>-</td>
<td>0.8</td>
<td>0.8</td>
<td>-</td>
<td>-</td>
<td>1995 - technical design and manufacturing of experimental samples; 1996 - joint tests</td>
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<td></td>
<td>AOOT RTI im.A.L.Mintsa</td>
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<tr>
<td>55. Development of methodology for selecting optimal and environmentally clean fire suppressing agents for use in aircraft</td>
<td>Ministry of Defence</td>
<td>1995-1996</td>
<td>0.11</td>
<td>0.11</td>
<td>-</td>
<td>-</td>
<td>0.12</td>
<td>0.12</td>
<td>-</td>
<td>1995 - technical report on physical and chemical properties of new fire suppression substances; 1996 - development and testing of methods of selecting, and presentation of findings</td>
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<td></td>
<td>NIP of aviation industry</td>
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<tr>
<td>56. Development and testing of new environmentally clean extinguisher agents for existing and advanced fire suppression systems in airplanes, helicopters and other aircraft</td>
<td>Ministry of Defence</td>
<td>1995-1996</td>
<td>0.6</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
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<td>0.6</td>
<td>-</td>
<td>1995 - preparation for testing programme and its execution with employing agency; 1996 - continuation of tests and reporting on results</td>
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<td></td>
<td>AOOT &quot;Zvezda&quot; and aviation industry enterprises</td>
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<tr>
<td>57. Development and perfection of methods of maintaining an extended operating mode for a comprehensive fire extinguishing system</td>
<td>Ministry of Defence</td>
<td>1995-1996</td>
<td>0.2</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>0.3</td>
<td>-</td>
<td>1995 - development of technology; 1996 - joint testing of technology on site</td>
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<td>RNTs &quot;PH&quot;</td>
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<tr>
<td>38. Formulation of recommendations on selection and use of ozone-safe coolants in fire suppression systems at special installations of the Armed Forces of the Russian Federation</td>
<td>Ministry of Defence</td>
<td>1995-1996</td>
<td>0.02</td>
<td>0.02</td>
<td>-</td>
<td>0.025</td>
<td>0.025</td>
<td>-</td>
<td>1995 - classification of special installations of the Armed Forces of the Russian Federation; 1996 - formulation of recommendations on the use of coolants in fire suppression systems at special installations</td>
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</table>
Ozone layer research and impact assessment of its change for the biosphere

<table>
<thead>
<tr>
<th>59. Study of physical and chemical models of ozone layer change</th>
<th>Committee for Hydrometeorology, Russian Academy of Sciences, State Committee for Higher Education</th>
<th>1995-1996</th>
<th>0.875</th>
<th>0.875</th>
<th>-</th>
<th>2.63</th>
<th>2.63</th>
<th>-</th>
<th>Assessment of effect of anthropogenic ODS discharge on ozone layer change in the Arctic, Antarctic and mid-latitudes of the Northern Hemisphere</th>
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<tr>
<td>60. Study of effects of ozone layer change on climate</td>
<td>Committee for Hydrometeorology, Russian Academy of Sciences</td>
<td>1995-1996</td>
<td>0.088</td>
<td>0.088</td>
<td>-</td>
<td>0.33</td>
<td>0.33</td>
<td>-</td>
<td>Numerical prediction estimates of climatological characterisation of atmosphere due to depletion</td>
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GGO, TsAO, AANII, IGKE, NITs, DZA, IFA, IDG, VTs, RAN, INEP HF
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</thead>
<tbody>
<tr>
<td>61. Development of methods of diagnosis and prediction of ozone layer change due to natural and anthropogenic factors</td>
<td>Committee for Hydrometeorology, Russian Academy of Sciences, State Committee for Higher Education, GGO, NPO &quot;TAIFOON&quot;, RGMTs, NITs, DZA, IFA, HF, MGO, RGGMI, NGU</td>
<td>1995-1996</td>
<td>0.175</td>
<td>0.175</td>
<td>-</td>
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<td>0.24</td>
<td>0.24</td>
<td>-</td>
<td>-</td>
<td>Numerical prediction estimates of atmospheric composition change. Empirical models of long-term change in the ozone layer.</td>
</tr>
<tr>
<td>62. Study of elementary chemical and photo-chemical reactions in the process of creation and depletion of ozone and ozone-active components of the atmosphere, in laboratory conditions</td>
<td>Committee for Hydrometeorology, Russian Academy of Sciences, State Committee for Higher Education, TsAO, INEP, HF, IFA, IHF, NIIF, SPbGU, NIFHI im.Karpova</td>
<td>1995-1996</td>
<td>0.14</td>
<td>0.14</td>
<td>-</td>
<td>-</td>
<td>0.35</td>
<td>0.35</td>
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<td>Data on kinetic processes. Guidelines for industry on choice of alternative substances</td>
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<tr>
<td>63. Improvement of existing and development of new methodology and instruments for ozone layer research</td>
<td>Committee for Hydrometeorology, Russian Academy of Sciences, State Committee for Higher Education</td>
<td>1995-1996</td>
<td>1.925</td>
<td>1.925</td>
<td>-</td>
<td>-</td>
<td>6.48</td>
<td>6.48</td>
<td>-</td>
<td>Methodology instruments and technical equipment for the study and monitoring of the state of the atmospheric ozone layer</td>
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</tr>
<tr>
<td></td>
<td>TsAO, NITs, DZA, NPO &quot;Taifoon&quot;, INEP, HF, IFA, IHF, NIIF, SPbGU, NIFHI im. Karpova, DKBA</td>
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<tr>
<td>64. Improvement of the system of monitoring the ozone layer to control its change</td>
<td>Committee for Hydrometeorology, Russian Academy of Sciences, State Committee for Higher Education</td>
<td>1995-1996</td>
<td>2.75</td>
<td>2.75</td>
<td>-</td>
<td>-</td>
<td>14.75</td>
<td>14.75</td>
<td>-</td>
<td>System of monitoring and control of the state of the ozone layer and UV-radiation, including space, surface, aircraft and balloon-stationed instruments. Data-banks on the composition and structure of the atmosphere</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TsAO, IGKE, GGO, NPO &quot;Taifoon&quot;, IPG, AANII, NPO 'Planeta', NITs DZA, IFA, IKI, IGRAN, FIAN, IOA SO, IPF, PGI, MGU, SPbGU, VNIIEEM</td>
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<tr>
<td><strong>65. Study of effects of long-term change in UV-radiation on humans and the biosphere, due to probable depletion of the Earth's ozone layer</strong></td>
<td>Ministry of Health and Medical Industry, State Committee for Higher Education</td>
<td>1995 0.18</td>
<td>0.18</td>
<td>-</td>
<td>-</td>
<td>0.38</td>
<td>0.38</td>
<td>-</td>
<td>-</td>
<td>Prediction of effects of UV-radiation dose increases on humans, animals, agricultural crops and micro-organisms</td>
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<td>IMBP, VNII SHM, TsAO, MGU, NIISHR, MMBTs, AFNI</td>
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<tr>
<td><strong>66. Assessment of socio-economic impacts of ozone layer change</strong></td>
<td>Committee for Hydrometeorology, Russian Academy of Sciences, State Committee for Higher Education</td>
<td>1995 0.18</td>
<td>0.18</td>
<td>-</td>
<td>-</td>
<td>0.18</td>
<td>0.18</td>
<td>-</td>
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<td>Estimates of economic loss from the probable destruction of the ozone layer</td>
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<tr>
<td>TsAO, VNII SHM, IPR, IPG, VTS-RAN, MHTI, ANH, RNTs 'PH', TsEMI, IEPP, VNII PO</td>
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**Elaboration of regulatory documents, government standards, and certification of manufactured goods**

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<tbody>
<tr>
<td><strong>67. Development of methodologies for assessment and measurement of atmospheric discharges of ozone-depleting substances</strong></td>
<td>Ministry of Environment</td>
<td>1995 0.175</td>
<td>0.175</td>
<td>-</td>
<td>-</td>
<td>0.35</td>
<td>0.35</td>
<td>-</td>
<td>-</td>
<td>Elaboration of a priority list of industries discharging ozone-depleting substances into the atmosphere</td>
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<td>NII &quot;Atmosfera&quot;</td>
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<tbody>
<tr>
<td>68.</td>
<td>Formulation of rules and participation in competition evaluation of ozone-saving technology, processes and systems</td>
<td>Ministry of Environment</td>
<td>1995-1996</td>
<td>0.613</td>
<td>0.613</td>
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<td>1.225</td>
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<td>VNII &quot;Priroda&quot;, NII &quot;Atmosfera&quot;</td>
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<td></td>
<td></td>
<td></td>
<td>- Formulation of rules on competition results. Draft regulation on environmental auditing, according to EU standards</td>
</tr>
<tr>
<td>69.</td>
<td>Development of regulatory legal documents in accordance with international commitments of the Russian Federation on protecting the ozone layer</td>
<td>Ministry of Environment</td>
<td>1995-1996</td>
<td>0.525</td>
<td>0.525</td>
<td>-</td>
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<td>VNII &quot;Priroda&quot;, NII &quot;Atmosfera&quot;</td>
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<td></td>
<td></td>
<td></td>
<td>Development and accumulation of body of regulatory legal documents with regard to ISO TK 207 requirements</td>
</tr>
<tr>
<td>70.</td>
<td>Analysis of existing laws and formulation of proposals on improving Russian legislation</td>
<td>Ministry of Environment</td>
<td>1995</td>
<td>0.263</td>
<td>0.263</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>Report on study results</td>
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<tr>
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<td>IGP RAN</td>
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<tr>
<td>71.</td>
<td>Development of government standards for ozone-safe cooling agents, propellants, fire extinguishing equipment and other substances, and manufactured goods using the above; their certification for compliance with safety regulations</td>
<td>Standards Committee</td>
<td>1995-1996</td>
<td>2.219</td>
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<td>-</td>
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<td>1.435</td>
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<td>Standards Committee affiliates</td>
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<tr>
<td></td>
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<td>VNIIMASH</td>
<td>1.785</td>
<td>1.785</td>
<td>-</td>
<td>-</td>
<td>1.435</td>
<td>1.435</td>
<td>-</td>
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<td></td>
<td></td>
<td>Production of competitive ozone-safe goods. Accumulation of body of regulatory documentation according to international requirements. Creation of network of test labs and agencies for certifying products.</td>
<td></td>
</tr>
</tbody>
</table>
**LIST OF FULL NAMES OF CONTRACTOR ORGANIZATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. RNTs &quot;PH&quot;</td>
<td>Russian Scientific Centre &quot;Prikladnaya Himiya&quot;</td>
</tr>
<tr>
<td>2. VNII HT</td>
<td>All-Russian Chemical Technology Research Institute</td>
</tr>
<tr>
<td>3. NIIHIMMASH</td>
<td>Chemical Machine-Building Research Institute</td>
</tr>
<tr>
<td>4. NPO &quot;Vympe1&quot;</td>
<td>&quot;Vympe1&quot; Research and Production Concern</td>
</tr>
<tr>
<td>5. VINII PO</td>
<td>All-Russia Fire-Fighting Research Institute, Ministry of the Interior of Russia</td>
</tr>
<tr>
<td>6. AOOT &quot;Galogen&quot;</td>
<td>&quot;Galogen&quot; Open Joint-Stock Company</td>
</tr>
<tr>
<td>7. MEI</td>
<td>Moscow Energy Institute</td>
</tr>
<tr>
<td>8. VNTs BAV</td>
<td>All-Russia Science Centre of Biologically Active Substances, Ministry of Health and Medical Industry</td>
</tr>
<tr>
<td>9. AO &quot;STO&quot;</td>
<td>&quot;Refrigeration Technology Services&quot; Joint-Stock Company</td>
</tr>
<tr>
<td>10. MASI</td>
<td>Moscow Automobile Construction Institute</td>
</tr>
<tr>
<td>11. VNIIP</td>
<td>All-Russia Oil Processing Research Institute</td>
</tr>
<tr>
<td>12. AO &quot;Polymersyntez&quot;</td>
<td>&quot;Polymersyntez&quot; Joint-Stock Company, Vladimir</td>
</tr>
<tr>
<td>13. VNIIIHolodmash</td>
<td>All-Russia Research and Design Institute of Refrigeration Machine-Building</td>
</tr>
<tr>
<td>14. KChHK</td>
<td>Kirovo-Chepetsk Chemical Works</td>
</tr>
<tr>
<td>15. AEHK</td>
<td>Angarsk Electrochemical Works</td>
</tr>
<tr>
<td>16. SHK</td>
<td>Siberian Chemical Works, Tomsk</td>
</tr>
<tr>
<td>17. AOOT &quot;Altaihimprom&quot;</td>
<td>&quot;Altaihimprom&quot; Open Joint-Stock Company, Slavgorod</td>
</tr>
<tr>
<td>18. AOOT &quot;Himprom&quot; (Volgograd)</td>
<td>&quot;Himprom&quot; Open Joint-Stock Company, Volgograd</td>
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</table>

*Translator's note: a number of abbreviations are not found in this list*
<table>
<thead>
<tr>
<th>No.</th>
<th>Organization</th>
<th>Location/Details</th>
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<tbody>
<tr>
<td>19.</td>
<td>AO &quot;Kaustik&quot;</td>
<td>&quot;Kaustik&quot; Open Joint-Stock Company, Volgograd</td>
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<tr>
<td>20.</td>
<td>Association</td>
<td>&quot;Holodbyt&quot; Association, Moscow</td>
</tr>
<tr>
<td>21.</td>
<td>AO &quot;Metafraks&quot;</td>
<td>&quot;Metafraks&quot; Joint-Stock Company, Gubakha, Perm Region</td>
</tr>
<tr>
<td>22.</td>
<td>AOOT &quot;Zavod im. Shaumyana&quot;</td>
<td>&quot;Zavod im. Shaumyana&quot; Open Joint-Stock Company, St.Petersburg</td>
</tr>
<tr>
<td>23.</td>
<td>Minnebayevski NPZ</td>
<td>Minnebayevski Oil Processing Plant, Almetyevsk, Tatarstan Republic</td>
</tr>
<tr>
<td>24.</td>
<td>AO &quot;Stavropolnefteorgsyntez&quot;</td>
<td>&quot;Stavropolnefteorgsyntez&quot;, Neftekumsk</td>
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<tr>
<td>25.</td>
<td>AOOT &quot;Kirishinefteorgsyntez&quot;</td>
<td>&quot;Kirishinefteorgsyntez&quot; Open Joint-Stock Company, Kirishi</td>
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<tr>
<td>26.</td>
<td>NII &quot;Syntez&quot;</td>
<td>&quot;Syntez&quot; Research Institute, Moscow</td>
</tr>
<tr>
<td>27.</td>
<td>AO &quot;Kaustik&quot; (Sterlitamak)</td>
<td>&quot;Kaustik&quot; Joint-Stock Company, Sterlitamak</td>
</tr>
<tr>
<td>28.</td>
<td>AO &quot;Himprom&quot; (Usolye)</td>
<td>&quot;Himprom&quot; Joint-Stock Company, Usolye</td>
</tr>
<tr>
<td>29.</td>
<td>AO &quot;Himprom&quot; (Cheboksary)</td>
<td>&quot;Himprom&quot; Joint-Stock Company, Cheboksary</td>
</tr>
<tr>
<td>30.</td>
<td>AO &quot;Sayanskhim-prom&quot;</td>
<td>&quot;Sayanskhim-prom&quot; Joint-Stock Company, Sayansk</td>
</tr>
<tr>
<td>31.</td>
<td>USHFK</td>
<td>Usolyesibirsk Chemical Pharmaceutical Works, Usolye</td>
</tr>
<tr>
<td>32.</td>
<td>TsHLS VNIHFI</td>
<td>Medicinal Plant Chemistry Centre, All-Russia Chemical Pharmaceutical Research Institute</td>
</tr>
<tr>
<td>33.</td>
<td>VNIIMedpolymer</td>
<td>All-Russia Medpolymer Research Institute</td>
</tr>
<tr>
<td>34.</td>
<td>BF VNIWI</td>
<td>Belgorod Branch, All-Russia Vitamin Research Institute</td>
</tr>
<tr>
<td>35.</td>
<td>AO &quot;Novosibirski ZBH&quot;</td>
<td>&quot;Novosibirsk Domestic Chemical Products Factory</td>
</tr>
<tr>
<td>36.</td>
<td>AO &quot;Arnest&quot;</td>
<td>&quot;Arnest&quot; Joint-Stock Company, Nevinomysk</td>
</tr>
<tr>
<td>37.</td>
<td>AO &quot;Hiton&quot;</td>
<td>&quot;Hiton&quot; Joint-Stock Company, Kazan</td>
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<thead>
<tr>
<th>No.</th>
<th>Company/Plant Name</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>38.</td>
<td>&quot;Rossa&quot;</td>
<td>&quot;Rossa&quot; Joint-Stock Company, Perm</td>
</tr>
<tr>
<td>39.</td>
<td>AO &quot;Marbiofarm&quot;</td>
<td>&quot;Mariinsky Biopharmaceutical Plant&quot;, Yoshkar-Ola</td>
</tr>
<tr>
<td>40.</td>
<td>AO &quot;Oktyabr&quot;</td>
<td>&quot;Oktyabr&quot; Joint-Stock Company, St.Petersburg</td>
</tr>
<tr>
<td>41.</td>
<td>AOOT 'Farmakon'</td>
<td>&quot;Farmakon&quot; Open Joint-Stock Company, St.Petersburg</td>
</tr>
<tr>
<td>42.</td>
<td>AO &quot;Akrin&quot;</td>
<td>&quot;Akrin&quot; Joint-Stock Company, Kupavna Township, Moscow Region</td>
</tr>
<tr>
<td>43.</td>
<td>AO &quot;Krasfarma&quot;</td>
<td>&quot;Krasnoyarsk Pharmaceutical Plant&quot;, Krasnoyarsk</td>
</tr>
<tr>
<td>44.</td>
<td>AO &quot;Leksredstva&quot;</td>
<td>&quot;Pharmaceuticals&quot; Joint-Stock Company, Kursk</td>
</tr>
<tr>
<td>45.</td>
<td>AO &quot;Irbitski HFZ&quot;</td>
<td>&quot;Irbitski Chemical Pharmaceutical Plant&quot; Joint-Stock Company</td>
</tr>
<tr>
<td>46.</td>
<td>AO &quot;Mosbythin&quot;</td>
<td>&quot;Mosbythin&quot; Joint-Stock Company</td>
</tr>
<tr>
<td>47.</td>
<td>AO &quot;Novomoskovsk- bythin&quot;</td>
<td>&quot;Novomoskovskbythin&quot; Joint-Stock Company</td>
</tr>
<tr>
<td>48.</td>
<td>AO &quot;Organika&quot;</td>
<td>&quot;Organika&quot; Joint-Stock Company, Novokuznetsk</td>
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<tr>
<td>49.</td>
<td>AO &quot;Belvitaminy&quot;</td>
<td>&quot;Belvitaminy&quot; Joint-Stock Company, Belgorod</td>
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<td>50.</td>
<td>AO &quot;Ufavita&quot;</td>
<td>&quot;Ufimski Vitamin Plant&quot; Joint-Stock Company, Ufa</td>
</tr>
<tr>
<td>51.</td>
<td>FAO &quot;Ferein&quot;</td>
<td>&quot;Ferein&quot; Pharmaceutical Joint-Stock Company, Moscow</td>
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<tr>
<td>52.</td>
<td>AO &quot;Moshimfarm- preparaty&quot;</td>
<td>&quot;N.A.Semashko Moshimfarmpreparaty&quot; Joint-Stock Company</td>
</tr>
<tr>
<td>53.</td>
<td>NPTs &quot;Farmzash- chita&quot;</td>
<td>&quot;Farmzashchita&quot; Research and Industrial Centre, Moscow</td>
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<tr>
<td>54.</td>
<td>Centre &quot;Kortes&quot;</td>
<td>Energy and Technological Systems Comprehensive Development Centre (&quot;Kortes&quot;), Moscow</td>
</tr>
<tr>
<td>55.</td>
<td>AOOT &quot;VNIHholdom-mash- holding&quot;</td>
<td>&quot;All-Russia Research and Engineering Design Institute of Refrigeration Machine-Building (Holding)&quot;, Moscow</td>
</tr>
<tr>
<td>56.</td>
<td>AOOT &quot;NTITsHM&quot;</td>
<td>&quot;Refrigeration Machine-Building Research Testing Centre&quot; Open Joint-Stock Company, Moscow</td>
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<tr>
<td>57.</td>
<td>NIITP</td>
<td>Thermal Processes Research Institute, Moscow</td>
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<tr>
<td>58.</td>
<td>Obyedineniye &quot;Torgtehnika&quot;</td>
<td>&quot;Torgtehnika&quot; Commercial Equipment Maintenance Enterprise, Moscow</td>
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<thead>
<tr>
<th>No.</th>
<th>Code</th>
<th>Company/Institution</th>
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<tbody>
<tr>
<td>59.</td>
<td>AO</td>
<td>&quot;Compressor&quot; Joint-Stock Company, Moscow</td>
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<tr>
<td>60.</td>
<td>AOOT</td>
<td>&quot;Iskra&quot; Joint-Stock Open Company, Moscow</td>
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<td>61.</td>
<td>AO PK &quot;Concern Antei&quot;</td>
<td>&quot;Concern Antei&quot; Joint-Stock Industrial Company, Moscow</td>
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<td>62.</td>
<td>AO &quot;Torgmash&quot; (Moscow)</td>
<td>&quot;Torgmash&quot; Joint-Stock Company, Moscow</td>
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<tr>
<td>63.</td>
<td>AMO &quot;ZIL&quot; PH i BT</td>
<td>&quot;Zavod im. Likhacheva&quot; Joint-Stock Company, production of refrigerators and domestic appliances, Moscow</td>
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<td>64.</td>
<td>NIIAP</td>
<td>Automobile Instruments Research Institute, Moscow</td>
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<td>65.</td>
<td>AO &quot;Beta-1&quot;</td>
<td>&quot;Beta-1&quot; Joint-Stock Company, Moscow</td>
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<td>66.</td>
<td>NPP VNIIEM</td>
<td>&quot;Beta-1&quot; Joint-Stock Company, Moscow</td>
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<td>67.</td>
<td>AO &quot;VNII Kabelnoi Promyshlennosti&quot;</td>
<td>&quot;All-Russia Cable Industry Research Institute&quot; Joint-Stock Company, Moscow</td>
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<tr>
<td>68.</td>
<td>TsNTP Roskomtorg</td>
<td>Roskomtorg Advance Science and Technology Centre, Moscow</td>
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<td>69.</td>
<td>NIII</td>
<td>Engineering Research Institute, Balashiha, Moscow Region</td>
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<tr>
<td>70.</td>
<td>AO &quot;Elektroizolit&quot;</td>
<td>&quot;Elektroizolit&quot; Joint-Stock Company, Khotkovo Township, Moscow Region</td>
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<td>71.</td>
<td>AO &quot;Plastomer&quot;</td>
<td>&quot;Plastomer&quot; Joint-Stock Company, St. Petersburg</td>
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<td>72.</td>
<td>LNPOA &quot;Znamya Truda&quot;</td>
<td>&quot;Znamya Truda&quot; Armature Construction Research and Industrial Concern, St.Petersbourg</td>
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<tr>
<td>73.</td>
<td>NIIRPI</td>
<td>Paronite Products Research Institute, St.Petersbourg</td>
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<td>74.</td>
<td>LSKHO</td>
<td>Specialised Refrigeration Equipment Repair Works, St.Petersbourg</td>
</tr>
<tr>
<td>75.</td>
<td>Zavod Holodilnogo Oborudovaniya (Astrakhan)</td>
<td>Astrakhan Refrigeration Equipment Factory</td>
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<tr>
<td>76.</td>
<td>AO &quot;Angarsknefteorgsyntez&quot;</td>
<td>&quot;Angarsknefteorgsyntez&quot; Joint-Stock Company, Angarsk</td>
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<tr>
<td>77.</td>
<td>AO VEMZ (Vladimir)</td>
<td>&quot;Vladimirski Electromotorni Zavod&quot; Joint-Stock Company</td>
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<tr>
<td>78.</td>
<td>SP &quot;Sovitalprod mash&quot;</td>
<td>&quot;Sovitalprod mash&quot; Joint Russian-Italian Venture, Volzhsk</td>
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</tbody>
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/...
79. Volzhskiy Zavod RTI  Volzhsk Technical Rubber Products Factory
80. VEMZ  Volzhsk Electromechanical Factory
81. VZHBT  Volgograd Domestic Refrigeration Appliances Factory
82. AOOT "Torgmash" (Ekaterinburg)  "Torgmash" Open Joint-Stock Company
83. Zelenodolskoye AO "PO ZIS"  Zelenodolsk Joint-Stock Company "Industrial Concern "Zavod im. Sergo"
84. AO "Proizvodstvo Holodilnikov "Polus" Joint-Stock Company, Zlatoust
85. Ishimbaiiskiy SHZK  Ishimbay Specialized Chemical Catalysts Factory
86. ANPO "Mariholodmash"  "Mariholodmash" Joint-Stock Research and Production Concern, Yoshkar-Ola
87. AO "Aviatek"  "Aviatek" Joint-Stock Company, Kirov
88. Zavod "Elektrodvigate"  "Elektrodvigate" Factory, Krasnogorski
89. AO "Torgmash" (Lubertsy)  "Torgmash Joint-Stock Company, Lubertsy, Moscow Region
90. AOZT "Stinol"  "Stinol" Joint-Stock Company with restricted membership
91. AO "Muromski Mashi-nostroitelnii Zavod"  "Muromski Mashinostroitelnii Zavod" Joint-Stock Company, Murom
92. AO "RUMO"  "RUMO" Joint-Stock Company, Nizhni Novgorod
93. AO "Polyfom"  "Polyfom" Joint-Stock Company, Nizhnekamsk
94. AO "Omskagregat"-Zavod "Kompressor"  "Omskagregat"-Zavod "Kompressor" Joint-Stock Company
95. AO "Omskhimprom"  "Omskhimprom" Joint-Stock Company
96. PMO "Prodmash"  "Prodmash" Machine-Building Concern, Orenbourg
97. SKB "Pribor"  Specialized Instruments Design Bureau, Orel
98. AO "Orleks"  "Orleks", Joint-Stock Company, Orel
99. AO "Penzkompressormash"  "Penzkompressormash" Joint-Stock Company, Penza
100. AOZT "PiK"  "PiK" Joint-Stock Company with restricted membership, Rybinsk
<table>
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<th>No.</th>
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<td>NIHI</td>
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<tr>
<td>102</td>
<td>AO &quot;Rodina&quot;</td>
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<tr>
<td>103</td>
<td>AO &quot;Mashzavod&quot;</td>
</tr>
<tr>
<td>104</td>
<td>&quot;TIIR&quot;</td>
</tr>
<tr>
<td>105</td>
<td>AOOT RTI im. A.L. Mintsa</td>
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<tr>
<td>106</td>
<td>26 TsNII</td>
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<td>107</td>
<td>NTs DZA</td>
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<tr>
<td>108</td>
<td>VNIISHM</td>
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<td>TsAO</td>
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<td>GGO</td>
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<td>111</td>
<td>AANII</td>
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<td>112</td>
<td>RGMTs</td>
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<td>IGKE</td>
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<td>114</td>
<td>NPO &quot;Taifoon&quot;</td>
</tr>
<tr>
<td>115</td>
<td>NPO Planet</td>
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<td>116</td>
<td>IPG</td>
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<td>117</td>
<td>IKI</td>
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<td>118</td>
<td>IGRAN</td>
</tr>
<tr>
<td>119</td>
<td>FIAN</td>
</tr>
</tbody>
</table>

Chemical Research Institute, Tambov
"Rodina" Far East Joint-Stock Company, Ussuriysk
"Mashzavod Joint-Stock Company, Chita
Asbestos Technical Products Research Institute, Yaroslavl
"Academician A.L. Mintsa Radiotechnical Institute" Open Joint-Stock Company
Central Research Institute No.26, Ministry of Defence of Russia
Atmospheric Remote Sensing Research Center (GGO branch), Committee for Hydrometeorology of Russia
All-Russia Agricultural Meteorology Research Institute, Committee for Hydrometeorology of Russia
Central Aerological Observatory, Committee for Hydrometeorology of Russia
A.I. Voikov Main Geophysical Observatory, Committee for Hydrometeorology of Russia
Arctic and Antarctic Research Institute, Committee for Hydrometeorology of Russia
Research Centre for Hydrometeorology of the Russian Federation
Institute of Global Climate and Ecology, Committee for Hydrometeorology and Russian Academy of Sciences
"Taifoon" Research and Industrial Concern, Committee for Hydrometeorology of Russia
"Planeta" Research and Industrial Concern, Committee for Hydrometeorology of Russia
E.K. Fedorov Institute of Applied Geophysics, Committee for Hydrometeorology of Russia
Space Research Institute, Russian Academy of Sciences
Institute of Geography, Russian Academy of Sciences
Institute of Physics, Russian Academy of Sciences
| 120. | IPF | Institute of Applied Physics, Russian Academy of Sciences |
| 121. | VTs RAN | Computer Centre, Russian Academy of Sciences |
| 122. | IOA SO | Institute of Atmospheric Optics, Siberian Branch of Russian Academy of Sciences |
| 123. | IHF | Institute of Chemical Physics, Russian Academy of Sciences |
| 124. | IFA | Institute of Atmospheric Physics, Russian Academy of Sciences |
| 125. | IDG | Institute of Geospheres Dynamics, Russian Academy of Sciences |
| 126. | PGI | Polar Geophysical Institute, Russian Academy of Sciences |
| 127. | INEP HF | Institute of Chemical Physics Energy Problems, Russian Academy of Sciences |
| 128. | MHTI | Moscow Institute of Chemical Technology |
| 129. | ANH | Academy of National Economy, Government of the Russian Federation |
| 130. | TsEMI | Central Institute of Economics and Mathematics |
| 131. | MGU | Moscow State University |
| 132. | SPbGU | St.Petersburg State University |
| 133. | VNIIEM | All-Russia Research Institute of Electromechanics |
| 134. | NIFHI, im. Karpova | Karpov Physical and Chemical Research Institute |
| 135. | NIISHR | Research Institute of Agricultural Radiology |
| 136. | MMBTs | Murmansk Center of Marine Biology |
| 137. | AFNII | Argophysics Research Institute |
| 138. | HGU | Novosibirsk State University |
| 139. | MFTI | Moscow Institute of Physics and Technology |
| 140. | RGGMI | Russian State Institute of Hydrometeorology |

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<tr>
<td>141.</td>
<td>NIIF SPbGU</td>
<td>Physics Research Institute, St. Petersburg State University</td>
</tr>
<tr>
<td>142.</td>
<td>DKBA</td>
<td>Dolgoprudni Automation Design Bureau</td>
</tr>
<tr>
<td>143.</td>
<td>IMBP</td>
<td>State Research Center of the Russian Federation - Institute of Biomedical Problems</td>
</tr>
<tr>
<td>144.</td>
<td>IEPP</td>
<td>Institute of Environmental Economic Problems, Ministry of Environment of Russia</td>
</tr>
<tr>
<td>145.</td>
<td>IPR</td>
<td>Institute of Market Problems, Russian Academy of Sciences</td>
</tr>
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<td>146.</td>
<td>NII &quot;Atmosfera&quot;</td>
<td>Atmosphere Protection Research Institute, Ministry of Environment of Russia</td>
</tr>
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<td>147.</td>
<td>VNII &quot;Priroda&quot;</td>
<td>All-Russia Environment Protection Research Institute, Ministry of Environment of Russia</td>
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<td>148.</td>
<td>IGP RAN</td>
<td>Institute of State and Law, Russian Academy of Sciences</td>
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<td>149.</td>
<td>VNIINMASH.</td>
<td>All-Russia Research Institute of Machine-Building Standards</td>
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<td>VNIVI</td>
<td>All-Russia Vitamin Research Institute</td>
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<td>151.</td>
<td>VNIHI</td>
<td>All-Russia Refrigeration Research Institute</td>
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<td>152.</td>
<td>FGNPP &quot;Pribor&quot;</td>
<td>Noginsk Branch of &quot;Pribor&quot; State Research and Industrial Enterprise, Noginsk, Moscow Region</td>
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<td>153.</td>
<td>NIIEMI</td>
<td>Elastomeric Materials and Products Research Institute</td>
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附件三

环境署协助第5条国家汇报数据的工作

环境署与之合作编制国别方案，进行加强体制能力和/或联网活动的国家

一．导言:

1993年，环境署如同在它向于日内瓦召开的履行委员会第六次会议提交的报告中所述，一直就数据收集系统搜集各种经验，并审议可能的解决办法，以便使第5条国家能够遵守《蒙特利尔议定书》第7条所规定的汇报要求。

环境署现正通过其臭氧行动方案开展上述活动，以解决一方面所预见的问题并采取各种解决办法:

1. 国别方案和加强体制能力活动;
2. 培训;
3. 消耗臭氧物质官员网络。

二．国别方案和加强体制能力活动:

（一）协助进行数据汇报工作:

环境署已经协助了64个缔约国编制国别方案，其中有34项国别方案正在编制中。环境署在编制国别方案过程中所采用的方法确保在有关国家建立体制能力，办法是设立一个国家小组，与政府的联络点和环境署顾问密切合作。环境署顾问除了就数据收集、数据分析和预测提供技术意见外，还向有关政府说明如何履行每年向臭氧秘书处汇报数据的义务。环境署建议国家小组与有关部门，如海关密切合作，以便履行此类数据汇报义务。
文献:

环境署在开展编制国别方案范围内的活动之前，向有关政府提供了相关的支助文件，其中包括有关快速收集数据的方法、数据汇总要求和准则的资料。

加强体制能力:

加强体制能力项目把重点放在制订国家体制机制上，以协调和便利控制物质的迅速逐步停用。这些项目订有严格的汇报要求，其中包括通知环境署有关根据《蒙特利尔议定书》第7条的规定进行汇报的状况。汇报标准得到了严格遵守，有关款项直到各国满意地履行了其汇报义务之后方予以支付。

三．培训:

1994年协助喀麦隆、布基纳法索和塞内加尔举办了作为其国别方案所列行动计划一部分的“有关监测和控制消耗臭氧物质消费的工作会议”。在上述三次工作会议上，每次均邀请了四个邻近国家参加，来自法国、比利时和毛里求斯的专家亦与这些非洲国家分享了其在这方面经验。

此类工作会议的着眼点在于审查各国现有的化学物质控制体制和立法，目标是订立最符合费用效益原则的方法，以便将消耗臭氧物质纳入此类体制中。新订立的办法将在现有的法律和行动框架内订入上述变化，并着重实现两个主要目标：

（一）每年监测消耗臭氧物质的消费情况，以便确定逐步停用活动是否有效；

（二）遵守《蒙特利尔议定书》第7条所规定的汇报要求。

主办上述工作会议的所有3个国家都汇报了它们在颁布立法方面的进展情况，这些立法将规定消耗臭氧物质属国家控制物质，需要进口许可证。它们还履行了其1994年的数据汇报义务。

目前还在开展其它培训活动，以使参加会议的各国了解其汇报义务，并讨论它们在这方面可能面临的具体问题。
四．消耗臭氧物质官员网络

目前共有5个区域性消耗臭氧物质官员网络，涉及70多个国家。这些网络为消耗臭氧物质官员提供了一个良好机会，借以分享经验并解决作为第5条国家的网络成员国在收集数据方面所面临的困难。

这些网络讨论了如何改进数据收集方法以及数据汇报。在这方面，专家们介绍了各发达国家和发展中国家成功的数据收集体制、海关体制（其中包括统一办法以及其它用于收集资料的具体办法，如许可证体制和有关立法）。

业经证实，有关海关审报的统一办法可以发挥相当好的作用，能满足收集数据的需要，但这却无助于检测有关混合物/掺合物的数据，并可能导致严重失准。从1996年1月1日起，将修订统一办法，以便更好地对卤化物作进一步细分。之后可能采用旨在便利办理海关手续的新的统一办法。

为了补充上述统一办法，亦已确定出下列体制是有效的：

（一）许可证制：可在许可证中列入如“指定用途”等选择办法，并将强制性汇报与进口许可证联系起来。

（二）进口清关：这可作为银行发放款项之前的一项强制性要求。

（三）出口执照：出口国可通知进口国的国家臭氧股。这一体制正在审议中。

网络会议被用来审查成员国的数据汇报状况。其它网络国家的同行压力可用来促使那些不遵守汇报义务的网络国家作进一步努力。

目前环境署正在增订一个贸易名称清单（其中将包括掺合物），以协助监测消耗臭氧物质。

五．数据汇报状况：

在环境署协助其编制国别方案和进行加强体制能力项目的64个国家中，有19个国家已经提交了其1993年的年度数据。35个国家于1993年或其后批准了《蒙特利尔议定书》，因此不需要提交1993年的年度数据。在其余的10个未汇报1993年数据的国家中，有6个国家目前正在编制其国别方案（附件一和二）。

此外，有19个国家环境署未协助其编制国别方案/加强体制能力的工作，但却是网络成员国（附件二）。在这些国家中，有13个汇报了其1993年的年度数据，4个
未被要求提交1993年年度数据，两个未履行其汇报要求。

六．关键性问题，

目前在消耗臭氧物质汇报工作方面存在着若干关键性问题，其中包括在消耗臭氧物质的监测方面存在着的各种困难，原因是：

（一）海关官员和其它有关当局缺乏《蒙特利尔议定书》的目标和准则方面的意识；
（二）在某些部门，特别是中小型企业中难以确定消耗臭氧物质的使用；
（三）缺乏适当的立法和规定；
（四）缺乏详尽的贸易名称清单；
（五）缺乏监测能力，因而造成了非法进出口；
（六）某些国家缺乏政府承诺。

环境署正在利用其国别方案、加强体制能力、培训和联网活动来解决这些问题。

七．环境署工作中心的进一步行动：

（一）将在加强体制能力项目下执行第7条所要求的汇报，并且其它款项的支付将取决于有关国家是否已履行了其所有的数据汇报要求。网络会议将被用作监测这些项目的发展情况以及进一步执行汇报要求的论坛。
（二）从以前的培训工作会议中所发现的一个重要问题是各国被区域性商业协定所束缚，使它们必须订立管理贸易的区域性办法。英语非洲国家一直在讨论是否需要召开一次“有关监测和控制消耗臭氧物质的消耗的区域性工作会议”，以便制订这一区域性办法。
（三）中美洲和东南亚网络都已要求环境署为海关官员举办区域性培训工作会议。内容包括有关新的统一办法的培训，并便利有关修订这一办法的讨论，以便能最有效地反映区域性要求。
（四）网络会议将继续把重点放在改进成员国收集数据的能力方面。新的重点将为确保各国汇报它们已经收集到的数据。网络会议将就数据收集和汇报要求以及遵守的准则、义务和重要性举办特别的培训会议。这些培训会议的对象将是负责编制国别方案工作的联络点。
附录一

不遵守网络国家

下列按第5条行事的网络国家被确定为未遵守汇报要求。

截至1995年6月
（1993年的数据）

东南亚和太平洋

无

南拉丁美洲

厄瓜多尔

截至1995年10月
（1994年的数据）

东南亚和太平洋

斐济
越南

南拉丁美洲

阿根廷
智利
厄瓜多尔
危地马拉
尼加拉瓜
巴拉圭
秘鲁
委内瑞拉

中拉丁美洲

萨尔瓦多
巴拿马

中拉丁美洲

哥斯达黎加
多米尼加共和国
萨尔瓦多
洪都拉斯
墨西哥
巴拿马
注。第一次英语非洲网络工作会议于1995年5月举行。第一次法语非洲网络工作会议于1995年9月举行。
附录二

参加网络按第5条行事缔约国根据《蒙特利尔议定书》第7条汇报数据情况

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附件四

多边基金秘书处关于环境署提交履行委员会第十二次会议文件的意见

1. 虽然该文件阐述了环境署的活动，但它未能表明环境署开展工作的前提，即环境署是多边基金的一个执行机构，它的行动取决于多边基金执行委员会作出的有关决定，并支持这些决定。

2. 执行委员会第十次会议要求各缔约国和执行机构与按第5条行事缔约国合作，筹备其加强体制项目，作好准备以满足按第5条行事国家在遵守第7条提交数据规定方面的需求。

3. 执行委员会还规定有关项目下设立的办事处汇报数据是核准所有加强体制项目的条件。

4. 提供这一环境署 据以采取行动的“立法纲要”可加强该文件，使其成为一份指导所有国家的、而不仅仅是那些环境署是其执行机构的国家的权威性文件。还应指出，联网活动是一个跨越各机构的活动，它应加强所有机构在按第5条行事国家中开展的工作，特别是在提高认识和数据汇报方面。

5. 在该文件第六节第1和4段提及执行委员会的有关决定以及（例如在第六节第4段）提及与其它执行机构开展合作，可以扩大“进一步行动”的范围。

6. 基金秘书处最近根据按第5条行事国家提交报告编制的一份报告表明，大约有40%的国家报告说加强体制工作的执行进展缓慢。这可能部分因为未汇报数据，即必须汇报数据的臭氧办事处还没有开展工作。因此可能需要在第二(iii)节列出一项说明，大意为环境署将加快实施已获得核准的加强体制项目，以便为数据汇报工作提供便利。